THE WILD WEST: ARCHAEOLOGICAL AND HISTORICAL INVESTIGATIONS OF VICTORIAN CULTURE ON THE FRONTIER AT FORT LARAMIE, WYOMING (1849–1890)

by

Sarah E. Wolff

A Dissertation Submitted to the Faculty of the

DEPARTMENT OF ANTHROPOLOGY

In Partial Fulfillment of the Requirements

For the Degree of

DOCTOR OF PHILOSOPHY

In the Graduate College

THE UNIVERSITY OF ARIZONA

2016

THE UNIVERSITY OF ARIZONA
SCHOOL OF ANTHROPOLOGY

As members of the Dissertation Committee, we certify that we have read the dissertation prepared by Sarah E. Wolff, titled The Wild West: Archaeological and Historical Investigations of Victorian Culture on the Frontier at Fort Laramie, Wyoming (1849–1890) and recommend that it be accepted as fulfilling the dissertation requirement for the Degree of Doctor of Philosophy.

____ Date: 07/22/16
Teresita Majewski

____ Date: 07/22/16
Danny Walker

____ Date: 07/22/16
Mary Stiner

Final approval and acceptance of this dissertation is contingent upon the candidate's submission of the final copies of the dissertation to the Graduate College.

I hereby certify that I have read this dissertation prepared under my direction and recommend that it be accepted as fulfilling the dissertation requirement.

____ Date: 07/22/16
Dissertation Chair: Barnet Pavao-Zuckerman

____ Date: 07/22/16
Dissertation Co-Chair: Thomas Sheridan

STATEMENT BY AUTHOR

This dissertation has been submitted in partial fulfillment of the requirements for an advanced degree at the University of Arizona and is deposited in the University Library to be made available to borrowers under rules of the Library.

Brief quotations from this dissertation are allowable without special permission, provided that an accurate acknowledgment of the source is made. Requests for permission for extended quotation from or reproduction of this manuscript in whole or in part may be granted by the copyright holder.

SIGNED: Sarah E. Wolff

ACKNOWLEDGMENTS

First, and foremost, I would like to thank my family and loved ones for their help and support over the many years I have spent in higher education. My sister, Shana Wolff, provided endless amounts of sympathy, encouragement, beer, and wine. Thank you to my father, David Wolff, for editing my drafts and giving intellectual support. Much appreciation goes to my grandmother, Nelle Tyrrell. Gracias to my husband Colton Noble… you know what you did. Cosmic Creepers, Usagi, and Tiger, my cats, provided an abundance of deconstructive help. I would be remised if I did not mention libation support from Charron Vineyards and No Anchovies. Without them, none of this would have been possible.

I would like to express my gratitude for the several individuals who supported this dissertation. Thank you to Liane Ehrich for her editing comments, and to Tracie Mayfield for her assistance with faunal identification. Additional support came from Sandy Lowry of the Fort Laramie National Historic Site library.

I would like to thank Dr. Steve Cassells for starting my academic career in anthropology. If it had not been for his classes, I would not have entered anthropology. He continues to support my educational goals, and spent several hours editing and providing critical feedback on this dissertation.

Finally, I would like to thank Dr. Danny Walker for getting me interested in faunal analysis at Fort Laramie, and providing the faunal samples used in this dissertation. Thank you to the rest of my dissertation committee including, my committee chair Dr. Barnet Pavao-Zuckerman, Dr. Thomas Sheridan, Dr. Terry

Majewski, and Dr. Mary Stiner, for taking a chance on me at the University of Arizona.

Thank you to those who contributed to funding this research:

- University of Arizona William and Nancy Sullivan Scholarship Fund
- University of Arizona Traditions, Transitions, and Treasures Scholarship
- Private Donation from Anne Wolff

DEDICATION

A heartfelt dedication goes to my mother, Anne Wolff, who inspired me to earn a Ph.D. Without her support and love, I would have been able to achieve this.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

ABSTRACT

This dissertation addresses how Victorian class hierarchy persisted on the frontier, and manifested in aspects of military life at Fort Laramie, Wyoming. Historians have argued that Victorian culture was omnipresent, but forts were located on the frontier, which was removed from the cultural core. While social status differences were a central aspect of Victorian culture, few studies have investigated how resilient class divisions were in differing landscapes. The U.S. western frontier was a landscape of conflict, and under the continual stress of potential violence, it is possible that Victorian social status differences weakened. While status differences in the military were primarily signaled through rank insignia and uniforms, this research focuses on subtle everyday inequalities, such as diet and pet dogs. Three independent lines of evidence from Fort Laramie, Wyoming (1849–1890) suggest that Victorian social status differences did persist despite the location. The Rustic Hotel (1876–1890), a private hotel at Fort Laramie, served standardized Victorian hotel dishes, which could be found in urban upper-class hotels. Within the military, the upper-class officers dined on the best cuts of beef, hunted prestige game birds, and supplemented their diet with sauger/walleye fish. Enlisted men consumed poorer cuts of beef, hunted smaller game mammals, and caught catfish. Officers also owned well-bred hunting dogs, which were integrated into the family. In contrast, a company of enlisted men frequently adopted a communal mongrel as a pet. This project increases our knowledge of the everyday life on the frontier and social relationships between officers and enlisted men in the U.S. Army. It also contributes to a larger understanding of Victorian culture class differences in frontier regions.

CHAPTER 1: INTRODUCTION

During the 19th century, the Euroamerican populace in America and England participated in Victorian culture, but little research has attempted to understand what elements of Victorian culture changed in relationship to different environments, such as the frontier. In urban environments, Victorian culture was omnipresent, often masking the non-Victorian groups (Howe 1976). While Victorian culture may have dominated urban areas, the frontier was beyond the social and geographical limits of power for most Victorian cultural groups. The western frontier was a landscape of conflict, and defined as a place "where no one has an enduring monopoly of violence" (Duncan and Markoff 1978:590). For example, the military may have had the support of the U.S. government, but they did not have the manpower to control the area. The Secretary of War in 1828 wrote, "Instead of protecting our frontier inhabitants against the incursions of the Indians, these isolated garrisons must, in the event of serious Indian War, inevitably become the first victims of its fury" (Hunt and Lorence 1937:20).

In a landscape of conflict, beyond much of the reaches of civilization, it is possible that Victorian cultural ideas of social status weakened or deteriorated. Fredrick Jackson Turner suggested in 1890 that the frontier was a catalyst for egalitarianism, and that it was free of Victorian social hierarchy. He argued that the frontier environment was a strong force that shaped people, social organizations, and the nation. He wrote that "the frontier environment is at first too strong for the man. He must accept the conditions which it furnishes, or perish" (Turner 2008[1920]:4). While many of Turner's ideas have been refuted, the idea of the frontier being a transformative landscape remains (Arnold 1996; Forbes 1968; Lightfoot and Martinez 1995; Parker 2006; Rodseth and Parker 2005).

Few studies have attempted to study the transformative nature of the 19th century western frontier on Victorian social status displays using archaeological or historical methods. Recent historical investigations suggest that the frontier had little impact on the expression of Victorian culture, and that military forts exhibited extreme social status distinctions between officers and enlisted men with few lifestyle commonalities (Adams 2009). The historical record, however, is biased toward the literate and upper-class officers. Archaeological evidence could reveal a different story than that told by historical documents.

The following dissertation uses archaeological and historical data to investigate Victorian social status displays on the frontier in three different studies, using different lines of evidence. These topics have not been investigated before, and they contribute to our understanding of the transformative power of the frontier environment. The first study addresses Victorian culture standardization in hotels, and how a frontier hotel, the Rustic Hotel, used diet to create a familiar hotel atmosphere for Victorian travelers. The second study uses historical evidence to demonstrate that pet ownership reinforced social status differences between officers and enlisted men. The third study uses zooarchaeological methods to investigate dietary differences of the upper-class officers and the lower-class enlisted men. While historians have suggested that officers and enlisted men maintained different diets (Adams 2009), this study applies archaeological methods to address this research question.

Fort Laramie, Wyoming (1849–1890) is an ideal location to test the robustness of Victorian class hierarchy on the frontier because of the expansive size and the historical significance of the fort in U.S. history. At its peak in the 1880s, Fort Laramie was composed of 62 buildings spread over 35,000 acres of the military reserve (Lavender 1983). While most of the 200 Army posts in the 1880s each housed fewer than 100 military personnel, 363 were stationed at Fort Laramie, approximately 1% of the U.S. Army (Hoagland 2004). Fort Laramie has also undergone several archaeological investigations since joining the National Park system in 1938. This project responsibly uses preexisting archaeological collections that have not been analyzed before, and the results contribute to our understanding of life at Fort Laramie.

Fort Laramie National Historic Site (NHS) is located in the southeast region of Wyoming in Goshen County. Ranching and farming lands surround the 833-acre NHS, and there is little urban development in the area (Figure 1.1). The closest town to the historical site is approximately three miles away, the small town of Fort Laramie, population 231. Approximately 23 miles away is the county seat, Torrington, the largest city in the county with a population of 6,800. The state capital, Cheyenne, is approximately 98 miles south (Figure 1.2). Fort Laramie is not be confused with the town of Laramie, approximately 120 miles southwest. Both areas are named after the Laramie River, called such after the death of French Canadian fur trapper Jacques La Ramee on the river (Lavender 1983).

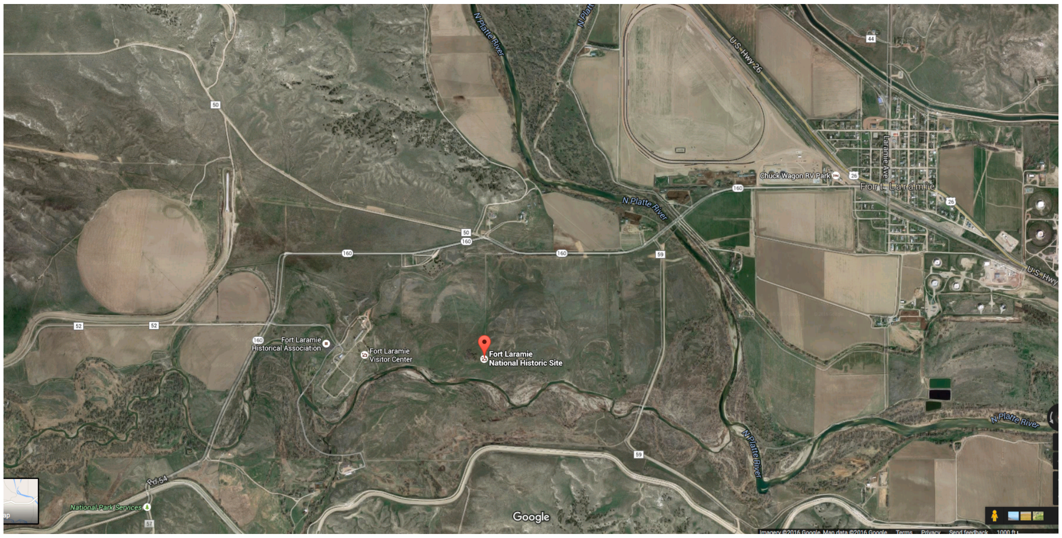


Figure 1.1: Fort Laramie NHS aerial view (Google Maps).

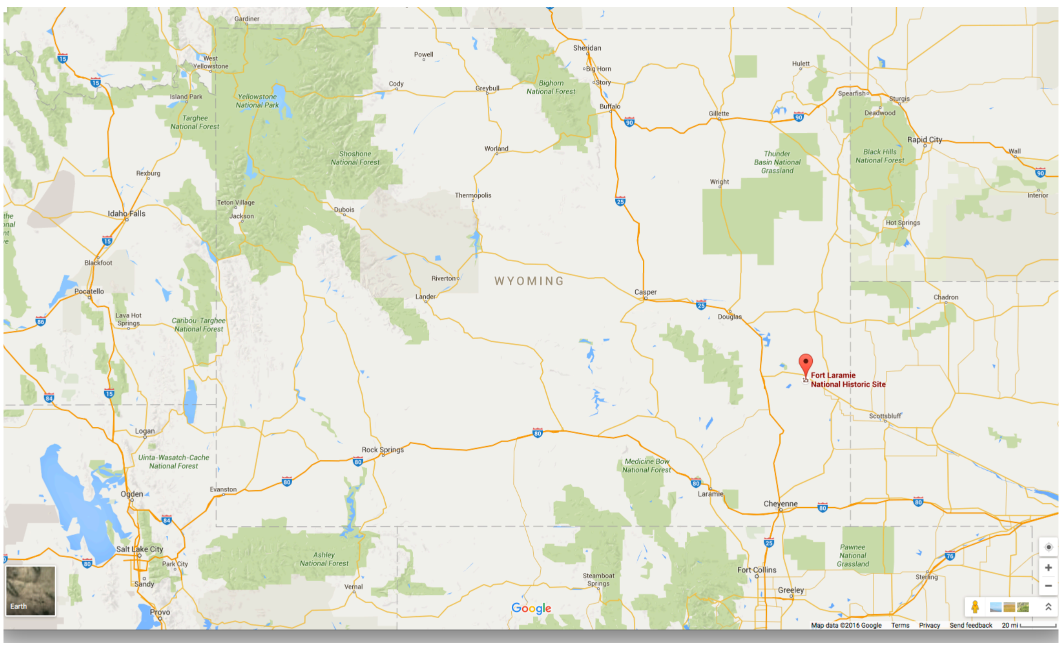


Figure 1.2: Fort Laramie NHS location in Wyoming (Google Maps).

CHAPTER 2: ENVIRONMENTAL AND CULTURAL BACKGROUND TO THE FORT LARAMIE REGION

2.1: ENVIRONMENTAL CONTEXT

Fort Laramie NHS is at the confluence of the North Platte and Laramie Rivers in the Platte River Valley of the High Plains on the eastern slope of the Rocky Mountains. The region is known as the High Plains because of the abundant grasslands at a relatively high elevation. The High Plains formed through uplift and erosion of the Rocky Mountain range (Clark and Scheiber 2008), which is located less than 60 miles away from Fort Laramie. Fort Laramie is at an elevation of approximately 4,300 feet (1,300 meters) above sea level (Walker 2008). The soft, white sandstones and clays of the White River Formation form most of the regional geology (Lageson and Spearing 1988). The Platte River Valley was carved out of this formation by regular flooding of the North Platte and Laramie Rivers (Graham 2009; Lageson and Spearing 1988).

The Platte River Valley is lower in elevation compared with other areas along the Rocky Mountain range, making the area slightly warmer and better for horticulture. Cold air is swept out of the area by warm westerly winds, commonly called Chinooks, rolling down from the Rocky Mountains and funneled into the river valley (Walker 2008). During winter months, cold air moves south from Canada, but the warm Chinooks quickly push the cold eastward. Data collected at the University of Wyoming Agricultural Experiment Station in Torrington, Wyoming, approximately 14 miles from Fort Laramie, shows that the mean summer temperature for July is 72.6 degrees, with the record high of 107 degrees F in 1939 (Alyea 1971).

The average temperature for January is 26.5 degrees F, and a record low of -33 degrees F was set in 1942 (Alyea 1971). Due to the comparatively pleasant climate, the region is well-known for its good agriculture. Today, Goshen County, including the Fort Laramie region, is the number one producer of agricultural products in Wyoming (National Agricultural Statistics Service 2012). Historically, Fort Laramie was one of the first sites where the military instituted experimental gardening programs (Adams 2009).

The climate and environment is noted in one traveler's account of Fort Laramie in the late 1850s.

> The climate here is arid and parching in summer, but in winter tolerably mild, considering the altitude – 4470 feet – and the proximity of the Black Hills; yet it has seen hard frost in September. It is also well defended from the warm, moist, and light winds, which coming from the Mexican Gulf, cause "calentures" on the lower course of the river. The soil around the settlement is gravelly and sterile, the rocks are sand, lime, and clay, and there is a solitary, desolate look upon every thing but the bright little stream that bubbles from the dark heights. The course is from S.W. to N.E.: about half way it bifurcates, with a right fork to the west and main fork east, and near Laramie it receives its main affluent, the Chugwater (Burton 1990[1862]:90).

The dominant vegetation is drought-resistant short grass, such as buffalo grass (*Buchloe dactyloides)* and blue grama (*Bouteloua gracilis*) (Clark and Scheiber 2008). Rain-shadow from the Rocky Mountain range results in little moisture in the greater High Plains region. The annual precipitation in the Fort Laramie region is approximately 13.52 inches, with the peak occurring in May (Alyea 1971). The site lies at the transition zone between the Saskatchewan and Kansas biotic provinces (Dice 1943). Forbs, shrubs, and cacti also appear in the area, but not as abundantly as grasses (Walker 2008). Along rivers, cottonwoods and deciduous trees occur (Walker 2008).

There are three main soil types that dominate the NHS. First, Manter and Anselmo fine sandy loams form the wind-lain sands of the region. Blue grama (*Bouteloua gracilis*), needle and thread (*Hesperostipa comata*), and western wheatgrass (*Pascopyrum smithii*) dominate these soil areas (Stephens et al. 1971:94; Walker 2008). Second, Glenberg series fine sandy loams appear along the flood plains, and support short and intermediate grasses (Stephens et al. 1971; Walker 2008). Finally, Bankard series loams appear along the flood plains and low terraces (Stephens et al 1971; Walker 2008).

Prairie-adapted animals are the most common on the landscape. The primary native herbivore animals today include pronghorns (*Antilocapra americana*), ground squirrels (Sciuridae), prairie dogs (*Cynomys ludoviciancus*), jackrabbits (*Lepus* sp.), and grasshoppers (Acrididae) (Knight et al. 2014:88). Prehistorically, bison abounded in the region, but Euroamerican overhunting and the bison hide trade in the 1830s decimated the population. By 1849, bison were reported extinct in the immediate vicinity (Boos 1860; Hafen and Young 1984[1938]). The tough cell walls and high concentrations of lignin and silica in the native shortgrasses favor ruminant digestive systems in larger animals, such as those found in bison or cattle (*Bos taurus*) (Knight et al. 2014). Non-ruminants, such as horses (*Equus caballus*), can survive in the grasslands, but they digest the food less efficiently (Knight et al. 2014).

At Fort Laramie today, there is a riparian zone that borders the Laramie and North Platte Rivers, but this riparian area was most likely diminished in size during the historical habitation of the fort (Figure 2.1). Riparian zones occur in areas of interface between land and rivers, and often introduce unique floral and fauna to an area. Approximately 1.2% of the state of Wyoming is riparian habitat, but this provides habitat for more than 80% of the state's vertebrate species (Wyoming State Wildlife Action Plan 2010). Riparian zones are crucial environments for elk (*Cervus elaphus*), moose (*Alces alces*), mule deer (*Odocoileus hemionus)*, and white-tailed deer (*Odocoileus virginianus*) (Wyoming State Wildlife Action Plan 2010). Other Wyoming species that require riparian zones include a variety of birds, bats, snakes, turtles, frogs, and toads.

Figure 2.1: Fort Laramie today. (Photograph by Sarah Wolff.)

Historical photographs show that the Euroamericans deforested the area, and greatly impacted the environment (Talbott 2010; Figure 2.2). The military relied upon a government sawmill near Laramie Peak, approximately 60 miles away, to supply wood for the fort because of the lack of local supplies (Collins 1970:24). As a result, large riparian mammals, such as deer, were rare at the fort. One soldier stationed at Fort Laramie noted, "Game is not very abundant in the immediate vicinity of the post;

there are antelope and deer a few miles out" (Giddens 1978:311). While there was not a lot of vegetation for mammals, the analysis of faunal remains for this dissertation indicates that small riparian animals, such as frogs and turtles, did live in the river.

Figure 2.2: Overview of Fort Laramie taken between 1868 and 1875. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

Fish were naturally abundant in the region. Sauger/walleye (*Sander* sp.), catfish (Ictaluridae), pickerel (Escocidae), sturgeon (*Scaphirhynchus* sp.), suckers (*Catostomus* sp.), and red horse (*Moxostoma carinatum*) were found in the Laramie and Platte Rivers (Boos 1860). A soldier stationed at Fort Laramie wrote, "Fish are plenty and easily caught both in the Laramie and Platte rivers, they are mostly catfish and pike" (Giddens 1978:311). The Fort Laramie post trader in the 1870s, John S. Collins, wrote, "A few miles above the post on the Platte River, just below the canyon and near Whalen's ranch was a cataract in the river which was a great fishing place. In season I made frequent trips to this point, usually meeting with great success, taking from twenty-five to one hundred pounds of wall-eyed pike weighing from one to five pounds each" (Collins 1970:108).

The historical game fish distribution in the Laramie and North Platte Rivers differs greatly from modern game fish populations. A recent survey of fish in the rivers surrounding Fort Laramie revealed that no native game species are present in the rivers today, and instead, introduced game fish, including small mouth bass (*Micropterus dolomieu*) and white crappie (*Pomoxis annularis*), are the most dominant in the rivers (White et al. 2002). The archaeological analysis from the enlisted men's barracks and Old Bedlam, discussed later in this dissertation, reveals that catfish and sauger were historically abundant in the rivers. Table 2.1 is a list of the native non-game fish, introduced non-game fish, archaeologically determined native game fish, and introduced game fish for the Fort Laramie and North Platte Rivers. The change in the fish populations could be due to human damming and overfishing of the Laramie and North Platte Rivers in the late 1800s.

The Laramie and North Platte Rivers were large meandering rivers that cut through the prairie landscape until they were developed for irrigation at the turn of the 19th century. One traveler in the 1850s stated that "Laramie's Fork" was "a fine clear stream about forty yards broad" (Burton 1990[1862]:90). Both rivers were dammed after the abandonment of the fort to develop the region for agriculture in the early 20th century. The Laramie River was dammed in 1897 and 1898 to create Wheatland Reservoirs 1 and 2. The North Platte River was dammed several times in the early 1900s creating the Seminoe, Kortes, Alcova, Glendo, and Guernsey reservoirs (Ostlind 2011).

Table 2.1: Native Non-Game Fish, Native Game Fish, Non-Native Non-Game Fish, and Non-Native Game Fish in the Laramie and North Platte River (White et al. 2002; Wyoming Game and Fish Department 2016).

Historically Native Non-Game Fish in Fort Laramie Rivers	
Bigmouth Shiner	*Notropis dorsalis*
Brassy Minnow	*Hybognathus hankinsoni*
Common Shiner	*Luxilus cornutus*
Creek chub	*Semotilus atromaculatus*
Fathead Minnow	*Pimephales promelas*
Hornyhead Chub	*Nocomis biguttatus*
Longnose Dace	*Rhinichthys cataractae*
Sand Shiner	*Notropis stramineus*
Central Stoneroller	*Campostoma anomalum*
Suckermouth Minnow	*Phenacobius mirabilis*
Longnose Sucker	*Catostomus catostomus*
White sucker	*Catostomus commersoni*
Plains Killfish	*Fundulus zebrinus*
Johnny Darter	*Etheostoma nigrum*
Red Shiner	*Cyprinella lutrensis*
Shorthead Redhorse	*Moxostoma macrolepidotum*
Modern Introduced Non-Native Non-Game Fish in Fort Laramie Rivers	
Common carp	*Cyprinus carpio*
Emeral Shiner	*Notropis atherinoides*
Historically Native Game Fish in Fort Laramie Rivers	
Channel Catfish	*Ictalurus punctatus*
Sauger	*Sander canadenses*
Shovelnose Sturgeon	*Scaphirhynchus platorynchus*
Stonecat	*Noturus flavus*
Modern Introduced Non-Native Game Fish to Fort Laramie Rivers	
Smallmouth Bass	*Micropterus dolomieu*
White Crappie	*Pomoxis annularis*

2.2: HUMAN OCCUPATION

2.2.1: Prehistory and Early Historical Period

Discussions of Paleoindian, Archaic Period, Late Prehistoric, and Protohistoric sites at Fort Laramie are limited because most archaeological investigations have targeted the historical period. At Fort Laramie NHS, three prehistoric artifacts and features have been found. First was a Folsom point discovered in 1949. This discovery was followed by subsequent tests of the area in 1951 and 2005 (Walker and De Vore 2008). The 2005 excavations revealed a short-term campsite during the Folsom period (Walker and De Vore 2008). "Based on its geomorphic position and postulated history of the Laramie River terraces, this site was more than likely a small short term campsite or hunting station where limited lithic reduction activities occurred while sitting in the area overlooking the Laramie River and the hundreds of mammoth and bison grazing on the lower terraces" (Walker and De Vore 2008:364–365). Second, a rock-filled firepit was found in 1963 (Husted 1964; Walker and De Vore 2008). Third, several prehistoric rock filled hearths were found while leveling land east of the fort buildings (Husted 1964). Even though few prehistoric archaeological remains have been found Fort Laramie NHS, we assume that the same Wyoming cultures that dominated the southeastern part of the state most likely traversed the Fort Laramie grounds.

While never in large numbers, there has been a human presence in the Wyoming region for over 12,000 years (Clark and Scheiber 2008; Kornfeld et al. 2010). As Marcel Kornfeld, George Frison, and Mary Lou Larson wrote, "It is not an area that even under present technology can support large human populations . . . There is little to recommend the Northwestern Plains as a place to live, but its uniqueness did foster some distinctive cultural patterns in prehistoric times" (Kornfeld et al. 2010:33).

The oldest culture complexes in Wyoming include Clovis, Goshen, and Folsom. The Colby Site in the Bighorn Basin, in the north central part of the state, is the oldest accepted human occupation of Wyoming, dated to 13,050 calibrated calendar years before present (Frison and Todd 1986). This Clovis site suggests that Paleoindians organized mammoth hunts in a planned and predictable way (Kornfeld et al. 2010). A regional variant of Clovis is the Goshen complex, named after Goshen County, which is the same county where Fort Laramie is located (Kornfeld et al. 2010). The Goshen complex was found at the archaeologically rich (primarily) prehistoric site of Hell Gap. Hell Gap is less than 20 miles away from Fort Laramie, and it is likely that many of these prehistoric groups crossed over the Fort Laramie landscape. Folsom projectile points have been found throughout the High Plains, including at Fort Laramie itself. Folsom sites lack mammoth remains, which suggests a shift in local fauna during this period (Kornfeld et al. 2010).

Between 10,500 and 10,000 B.P., Folsom points give way to several regional tool complexes, commonly called the Middle and Late Paleoindian Period. Within the state of Wyoming, these complexes include: Agate Basin, Hell Gap, Cody, Frederick and/or James Allen, and Lusk (Kornfeld et al. 2010). Climatic and ecological changes to the area around 10,000 B.P. forced a shift in subsistence strategies. Several radiocarbon dates and the presence of sites along the Rocky Mountains suggest the emergence of two mutually exclusive subsistence strategies: the Foothill/Mountain complexes and the Cody complex (Kornfeld et al. 2010). Foothill/Mountain complex populations favored hunting and gathering along the mountain slope areas. In contrast, the Cody complex peoples gathered from the plains and hunted bison part-time (Kornfeld et al. 2010).

In Wyoming, the Archaic Period begins around 8000 B.P. and lasts until approximately A.D. 500 (Kornfeld et al. 2010). The Archaic Plains Period is usually divided into Early, Middle, and Late. The Early Archaic was initially thought to represent a “cultural hiatus,” in which there was very little human habitation of Wyoming, but recent investigations demonstrate there was human occupation and a great deal of projectile point variation in the plains at this time (Kornfeld et al. 2010:114). This diversification was attributed to increasing dietary breadth as a result of climatic changes. However, more research on this subject is required. There are more sites from the Middle Archaic, regionally called the McKean Period, than the previous period. During this time, there is an increased emphasis on plant foods, and manos and grinding slabs become regionally abundant (Kornfeld et al. 2010). Several Middle Archaic sites have been found in the northern part of Wyoming, but few are located in the southern part of the state. The bulk of the Middle Plains Archaic projectile points are McKean variations, named after the McKean site near the Black Hills in the northeastern part of the state. Sites during the Late Archaic Period increase throughout Wyoming, and by 3000 B.P. McKean projectile points were replaced by two widespread point styles: Pelican Lake and Yonkee (Kornfeld et al. 2010). During the Late Archaic, communal bison kills, such as jumps or arroyo traps, began to appear throughout the plains. Many of these sites were habitually used, and endured for thousands of years. The Kobold Buffalo Jump site in Montana was used for at least 3,000 years during the Late Archaic and Late Prehistoric (Kornfeld et al.

2010). Yonkee and Pelican Lake appear to be different groups, and are rarely contained in the same assemblage. However, the Kaplan-Hoover arroyo bison trap, in northern Colorado, contains both points (Kornfeld et al. 2010). Heavy cave occupation during this time period has provided archaeologists with an abundance of material, including coiled basketry fragments, woodworking debris, bark cordage, sinew, hide, feathers, shell, and many atlatl fragments. The Late Archaic reaches a peak around 1,000 years B.P., and then dramatically decreases in abundance, possibly due to climatic change. After A.D. 1, the new projectile point of Besant appears (Kornfeld et al. 2010).

The Late Prehistoric Period begins "arbitrarily" around A.D. 500 and lasts until the Protohistoric (Kornfeld et al. 2010). Archaeologically, the time period is differentiated by bow and arrow technology. The number of sites increases throughout the state. In terms of subsistence patterns, many Late Prehistoric people engage in communal bison hunts. In addition, sites often produced large slab-lined food preparation pits, and some sites produced ceramics (Kornfeld et al. 2010).

While the Protohistoric period in Wyoming is not well understood, it is marked by many cultural changes. The introduction of the horse had a profound impact on the occupation of the plains. The exact date of horse acquisition is unknown. One of the earliest appearances comes from the discovery of horse remains featuring metal butchery marks in southwestern Wyoming, slaughtered prior to A.D. 1650 (Eckles et al. 1994; Kornfeld et al. 2010; Thornhill 2016). The Shoshoneans and Crow had horses by the early 1700s (Kornfeld et al. 2010). Small amounts of European goods, such as shell beads and European glass trade beads, also appear in some archaeological sites; however, many Protohistoric sites contain no historical or European items (Kornfeld et al. 2010; Sutton 2004). Identification of Protohistoric sites remains difficult because of the lack of unified material culture at the time period.

In the greater Fort Laramie region, human habitation fluctuated throughout prehistory. Several Paleoindian sites have been found in the vicinity of Fort Laramie, including Hell Gap (48GO305) and Powars II (48PL330) (Kornfeld et al. 2010; Stafford 1990). The Early and Middle Archaic Periods are, in general, less populated, and no significant sites from these time periods are in the immediate vicinity of Fort Laramie. However, populations increased during the Late Archaic, and several sites appear in the region, including Patten Creek (48PL68) and North Platte River (48PL23; 48PL24) (Keller 1971; Kornfeld et al. 2010; Mulloy 1965). During the Late Prehistoric, several sites appear along the North Platte River, including Irvine (48CO302) and North Platte (48PL29) (Duguid 1968; Kornfeld et al. 2010; Mulloy and Steege 1967).

By the early 1800s, several Native American groups converged at the hunting grounds in the Fort Laramie region. These groups were often in conflict, and there was no singular presence in the region. “The dynamics of that volatile environment developed as the result of migrations and intertribal warfare spanning more than a century, with each tribe striving to survive by preserving, or expanding, its hunting range” (McChristian 2008:24). The powerful Crow tribes occupied the eastern side of the Big Horn Mountains to the Black Hills, and as far south as the North Platte River. Crows frequently warred with the recent migrants of Sioux and Cheyennes, coming from headwaters of the Mississippi in the 1700s (McChristian 2008). The Teton (sometimes called Western or Lakota) Sioux is composed of seven different subtribes sharing a common dialect of language. These groups include the Oglala, Brulé, Miniconjous, Two Kettles, Hunkpapa, Blackfeet (no relation to the Blackfoot tribe in northern Montana), and Sans Arc (McChristian 2008). The Cheyennes had been supplied with horses through intertribal trade with the Southwest region. They displaced the weaker Kiowas inhabiting the Black Hills. After some conflict, in the 1790s, the Cheyennes and Sioux formed a working relationship that turned into an alliance (McChristian 2008). Prior to their arrival in the plains, the Sioux were woodland hunters and gatherers. However, they quickly became a horse-and-buffalo society, and were proficient bison hunters. The Pawnees inhabited the regions along the Platte River, and aggressively resisted the influx of Sioux and Cheyennes to their territories (McChristian 2008). "In fact, they clashed with almost all of the surrounding tribes in the region, even going so far as to launch extended raids far to the south against the Kiowas, Comanches, Southern Arapahos, and Southern Cheyennes" (McChristian 2008:24–25). The Shoshones primarily inhabited the Wind River Range, but sometimes launched hunting and raiding expeditions into the plains along the North Platte. Arapahos launched similar hunting and warring trips into the North Platte from their range along the South Platte in Colorado (McChristian 2008).

2.2.2: Historical Period

The United States obtained the majority of the state of Wyoming in the Louisiana Purchase of 1803 (Larson 1978). Table 2.2 highlights some of the major historical events that impacted the development of Fort Laramie. Explorers and French fur trappers were the first white visitors to the region, neither of which had intentions of settling the area. One of the first explorers was Virginian John Colter, a veteran of the Lewis and Clark expedition, who ventured into the Yellowstone region during the winter of 1807–1808. Robert Stuart and his business associates were some of the first Euroamericans to explore a westward route through the South Pass region, the gateway to many of the overland trails in the 1840s and 1850s (Larson 1978). Fur traders quickly migrated to the new territory, and in the early 1830s, "there may have been as many as two hundred of them in Wyoming at one time" (Larson 1978:9). In 1834, William Sublette and Robert Campbell established a trading post at "Laremai's point" called Fort William, after William Sublette. Fort William was rectangular in shape, and defined by a palisade that was "fifteen feet high" (Hafen and Young 1984[1938]:31).

Table 2.2: Timeline of important dates and events that impacted Fort Laramie.

Time Frame	United States	Wyoming Territory/Region	Fort Laramie
1800–1829	**1803**–Fort Laramie region purchased by United States from France in Louisiana Purchase & became part of Nebraska Territory		
1830–1840	**1830s**–Southeast Indian Removal Acts		**1834**–William Sublette and Robert Campbell build Fort William
1840–1849	**1846–1848**–Mexican–American War **1848**–Gold discovered in Sacramento Valley (California)	**1847**–Mormon Trail **1848**–Oregon–California Trails	**1841**–Fort John constructed to compete with nearby Fort Platte **1849**–U.S. government purchases Fort Laramie
1850–1859			**1851**–Fort Laramie Treaty
1860–1869	**1861–1865**–American Civil War **1862**–Homestead Act **1869**–Completion of transcontinental railroad	**1860–1861**–Pony Express **1863**–Bozeman Trail **1868**–July 25, Wyoming Territory Created	**1866–1868**–Bozeman War & 1868 Treaty
1870–1879		**1876–1887**–Cheyenne–Black Hills Stage Line	**1876–1877**–Great Sioux War **1876**–Rustic Hotel at Fort Laramie built
1880–1890	**1890**–Census takers declared the "frontier" as closed	**1890**–July 10, Wyoming gained statehood	**1890**–Fort Laramie abandoned by military & Rustic Hotel burned down
After 1890			**1938**–Became part of National Park System

The principal commodity traded on the plains in the 1830s were bison robes, and Fort William was within reach of the most skilled bison hunting tribes on the plains, including the Teton Sioux and Cheyennes (Lavender 1983). This marks a transition in fur trading in the West. Prior to 1830s, beaver skins were the principal commodities, and trappers met at shifting locations in rendezvous. As bison replaced beaver as the favored fur due to overhunting, Euroamericans quickly learned that they could not outcompete Native groups that had honed a bison-hunting skill set over hundreds and thousands of years. The trapper was replaced with the trader, who established a permanent hub for Native groups to trade bison hides for other goods. The fur trapper rendezvous system was officially abandoned in 1840 (Hafen and Young 1984[1938]; Pierce 2012). Over the course of several years, Sublette and Campbell sold Fort William to the American Fur Company. Two Fort Laramie historians remarked about the transition from the trapper to the trader saying,

> When the bulky buffalo robes took the place of neat packs of beaver skins, the trader replaced the trapper, and the fixed trading-post displaced the shifting rendezvous . . . While in the catching of beaver, white men did the trapping, in the procuring and tanning of buffalo skins the white men could not, or else would not compete with the Indian. Hence, in the new conditions, the white trader and his post were the effective agents (Hafen and Young 1984[1938]:26).

Fort William remained the only trading post in the region until the 1840s, when several other trading posts opened, causing stiff competition for the old fort. Forts Lupton, Jackson, Vasuez, and St. Vrain all opened on the South Platte River, less than two hundred miles south of Fort William (Hafen and Young 1984[1938]). In addition, Fort Platte, belonging to L. P. Lupton, was built on the North Platte River as direct competition to Fort William. One contemporary migrant wrote in 1841, “Eight miles this morning took us to Fort Laramie, which is on Laramie’s fork of Platte about 800 miles from frontiers of Missouri. It is owned by the American Fur company. There is another fort within a mile and a half of this place, belonging to an individual by the name of Lupton" (Hafen and Young 1984[1938]:69). In an effort to outcompete Fort Platte, the crumbling stockade of Fort William was replaced with an adobe building on the north side of the Laramie River in 1841. This new adobe fort was christened Fort John, but the fort was informally referred to as Laramie in reference to the river (Hafen and Young 1984[1938]:70). One traveler at the time wrote, "The fort is built of adobes. The walls are about two feet thick, and twelve or fourteen feet high, the tops being picketed or spiked . . . In the centre is an open square . . . along the sides of which are ranged the dwellings, store rooms, smith shop, carpenter's shop, offices, etc., all fronting upon the inner area" (Hafen and Young 1984[1938]:109). Fort Platte and Fort John's rivalry intensified, and both forts sailed shipments of furs and cargo down the river to the Missouri. The rivalry between the two forts is detailed in Rufus Sage's book *Rocky Mountain Life* (1846). Fort John eventually prevailed, and Fort Platte closed in 1846, after being open for six years (Hafen and Young 1984[1938]).

In the 1840s, much of the economics of the region shifted from the fur trade to dependence on transient migrant trains heading west. At this time, few migrants had an interest in making the Wyoming region their ultimate destination (Larson 1978). The majority of the cross-country travelers passed through the Fort Laramie region because the trains followed the gradual incline of the North Platte River. Migrant trains depended upon the fresh water in streams, and had to follow water sources across the country. The North and South Platte Rivers were two large rivers that trains could follow westward from Nebraska. The North Platte led travelers to South Pass, a gap in the Rocky Mountains, which allowed wagon trains to cross the continental divide without going over steep mountains in Colorado. Some migrants did use the more southern "Overland Trail," but the peak use for this trail was 1862–1868, during the Bozeman War in northern Wyoming (Larson 1978).

It was in the late 1840s that emigrant trains first began to pass by Fort John. In 1845, the military first visited Fort John while guarding the South Pass Route of the Oregon Trail. Col. Kearny, the commander of the detail, met with 1,200 Sioux that were assembled near Fort Platte and Fort John. This was the first interaction between Native Americans and the military at the future site of Fort Laramie. At this meeting, Kearny told the assembled Native Americans that "the emigrant road must remain open and that the whites who traveled it must not be disturbed. Bull Tail, the principal chief, made an appropriate and friendly reply, after which presents of scarlet and blue cloth, red and green blankets, tobacco, knives, looking-glasses, beads, and such things were distributed to the Indians" (Hafen and Young 1984[1938]:112).

In 1846, the United States acquired the Oregon Territory, and following the Mexican-American War (1846–1848), the United States acquired California, Texas, and the lands in between (Hoagland 2004:16). Settlers flooded to the new western lands of California and Oregon, particularly after the discovery of gold in the Sacramento Valley in 1848. Mormon pioneers led by Brigham Young passed Fort John during the summer of 1847 on their way to the Salt Lake Valley. In 1847, emigration through the fort increased substantially. "In fact the emigration to the Pacific coast in 1847 exceeded that of any previous year. It is estimated that between 4,000 and 5,000 made their way to Oregon and 1,000 to California. It addition some 2,000 Mormons followed their Pioneer Band to the Salt lake valley this season"

(Hafen and Young 1984[1938]:126). During the peak years of travel in the early 1850s, approximately 50,000 migrants passed through Fort Laramie annually (Lavender 1983).

Due to the increased trail traffic, the U.S. government had investigated possibilities of establishing a series of military forts along the emigrant trails. In President Polk's annual address to congress on December 2, 1845, he stated "I recommend that a suitable number of stockades and block house forts be erected along the usual route between our frontier settlement on the Missouri and Rocky mountains, and that an adequate force of mounted riflemen be raised to guard and protect them on their journey" (Hafen and Young 1984[1938]:137). The first fort purchased by the government was Fort Kearny on the Platte River in 1848, Nebraska Territory. Fort Laramie was the second military fort purchased in the spring of 1849 (Hafen and Young 1984[1938]:140). The first commanding officer to arrive at Fort Laramie, William F. Sanderson, wrote to the Adjt. General on June 27, 1849 saying,

> This was found to be the most eligible for a military post, and was purchased at my request. . . at a cost of four thousand dollars from . . . the American Fur company . . . Pine timber suitable for all building purposes is found in abundance within twelve miles, on the north side of the Platte. The best of limestone is also found about the same distance, on the south side of the same river. The Laramie is a rapid and beautiful stream, and will furnish an abundance of good water for the command. There is plenty of grass for making hay within convenient distance of the post. Good, dry wood is found in abundance and easily to be obtained. The entire command (except eight men for stable purposes) are already employed in cutting and hauling timber, burning lime and coal, cutting and making hay. The saw-mill will soon be in active operations: everything is being pushed forward as rapidly as circumstances will permit (Hafen and Young 1984[1938]:142).

The 35,000 acres of the Fort Laramie Military Reservation was nine miles long north and south, and six miles wide (Griske 2005). All the land was owned by the military, and even after the fort closed in 1890, the land continued to be owned by the government even though the buildings belonged to civilians (Talbott 2010). Fort Laramie served as a staging point for campaigns, a center of activity for Wyoming settlers, and as a home to soldiers and military dependents.

The Army provided many services to the people in emigrant wagon trains, such as a court of law to settle disputes between emigrants, infrastructure development on the trails, protection from hostile forces, and a safe destination to resupply wagons (Hafen and Young 1984[1938]; McChristian 2008). Over the 41-year occupation of Fort Laramie, the U.S. Army aided tens of thousands of settlers traveling the Oregon-California-Utah Trails (1850s thru1860s), the Pony Express (1860 to1861), Bozeman Trail (1863 to 1868), and Cheyenne–Black Hills Stage Line (1876 to 1887) (Hafen and Young 1984[1938]; Hoagland 2004; Lavender 1983; McChristian 2008). Fort Laramie played a crucial role in many historical events that are detailed in several monographs including: McChristian (2008) *Fort Laramie: Military Bastion of the High Plains*, Hafen and Young (1938) *Fort Laramie and Pageant of the West, 1834–1890*, Lavender (1983) *Fort Laramie Official National Park Handbook,* Mattes (1980) *Fort Laramie Park History 1834–1977*, and Hoagland (2004) *Army Architecture in the West*. The following summary briefly highlights some of the important events that occurred at Fort Laramie, but is by no means a detailed history of the fort.

Once the military purchased Fort Laramie, they immediately began laying out a Western military fort design on top of the retired fur trading post. The adobe Fort John was used by the military until 1862 (Hoagland 2004; Figure 2.3). Some of the first buildings constructed included barracks, officers' quarters, and a guardhouse surrounded a newly established parade ground (Hoagland 2004). One of the first buildings constructed was Old Bedlam, the bachelor officers' quarters. The name is in reference to the London lunatic asylum, Bedlam (Hoagland 2004:45). Old Bedlam quickly became a fixture on the landscape. It was two stories in high, and contained lavish design elements, such as a two-story veranda. French traveler Louis Simonin wrote, "With its two-story 'veranda,' or outer gallery, one would take it for a hotel in Panama or Central America" (Hoagland 2004:46). It can clearly be seen in the first photograph of Fort Laramie in the 1850s (Figure 2.3). Old Bedlam became synonymous with Fort Laramie, appearing as an icon in Captain Charles King's romance novel, *Laramie, or the Queen of Bedlam* (1986[1889]). Today, Old Bedlam is the oldest building still standing in Wyoming.

As was typical of most western forts, the perimeter remained open without a stockade or fortifications. Original fort plans suggested there would be a stockade at some point, but a tight military budget never allowed for such developments. In addition, there was very little threat of Fort Laramie being attacked since it was not in a Native American reservation (Hafen and Young 1984[1938]; Hoagland 2004; Lavender 1983; McChristian 2008).

Figure 2.3: The adobe walls of Fort John can be seen along river to the left of the center in this 1858 photograph of Fort Laramie. The large two-story building with the veranda in the center is Old Bedlam. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

One of the first historical events that occurred at Fort Laramie was the signing of the Fort Laramie treaty in 1851. The Fort Laramie Treaty of 1851 actually took place along Hat Creek, 37 miles south of the Fort, because the immediate land surrounding the fort was devoid of forage for Native American horses (Lavender 1983; McChristian 2008). Sioux, Cheyennes, Arapahoes, Crows, Shoshonies, and many Upper Missouri groups sent delegates to the assembly. Thomas Fitzpatrick, a distinguished fur trader, organized the meeting and worked with David D. Mitchell, Superintendent of Indian Affairs on the negotiations. The end product of the treaty was that Native American groups would receive $70,000 a year in gifts over a 50-year period. In exchange, groups would stay on designated lands with territorial boundaries, and would only be allowed to leave to hunt (Lavender 1983). This treaty first established the reservation system on the plains, and set a status quo for the government paying Native Americans to stay on reservations. This treaty also represented a large gap in cultural understanding, either through malicious intent or ignorance. The U.S. negotiators insisted that each Native American cultural group elect a "head chief" to represent and sign the treaty. This system held no significance to everyone in the cultural group, particularly for those tribes that did not attend the treaty signing, but the U.S. government treated the "head chiefs" as a figurehead for the entire cultural group. Fitzpatrick then took the eleven newly elected "head chiefs" to Washington, D.C., to impress them (Lavender 1983:73).

In the 1860s, Euroamerican settlement and migration through Wyoming greatly increased due to the Homestead Act of 1862 and the construction of the Union Pacific railroad. The Homestead Act of 1862, signed by President Lincoln, granted 160 acres of public land in the West to any U.S. citizen, or an individual who had filed a declaration of intention to become a citizen (Axelrod 1996). The applicant needed to be at least 21 years old, and to pay a modest filing fee. The individual needed to live on the land for five years and make improvements, such as building a house. After meeting those requirements, the homesteader received a clear title for the property. Through the Homestead Act, 600,000 homesteaders had acquired 80 million acres of formerly public land by the end of the 19th century (Axelrod 1996). While the Homestead Act gave people land in the West, the Union Pacific provided the means for people to reach the newly opened lands. As Wyoming Territorial Governor John A. Campbell said, "In one particular our situation as a territory is entirely new and somewhat anomalous for pioneers. Heretofore the railroad has been the follower instead of the pioneer of civilization" (Larson 1978:36). Wyoming historian T. A.

Larson (1978:36) further explained, “In Wyoming many people who considered themselves pioneers rode to their frontier homes, not in covered wagons drawn by oxen, but in railway coaches and Pullman cars.” Tent cities sprang up into newly created towns to support the building and impending industry brought by the railroad. The city of Cheyenne is a classic example of how the Union Pacific shaped the history of Wyoming. Before the Union Pacific, the region around Cheyenne was composed of some ranch lands. By the time the Union Pacific reached Cheyenne on November 13, 1867, it had approximately 6,000 people, including 400 women and 200 children (Larson 1978:44). The Union Pacific in Wyoming was seen as the beginning of the end of the Western frontier in the region. Wyoming became a separate territory from Dakota shortly after the arrival of the railroad, July 25, 1868. The completion of the transcontinental railroad in 1869 made cross-country travel comparatively easy. The 3,000-mile journey took just eight days by train, while by stagecoach, it took two and a half months (Sandoval-Strausz 2007). Between 1870 and 1900, over 2.5 million Americans utilized the renovated transportation system to migrate from the East to the West (Schlereth 1991).

The railroad instigated an increased military presence on the plains as a series of forts were established along the route. To protect the transcontinental railroad during construction, a series of forts and associated towns were established, including Fort D. A. Russell (now Cheyenne), Fort Sanders (now the town of Laramie), Fort Fred Steele (15 miles north of Rawlins), and Fort Bridger (now Fort Bridger) (Frazer 1972; Miller 2012).

As more people traveled west, more problems arose between Native Americans and the Euroamerican settlers and miners. The increased tension of migrants traveling through traditional Sioux hunting grounds north of Fort Laramie caused the Bozeman war (also called Red Cloud's War). Gold was discovered in southern Montana in the early 1860s, and one of the main routes to the gold fields went through the Sioux hunting grounds, as laid out in the 1851 treaty. Starting in 1864, miners flooded into the area, angering the northern tribes. Congress only made the problem worse in 1865 when they appropriated money to improve the "Bozeman Trail" that cut north from Fort Laramie and hugged the Big Horn Mountains to reach what is now southern Montana. Northern Sioux, Oglalas, Brulés, Southern Cheyennes, and Southern Arapahoes fought against the trail going through their lands. As the Civil War came to a close, the military diverted money and resources to the West, and constructed a series of heavily protected forts along the Bozeman Trail. These were some of the only forts in the West that included a stockade, such as Fort Phil Kearny approximately 250 miles northwest of Fort Laramie. Fort Phil Kearny was the location for several engagements and the Fetterman massacre. Captain William J. Fetterman and 81 men were killed on a wood-gathering party in December 1866. John (Portugee) Phillips, one of Col. Carrington's scouts at Fort Phil Kearny, made the legendary ride of 236 miles to Fort Laramie in the depths of night to appear at Old Bedlam during a white-gloved ball to tell of Fetterman's death and ask for reinforcements at once (Lavender 1983). The U.S. government agreed to the Treaty of 1868 in the wake of increased hostilities along the Bozeman trail.

Fort Laramie served as the site for the signing of the Treaty of 1868. The Treaty of 1868 closed the Bozeman Trail and outlawed white settlement of land north of the North Platte and east of the Big Horn Mountains (Finerty 1955:xxv). In exchange, the Native American groups were further tied to the reservation system (Lavender 1983). The exact reasoning behind the treaty from the U.S. government perspective is debatable. Some, such as Finerty (1955), argue that the Native American force was too strong for the weakened Army following the Civil War. Others, such as Lavender (1983), suggest that the government agreed to the treaty because it would draw Native American groups' attention away from increased Euroamerican migrants settling the plains on the railroad.

A similar situation emerged 10 years later when miners flooded to the Black Hills after the discovery of gold in 1875. During a military intelligence survey in the Black Hills, land rightfully belonging to the Sioux Nation, Lt. Col. George Armstrong Custer discovered gold in the summer of 1874 (Hedren 1988). Gold miners illegally flooded to the area (McChrisitan 2008). The military tried, with great difficulty, to keep prospectors out of the Black Hills. One newspaper report for the Chicago *Times* wrote,

> In vain did the Government issues its proclamations; in vain were our veteran regiments of cavalry and infantry, commanded by warriors true and tried, drawn up across the path of the daring invaders [miners]; in vain were arrests made, baggage seized, horses confiscated and wagons burned; no earthly power could hinder that bewildering swarm of human ants. They laughed at the proclamations, evaded the soldiers, broke jail, did without wagons or outfit of any kind, and, undaunted by the fierce war whoops of exasperated Sioux, rushed on the fight for gold with burning hearts and naked hands! (Finerty 1955:26).

President Ulysses Grant attempted to purchase the Black Hills from the Sioux tribe on September 20, 1875, but failed (McChristian 2008). Following unsuccessful negotiations, President Grant directed the military to stop interference with the gold rush, and chose policies that favored the miners as early as November of that year (Hedren 1988). The city of Cheyenne fronted money to improve a roadway from Cheyenne to the Black Hills in the fall of 1875, and a private stage line quickly followed the announcement (Spring 1949). This encouraged the illegal settlement of the area. As one newspaper column wrote, "It was of old, 'All roads lead to Rome!' So it may now be said of the Black Hills, *all roads lead to them!*" (*The Cheyenne Daily Sun* [CDS], 6 May 1877). Captain James Gillis, Quartermaster of the U.S. Army at Cheyenne Depot, stated in January that, "miners are leaving here every week by the hundreds for the gold regions of the Black Hills" (Griske 2005:70). Sioux raiding increased as more Euroamericans invaded traditional hunting lands, leading to the deaths of some white settlers, which sparked the Great Sioux War of 1876 (Hedren 1988; McChristian 2008). Following the conflict, the United States captured the Black Hills as spoils of war. Once incorporated into the United States, the Black Hills were officially opened for settlement and prospecting (McChristian 2008; Spring 1949). Following the Great Sioux War of 1876, Fort Laramie was relatively peaceful.

Before and during the Civil War, the frontier army was a small presence on the plains. In 1860, the maximum strength of the U.S. Army was approximately 10,000 soldiers, and they were stationed over sixty-five forts and camps throughout the entire West (Agnew 2008). The Civil War greatly impacted the development and size of the Regular Army. With the start of the Civil War, many men volunteered to join the service. The Army peaked in enrollment at approximately 1 million wartime volunteers (Collison 2015). There were a small number of trained soldiers in the Regular Army, which became the Union Army during the Civil War, and many more untrained volunteers. The trained Regular Army was directed away from frontier posts to fight the Confederacy in the South. To the surprise of many of the volunteer regiments that had signed up to fight the Confederacy, they were assigned to frontier forts. This was the case of Company K, a subgroup of the Eleventh Ohio Volunteer Cavalry Soldiers (OVC) (Cullimore 2012). The Eleventh OVC was stationed at a variety of western forts including Fort Laramie once they enlisted in 1862. After their enlistment expired in 1865, most returned to Ohio. However, 800 soldiers remained an additional 16 months in the West, including Company K that stayed at Fort Laramie (Cullimore 2012).

In the wake of the Civil War, a standing army was met with great contention in congress, and the military found a national purpose in guarding the frontier. Recently re-united southern Democratic congressmen argued that soldiers were "useless and dangerous instruments of oppression and pensioners upon the state" (Adams 2009:12). The congressional mistrust of the military was reflected in massive budget cuts between 1869 and 1874. While the U.S. Army was originally envisioned to be a force of 60 regiments, it was cut in half by congressional limitations. "The entire service was limited to approximately two thousand officers and twenty-five thousand enlisted men. Animosity toward the army ran so high that in 1877 there was no budgetary appropriation for the service at all until an emergency session of

Congress came to a compromise in November " (Adams 2009:12). Other historians have argued that the diminished size of the military during this period reflected a "peacetime" army size, and not animosity towards the military (Scott 2015; Utley 1967). General George Crook complained in 1880, "I don't believe that any force in the world has ever been called upon to do so much in the ratio of its effective strength as has the little handful of men on the frontier, we call the Regular Army" (Adams 2009:12). Due to the vast area that the Army was expected to patrol, and the limited number of troops, the military often used a few large organizational centers with up to a dozen companies stationed there, including Fort Laramie, Wyoming Territory, and Fort Leavenworth, Kansas (Adams 2009). Companies would then be sent on campaigns from these central locations.

Given the length of the military occupation of the plains, over forty years, there were relatively few causalities from warfare, and soldiers were much more likely to die from disease. From 1865 to 1890, approximately 950 skirmishes occurred, resulting in approximately 930 army deaths and 1,060 injuries, including the deaths of approximately 200 soldiers at the Battle of the Little Bighorn (Agnew 2008). During the Mexican-American War (1846–1848), out of the 100,000 regulars and volunteers, 1,500 were killed in action, and approximately 10,000 died from disease. The Civil War acted as a wake-up call for the importance of medicine and hygiene during warfare. For example, at Fort Laramie, prior to the Civil War, drinking water was procured down stream of the fort. A Civil War experienced post surgeon came to the fort and revolutionized health practices. A multiple–person latrine was created downstream, and the drinking water was procured far upstream of the fort (Agnew 2008). In addition, the post surgeon experimented with fresh fruit, gardens, and drinking cactus juice to alleviate scurvy, a regular malady for soldiers (Scott 2015). Winter proved the most likely time of year for diseases, and many enlisted men suffered from influenza, catarrh, bronchitis, pneumonia, alcoholism, and frostbite (Willey and Scott 2015:369).

Fort Laramie reached its peak in the 1880s, a time of comparative peace, when the fort underwent several renovations. The fort was expanded, buildings were improved, and the parade ground was beautified. White-picket fences appeared in front of the officers' quarters, and the parade ground was lined with large trees and a boardwalk (Talbott 2010). Fort Laramie had 62 buildings at this time (Lavender 1983). While most of the 200 Army posts in the 1880s each housed fewer than 100 military personnel, 363 were stationed at Fort Laramie (Hoagland 2004). Due to the grand size and civilized appearance of the fort, it was known as the "Queen of the Plains" (Hoagland 1999, 2004; McChristian 2008). In 1852, Lodisa Frizzel, an emigrant, wrote that, "It looks like a rose in the wilderness" (Hoagland 1999:227). Mormon pioneers wrote, "On our arrival at Fort Laramie we obtained supplies for our selves and horses . . . There is an air of quietness and contentment, of neatness and taste, which . . . made us feel as if we had found an oasis in the desert" (Hoagland 2004:13).

The southeast region of the Wyoming territory was comparatively civilized by the 1880s, and cattle ranchers dominated the area. Cattle flourished in the open ranges left by bison, and most of the Native American groups were restricted to reservations by this time. The "Cattle Barons" controlled much of southeastern Wyoming, and many became rich as ranch owners (Larson 1978). “Cheyenne, noted far and wide for its opulent Cheyenne Club, where millionaire stockmen took their ease, boasted for a time of having the highest per capita income of any town in the Nation” (Lavender 1983:123). By 1890, the Western Plains looked very different than they had 90 years earlier. As the population gradually grew, Wyoming statehood followed on July 10, 1890 (Larson 1978).

Despite the expansion of Fort Laramie, it lost much of its usefulness by the late 1880s. By fall 1889, the fort was ordered for decommission. In early April 1890, the last troops left Fort Laramie for the newer Fort Robinson, Nebraska, located at the Red Cloud Agency less than 100 miles away.

The buildings at Fort Laramie were auctioned to homesteaders, and it remained in private hands until 1938, when it became a NHS. When Fort Laramie was decommissioned, the buildings were sold at auction to nineteen families, three of whom were the most prominent buyers: Huntons, Wildes, and Sandercocks. In 1867, John Hunton moved to Wyoming, and worked as a store clerk at Fort Laramie before becoming a cattle rancher and opening a hotel south of Fort Laramie. In 1888, he became the last post trader at Fort Laramie, running the Rustic Hotel (Talbott 2010). Hunton purchased the majority of buildings at auction, and went heavily into debt doing so (Talbott 2010). Joseph Wilde and his family purchased the cavalry barracks, and turned it into a store, saloon, dance hall, shoe shop, and 12-room hotel (Talbott 2010). There was no population at Fort Laramie, so the Wildes would usually gather ranching neighbors together at the dance hall or advertise in the closest cities, such as Wheatland (*The Wheatland World* [WW], 6 Dec 1895). The Wilde Hotel held frequent dances and political debates, including balls on July 4th and Christmas (WW, 6 Dec 1895; WW, 10 October 1896; WW, 30 Oct 1896). Joe Wilde sold the cavalry barracks to Louis Carlson, who then sold it again. Despite changing hands, the barracks remained a gathering place for dances and rodeos into the 1920s (Talbott 2010).

John Hunton died in September 1925, at the age of 88, but his zeal to protect Fort Laramie had spread to many of the local residents (Mattes 1980). At the first meeting of the Wyoming Historical Landmarks Commission in 1927, Fort Laramie was one of the first landmarks to be discussed for preservation. While their efforts were not realized, a National Park Service representative visited the fort in 1936, and expressed interest in preserving Fort Laramie to Wyoming Governor Leslie Miller (Mattes 1980). In 1937, Governor Miller convinced the Wyoming legislation to buy out the private landowners, and then turned it over to the U.S. government in 1938. On July 16, 1938, a presidential proclamation created Fort Laramie National Monument (Mattes 1980). The park was redesignated an NHS and expanded to 571 acres in 1960 (Mattes 1980).

CHAPTER 3: THEORY AND METHODS

3.1: INTRODUCTION

Aspects of core Victorian culture were adapted and extended into remote regions, and this dissertation tackles one vehicle, social status. Social status was a core component within Victorian culture, and should be one of the most resilient aspects in spite of environment. The frontier was unique because it was forged by continual conflicts of interests of people on the landscape. The following chapter provides an overview of Victorian culture, defines the western frontier, presents the research theme for this dissertation, and describes the methods used to investigate the research question.

3.2: VICTORIAN CULTURE

The heart of this dissertation is an understanding of Victorian culture, and what cultural elements persisted in regions on the western frontier. The following section contextualizes Victorian culture in terms of time period, anthropologically defining Victorian culture, discussing the emergence of the culture, and describing the global diversity. Finally, this section is concluded by addressing strengths and weaknesses of defining Victorian culture and using it as a theoretical tool in archaeological research.

The Victorian Era broadly correlates with the reign of Queen Victoria 1837–1901 (Howe 1976). However, global Victorian culture is not centered on the reign of the Queen, but instead she is used as a good proxy for the time period. The actual manifestations for Victorian culture occur in England around the 1850s and 1860s

(Parker 1995). Most scholars will argue that Victorian culture appeared approximately 10 years later or more in the United States (Rose 1992; Schlereth 1991; Stevenson 1991). Some historians argue that Victorian culture was the dominant culture by the 1860s, prior to the Civil War (Rose 1992; Stevenson 1991). In particular, Anne Rose (1992) focuses her research on Victorian culture during the Civil War. Thomas Schlereth (1991) instead argues that the greatest amount of cultural transformation associated with Victorian culture occurred from 1876 to 1915.

Victorian culture is defined as the dominant Euroamerican culture in the late 19th century in America and England. This time period is marked by transformations in lifestyles, which are frequently referred to as a "culture." Few historians have attempted to define Victorian culture, and instead intrinsically use the term (Rose 1992; Schlereth 1991). Thomas Schlereth (1991:xii) writes, "I repeatedly observed how many workplaces, housing preferences, consumer choices, recreational pursuits, eating habits, and demographic patterns underwent transition or transformation." Daniel Howe (1976:6) stated that the Victorian culture was "an era of rapid change, when everything from art forms to criminal law was being rethought, and habits of long standing came under critical examination." With the transformations in everyday life, a new set of shared values, beliefs, customs, behaviors, and material culture emerged, commonly referred to as Victorian culture. At the time, no one referred themselves as part of the Victorian culture, but the term has been applied to the society by historians and anthropologists (Adams 2009). Euroamericans living in England and America in the 19th century shared a common culture, but there were many differences and adaptations as the culture spread throughout the world.

The culture arose in response to unprecedented changes during the industrialization and mechanization of the late 1700s and early 1800s (Howe 1976). Prior to these times, large rural families made a living off the land, and numerous individuals were required to make the land profitable. With mechanization, large numbers of people were no longer required to work the land, and cities became the economic hubs. People flooded to cities (Schlereth 1991). A study of five small towns in Wisconsin from 1880 to 1895 showed that 78% of the population in the county switched from rural to city living (Schlereth 1991:17). Similarly, another study showed that from 1860 to 1900 "for every city laborer who took up farming, 20 farmers flocked to the city" (Schlereth 1991:17). Also with mechanization, transportation developments made migration and land expansions occur with comparative ease. The United States quickly expanded its territory in 1803 with the Louisiana Purchase, and by 1853, the continental United States had taken the shape we know today. In just 50 years, the country had more than doubled in size. As these changes occurred, Victorian culture emerged as a societal means to bring order to the chaos (Howe 1976; Schlereth 1991). Victorian culture ordered the world into categories: masculine and feminine; upper-class, middle-class, and lower-class; civilization and frontier; and civilized people and "savages" (Stevenson 2001:xxix).

Victorian culture is best understood in terms of universal order, and the desire for chaotic systems to be controlled by "civilized" humans. Most of the cultural values concern placing order on different aspects of life. For example, the family unit could be considered chaotic if everyones' roles were not specifically laid out. Victorian culture clearly differentiated the role of wives from the role of husbands.

The husband interacted with the political and economic world, and the wife's responsibility was to create a sanctuary for the husband in a comfortable home (Gay 1998; Plante 1997). A wife's role became canonized in the Victorian "cult of domesticity" that established the ideal behaviors for upper-class and middle-class women (Cott 1977; Dorre 2006; Hogg 2012; Howe 1976; Plante 1997). The wife was responsible for the daily household activities, such as caring for children, supervising household servants, home decoration, and planning social activities (Plante 1997). As the *Hill's Manual of Social and Business Forms* told wives, "Make the home so charming and so wisely-ordered that your husband will gladly be relieved of its care, and will willingly yield up its entire management to yourself" (Hill 1888:167). The cult of domesticity gave women an important cultural role as the female head of the household. As one officer's wife wrote, "I want *always* to have my husband the male head of the establishment I live in, and I of course want to be the female head" (Grierson 1989:13).

Class distinctions were one of the most salient components of Victorian culture. Displaying and differentiating ones social status had an increased importance due to the emergence of the middle class during this time period. With mechanization and industrialization, enterprising people could rise from the lower class to become part of the bourgeoisie (Gay 1995). As more and more average people were able to acquire capital, the upper-classes found new ways to define their status through elaborate displays of conspicuous consumption (Adams 2009; Bell and Hollows 2006; Gay 1998; Howe 1976), sometimes to the point of financial ruin, even in remote frontier military posts (Adams 2009). Officers would buy luxury goods to the point of bankruptcy in some cases. Alice Grierson (1989), an officer's wife on a frontier fort in Texas, had several arguments with her husband about spending more money than they could afford on luxury curtains and furniture.

On frontier forts, the upper- and middle-class officers lived a different lifestyle than the lower-class enlisted men (Adams 2009). Officers came from the civilian middle and upper classes, and on the frontier they were expected to conduct themselves as gentlemen. One Chicago *Times* reporter wrote,

> A word about officers. Most of them are highly-bred, manly, learned, a good-humored, hospitable gentlemen . . . As for bravery, the quality is so universal in the American army that no officer gets credit for fearlessness, which is regarded as a matter of course (Finerty 1955:273).

In contrast, the enlisted men generally came from urban slums, and their lower social status followed them to frontier forts. As Fort Laramie post trader John S. Collins wrote, "The soldiers [enlisted men] during my stay were a rough, devil-may-care assortment from all states. Many of them were refugees from justice, some had been former penitentiary convicts, and nearly all were as tough a lot of men as could be sifted through the mesh" (Collins 1970:105). The differences between the lower-class enlisted men and the upper-class officers extended through almost all aspects of life, as Adams (2009) describes in-depth. The middle-class and lower-class would often try to mimic the upper-class, which only fueled the necessity for more distinctions in status to emerge, as discussed by Pierre Bourdieu.

The lower-class and middle-class often sought to emulate the tastes of the upper-class, as articulated in the book *Distinction: A Social Critique of the Judgement* *of Taste* (1984) by Pierre Bourdieu. Bourdieu suggests that individuals with high volumes of cultural capital determine what is tasteful in a society, and those with lower cultural capital accept this taste, legitimatizing the distinctions between groups. The naturalization of distinctions means that those with lower capital do not have access to higher volumes of cultural capital, and they are not able to define the world. The lower-class is never free to choose their own tastes, and even when those with lower capital establish their own tastes the "working-class 'aesthetic' is a dominated aesthetic, which is constantly obliged to define itself in terms of the dominant aesthetics" (Bourdieu 1984:41). The aesthetic choices an individual makes creates class based groups, and distances one social group from another. Enculturation into one class group both reaffirms ones status, and distances oneself from the other classes. Since much of the process of acquiring cultural tastes occurs during childhood, it is hard to change ones tastes, and associated social status, later in life, thus limiting social mobility. Hence, those in lower-classes are dominated by the tastes of upper-classes, and when individuals seek to differ from those tastes, they often appear crude, vulgar, or tasteless.

During the Victorian Era, the upper-class and middle-class established the tastes, and the lower-class emulated those tastes, particularly in regards to hunting. For example, hunting wild game was a privilege for the wealthy, more so in England than in the United States. Prior to the feudal system, forests were a common area, where all people had access to the resources. The feudal entitlement system, established in England from approximately A.D. 700 to 1600s, established that the monarch or wealthy landowners privately held all land, and that average people had no rights to the resources on that land. Hence, there were steep fines for killing a deer in a forest, because that deer belonged to the monarch or the landowner (Reiger 2001). The entitlement system reinforced a social status division in access to wild game that persisted throughout much of English history, even after the entitlement system no longer existed (Reiger 2001).

With urbanization during the Victorian Era, wild game became more scarce and held increased importance as a status qualifier. In England, wealthy individuals could hunt game year-round, while those of lower status could only hunt seasonally. The most common way to prepare game was in the popular meat pie, which reached an art form during the Victorian Era. Lower-status individuals tried to emulate the upper class by presenting their game in a similar manner. However, class distinctions appeared in the amount of design on the meat pie (Broomfield 2007). The more highly decorated the meat pie, the higher the status of the individual.

In America, game was less associated with status, and hunting was thought to be more democratic. As John Reiger (2001) states, "in America, it became increasingly obvious to the educated hunter that the English system could not be transferred, unchanged, across the Atlantic. In a democratic society the same kind of exclusive control over wildlife was impossible" (Reiger 2001:38). The American sportsman arose during the 19th century as a way of establishing an order and proper way to hunt game. A sportsman adhered "to strict 'rules' when pursuing game; hunting was not simply a matter of going out and killing wildlife" (Reiger 2001:9). The "code of the sportsman" outlined "the basics of sporting etiquette," and established a moral core of conservation within the sportsman. A Victorian sportsman "lamented the commercial destruction of game and habitat and demanded that sportsmen join together to preserve the entire context of their recreation" (Reiger 2001:46). There was a moral code that dictated how a proper sportsman hunted, including giving the animal a "sporting" chance, killing the animal humanely, and that the hunter should be something of a naturalist, being familiar with the game and habits. The moral code of the sportsman drew heavily on Victorian ideas of morality being the guiding force for "civilized" people. The heart of Victorian beliefs was a Protestant moral core, and that humans should act accordingly to strict ethical code (Gay 1998). Reiger (2001) argues that a person from any social status could be an American sportsman as long as they followed the Victorian code of the sportsman. In this way, hunting was more egalitarian in the United States, but Reiger (2001) does note that the majority of sportsman came from the upper-class.

Social status appears throughout Victorian culture, but the degree of emphasis appears to weaken with increased distance from the England (Howe 1976). For example, the United States was less class conscious compared to the British counterpart, partly because of the historical roots. America prided itself on egalitarianism, even during the Victorian Era. As Fredrick Jackson Turner described, England was the culture core, and the frontier was a zone constantly moving westward of urbanization (2008[1920]). Originally, the American eastern seacoast was the frontier, but as that area was developed, the frontier shifted further west. Using Turner's ideas of the shifting frontier, there should be less class-consciousness in frontier regions, such as plains forts. However, social status did still play an important role in Victorian culture in both the core and periphery, and should be fairly robust despite location. This is the reason social status was chosen as the variable of analysis in this dissertation.

England was the original core of Victorian culture, and while Victorian culture appeared around the world, including America, values and norms on the periphery changed slightly in regard to location. The changes in Victorian culture usually were connected to environmental differences (Howe 1976). While America largely invested in expanding geographically to increase economic potential, England was a relatively small island that had already been heavily environmentally exploited. As a result, the English government and business owners funded expansions into colonial areas around the world, including New Zealand, India, Australia, and Central America. While the English core maintained a set of Victorian values, each of these British colonies maintained slightly different emphases.

Victorians in periphery areas emphasized imperialism, nationalism, ethnocentrism, and a belief in cultural superiority, since they were part of a colonizing force (Howe 1976). The late 19th century was marked by aggressive land exploration and settlement by Victorian cultures. This was the time in which "the sun never set on the British Empire." In the United States, national *manifest destiny* drove Euroamericans to settle the North American continent from the Atlantic to Pacific Oceans (Axelrod 1996). Fredrick Jackson Turner's *Frontier Thesis* embodies the Victorian nationalist and imperialist feelings evoked from these new and "unexplored" areas. Turner felt that the colonization of "the frontier promoted the formation of a composite nationality for the American people" (Turner 2008[1920]:21). While indigenous groups had previously lived in these "unexplored" areas, the ethnocentric Victorian culture ignored the contribution of other groups and only perceived the world through their own worldview (Bayers 2003; Turner 2008[1920]).

During colonization into remote regions, Victorians imposed their culture onto others (Howe 1976). A Protestant moral core lay at the heart of many of the cultural virtues, and similar to religious conversions, Victorians sought to "civilize" the world (Stevenson 2001). As such, those who shared the same cultural values were viewed as civilized, and those who did not were viewed as uncivilized (Stevenson 2001). A good Victorian was supposed to engage in humanitarian efforts to educate others and bring them to a "civilized" lifestyle. For example, during Reconstruction of the South after the Civil War, many Northerners went to the South to teach freed slaves how to read and to be self-sufficient (Stevenson 2001:xxix). To a Victorian's eyes, many of the efforts of the Reservation System were intended to transition Native Americans into a Victorian Anglocentric "civilized" lifestyle. The U.S. government tried to convert hunting-and-gathering tribes to agriculture, a "civilized" means of obtaining food. Similarly, the Reservation System forced sedentary lifestyles on nomadic groups. Sedentary habitation was required to establish a "civilized" life of a home and family. The house took on great significance to Victorians, and became known as a "little heaven on earth" (Stevenson 2001:xxxiv). It was within the house that "homes" were created, and the family structure took on an order similar to a religious understanding of the world. "Inside the walls of the home, it was believed, God's love was manifest in husband's love for their wives and in parents' love, especially that of mothers, for their children" (Stevenson 2001:xxxiv).

The increased cultural diversity from immigration in the United States compared to England impacted the development of Victorian culture, but not in a clear way. Improvements in ship transportation allowed European immigration to reach new heights. Immigration spiked in the United States in the late 19th century as thousands of Europeans sought a new life in America. “[B]efore the Civil War, the banner year for new immigrants was 1854, when 427,833 people arrived. A new peak was reached in 1882, when 788,992 entered. However, in the early 20th century the annual influx passed the million mark six times, and in 1907 the figure rose to 1,285,349” (Schlereth 1991:8). Immigrants largely came from Ireland and Germany, but several other European immigrants also came to the United States, including English, Scandinavian, and Eastern European. In contrast, England did not experience the immigration influx that impacted the development of Victorian culture in the United States. In particular, American Victorianism was influenced by German high culture (Howe 1976).

In many of the periphery areas, including America, “frontier” versus “civilization” took on a great deal of importance (Bayers 2003), while there was little emphasis of the “frontier” in the core Victorian culture in England. In America, “civilization” was a feminine arena of moral order and social responsibility, while the “frontier” was a masculine domain free from the shackles of civilization where a man could go back to the “primitive” way of life (Turner 2008[1920]). Women and families became intertwined with civilization (Plante 1997). Similar to the story of Disney’s *Lady and the Tramp*, women civilized men by giving them moral guidance, the structure of a family, and creating a domestic sanctuary in the home (Plante

1997). As Huckleberry Finn noted, “I reckon I got to light out for the territory ahead of the rest, because Aunt Sally she’s going to adopt me and civilize me, and I can’t stand it” (Twain 1994[1885]:219). Wives were thought to be the keepers and transmitters of cultural knowledge, primarily through lessons in religious morality (Cott 1977; Dorre 2006; Hogg 2012; Howe 1976; Plante 1997; Wilkie 2006). As such, women held a sacred position as the moral core of the family, and society held them in very high esteem (Plante 1997). As *Hill’s Manual* stated, “The civilization of the age is signalized by the advancement of women to a higher plane of thought and action than she formerly occupied. Among the savage nations, women’s condition is that of the very lowest” (Hill 1888:456).

In contrast, the frontier was defined through rugged individualism and the idea of man bringing order to a wild environment. As Fredrick Jackson Turner wrote, “the frontier is productive of individualism” (2008[1920]:30). Middle-class Victorian males prided themselves on being self-disciplined, earnest, self-sufficient, hard working, and controlled (Gay 1998; Hogg 2012; Moore 2010). In addition to maintaining a control over oneself, it was important to impose order onto a perceived chaotic environment. Conquering nature was one of the principal ways of reinforcing Victorian masculinity (Bayers 2003). Victorian males traveled to colonial frontiers to renew their masculinity in an environment free from the forces of civilization (Hogg 2012). Sport hunting was one clear technique of showing mastery of the environment. Immersion in the frontier gave officers a chance to “enlarge their dominion over inanimate nature” (Turner 2008[1920]:6). In addition, masculinity for middle-class males emphasized self-reliance, which promoted individual activities (Gay 1998). One traveler described the two types of men found in the "frontier."

> The first is the true mountaineer, whom the platitude and tame monotony of civilized republican life has in early youth driven, often from an honored and wealthy family, to the wilds and wolds, to become the forlorn hope in the march of civilization. The second is the off scouring and refuse of the Eastern cities, compelled by want, fatuity, or crime to exile himself from all he most loves [Burton 1990[1862]:82].

Increased communication reliability, through mail and newspapers, and transportation, through railroads and stage routes, increased connections between the frontier and core, and individuals living on the frontier were very aware and able to participate in Victorian culture. While removed from the urban cores of Victorian culture, those living on the frontier did have access to many of the ideas and values that were present in the core. In addition, all of the Euroamericans on the frontier in the 19th century were migrants, and they brought their knowledge of Victorian culture with them to periphery areas. Hence, many individuals living on the frontier sought to emulate Victorian lifestyles in urban centers. For example, frontier forts physically looked like small towns, particularly in the 1880s (Hoagland 1999). At Fort Laramie, the parade ground was lined with white picket fences and a sidewalk surrounded by large decorative trees. The relatively "civilized" appearance of these western forts made many forget they were in remote regions, and instilled a sense of the Victorian cultural core in the periphery.

The American Civil War (1861–1865) greatly impacted cross-country transportation, and in its aftermath, individuals could easy traverse the country, connecting the core and periphery. Railroads were a more reliable transport than the previous transportation system of stagecoaches, but the expense of building a cross-country railroad generally required government assistance. Southern delegates in Congress largely opposed government authorized bonds and land grants to railroad companies. It was not until the withdrawal of the Southern states from Congress prior to Civil War that the Pacific Railroad Acts passed (Larson 1978). These measures allowed for the rapid expansion of railroads. In 1860, only 30,000 miles of railroad line existed in the United States, and by 1890, there were 170,000 miles (Sheridan 2006). The Civil War required the efficient mobilization of men over great distances, and private railroad companies benefited from the military experiences (Sandoval-Strausz 2007). Railroads made travel easier, faster, more reliable, more comfortable, and cheaper (Aron 1999). Easy cross-country travel became possible with the completion of the transcontinental railroad in 1869. The 3,000-mile journey took just eight days by train, while by stagecoach, it took two and a half months (Sandoval-Strausz 2007). Between 1870 and 1900, over 2.5 million Americans utilized the more efficient transportation system to migrate from the East to the West (Schlereth 1991).

Increased ease of transportation through the railroad system enabled the standardization of material culture in periphery. While standardization of material culture was not a new phenomenon to Victorians, the technological revolutions that made production and transportation costs relatively cheap made widespread distribution possible. With the increased affordability and accessibility, many material aspects of Victorian culture appear in both core and periphery areas. For example, standard architecture for houses appeared through the country (Hoagland 2004; Schlereth 1991). In addition, giant corporations, such as Sears, Roebuck, and

Montgomery Ward, made catalog shopping possible, and people could buy standardized material culture for a reasonable price. Consumers could buy anything, including medicine, clothing, and house kits from these catalogs (Schlereth 1991).

In addition, increased literacy and newspaper distribution greatly increased the speed of cultural transmission and standardization of many aspects of life, such as dining etiquette (Howe 1976). Other cultural guidebooks were frequently published in the 19th century, including cookbooks and etiquette guidebooks. For example, Jessup Whitehead (1883, 1884, 1886, 1891, 1893, 1901) published a series of hotel cookbooks and management books, usually titled *The New Hotel Guide*. In these books, he would discuss a variety of topics including setting a table, animal butchery, beer brewing, and Cordon Bleu recipes to prepare an extensive variety of dishes. Proper dining etiquette conveyed a great deal about social status, and was necessary for maintaining a reputable establishment (Carroll 2013). *Hill's Manual of Social and Business Forms* (1888) is a detailed account of how to conduct business and present oneself in public. Another example is Mrs. Mary F. Henderson, *Practical Cooking and Dinner Giving* (1877). In her book, she describes the proper etiquette for the lady of the house to host a dinner party. Other manuals include discussions of child rearing and pet handling (Grier 2006). In short, there was no dearth of printed material on instructing people how to properly behave within the tenets of Victorian culture.

Discussing Victorian culture as a single unit often homogenizes the culture, which overlooks much of the diversity, which is a weakness within this research design. While my treatment of Victorian culture may make it appear static, there was a great deal of diversity of ideas and people that is not touched on in this dissertation, and instead are reserved for books on the subject. For example, while Protestant moral values remained a core part of Victorian culture, there were several non-protestant religious movements throughout the Victorian Era. During the late 19th century, there was the rise of scientific Agnosticism, and the Evangelical movement. In another example, while the cult of domesticity prescribed certain behaviors for women, the Victorian Era also saw the advancement of many feminist movements. First-wave feminism appeared in the 19th century throughout Victorian cultural regions, such as the United States, England, Australia, and New Zealand. Victorian women gained the right to share ownership of children with husbands, inherit property, and it became more socially acceptable for women to work. Shortly after the Victorian Era, women gained the right to vote in many of these countries, and in 1920 in the United States. There was a heavy emphasis on invention, science, and exploration. Charles Darwin and Sigmund Freud are just two examples of great scientists who were greatly influenced by Victorian culture. Freud's theories in particular resonate with the Victorian worldview and perceptions of gender (Gay 1998).

The ability to draw general conclusions outweighed the weaknesses of homogenizing Victorian culture for the research design. Discussing the results from Fort Laramie in terms of a broader understanding of Victorian culture takes the local archaeology and applies it to a global question, which is the strength of discussing Victorian culture in the research design. Charles Orser (1996) argues that the goal of historical archaeology is to relate local excavations to a global understanding. This dissertation does just that. It takes results from a frontier fort, and integrates it with a broader understanding of how the frontier environment impacted Victorian social status displays. These results impact our current understanding of how globalization influenced the dominant Victorian culture, and how resilient social status displays were in frontier areas. This dissertation introduces a framework for investigate the resilience of Victorian social status signals in frontier settlements.

3.3: FRONTIER THEORY AND CONFLICT ARCHAEOLOGY

The western frontier around Fort Laramie was a landscape of conflict and a contested ground. While the “peacetime” frontier military served a variety of diplomatic functions, it was still a governmental instrument of warfare. The implicit association of warfare with the military cannot be ignored. People living on forts were acutely aware of the dangers on the frontier, and that violence could occur at any time. As a result, those living at forts often wrote about the Western plains as the “frontier.” This argument is further developed below using primary sources to demonstrate the association of the frontier with violence. While the frontier has been redefined several times throughout history, the frontier for this dissertation is defined as a landscape of conflict where no one party has a monopoly on violence (Guy and Sheridan 1998:10). Since the frontier is defined as a landscape of potential violence, conflict archaeology is the most appropriate means to study archaeological material.

Conflict archaeology is a relatively new type of archaeology, and this dissertation investigates a new approach to understanding the impact of conflict on everyday life. Most previous archaeological investigations into the Western military have focused on battlefield or combat archaeology (Scott et al. 1989). Most battlefields occurred away from forts, and battlefield archaeology does not adequately address the everyday lifestyles of those living on the frontier. Forts were centers of civilization, and where people established a home life (Hoagland 1999, 2004). Cavalryman H. H. McConnell wrote,

> The amount of property or "plunder" that accumulates in a military camp in time of peace is something wonderful to one who is only accustomed to the belongings of troops in "war times," . . . Besides the various articles of ordnance, tents, mess equipage and rations, every soldier accumulates a complete domestic establishment, including household pets, such as cats, prairie dogs, squirrels, and the inevitable dog (McConnell 1996 [1889]:136).

3.3.1: Historical Development of Frontier Theory

Fredrick Jackson Turner was the first historian to define the "frontier" in his paper, "The Significance of the Frontier in American History" (Arnold 1996:100). Published in 1893, Turner reminisced that the free land that had once defined America was gone, and with it, a chapter of American history. He wrote that "the frontier is the outer edge of the wave – the meeting point between savagery and civilization" (Turner 2008[1920]:3). The frontier was defined as a moving line, not a fixed place. As civilization encroached upon the frontier, the frontier region would spread farther west. "The most significant thing about the American frontier is, that it lies at the hither edge of free land" (Turner 2008[1920]:3). According to the census takers, in 1890, the frontier was officially closed, and there was no more free land in the United States. With the closing of the frontier, Turner saw a chapter of American history and identity closing with it. Turner emphasized that engagement with the frontier was transformative, on a national level, and that the conquest of the frontier “promoted the formation of a composite nationality for the American people” (Turner 2008 [1920]:21). The frontier environment forced the "pioneer" and "frontiersman" to give up their civilized ways and adapt to the wilderness. Turner saw the frontier as,

> the line of the most rapid and effective Americanization. The wilderness masters the colonist. It finds him a European in dress, industries, tools, modes of travel, and thought. It takes him from the railroad car and puts him in the birch canoe. It strips off the garments of civilization and arrays him in the hunting shirt and moccasin . . . In short, the frontier environment is at first too strong for the man. He must accept the conditions which it furnishes, or perish (Turner 2008[1920]:4).

According to Turner, in order to survive in the frontier, each man needed to become independent, and through stark individualism, the virgin landscape could be transformed into economic opportunity (Turner 2008[1920]). On the frontier, it was every man for himself, which created a type of democratic lifestyle among frontiersmen. Turner saw the frontier as a place of equality, which broke-down the strict social hierarchy found in "civilization." He saw the frontier as a societal safety valve against the forces of civilization. In agreement with other Victorian thinkers, Turner saw life in terms of binary opposites: masculine and feminine, civilized and savage, and frontier and civilization (Stevenson 2001:xxix). The frontier was necessary to balance out civilization, and created a strong national character. While most scholars have abandoned much of Turner’s original definition, the idea that the frontier environment causes cultural changes persisted.

A number of archaeologists have attempted to create a comparative frontier theory defined as a zone of culture contact (Arnold 1996; Forbes 1968; Lightfoot and Martinez 1995; Parker 2006; Rodseth and Parker 2005). Bradley Parker provides a modern definition of a frontier. “Frontiers are areas between. They are places at the edge of cultural spheres and, therefore, embody the loci within which culture contact takes place” (Parker 2006:77). Archaeologically, a frontier site is defined as a place of material cultural exchange and a “middle ground” between two or more cultures (Loren 2000; Pavao-Zuckerman and Loren 2012; White 1991). Results from previous archaeological investigations demonstrate that there is no universal pattern of material culture exchange on comparative frontiers. While some frontier circumstances fostered a cultural exchange and a creation of a cultural middle ground (Loren 2000; White 1991), others demonstrated that frontier settlements bolster difference between groups (Coe 2006). The culture contact emphasis in current archaeological definitions of the frontier is problematic for studying Fort Laramie. The current theory does not adequately address the emic, culturally internal, perspective of people experiencing the frontier. As articulated below, people living in the Fort Laramie area associated the term "frontier" with violence and danger, and not with culture contact.

At Fort Laramie, cultural exchanges between Native Americans and Euroamericans are not strongly associated with the emic definition of the frontier. If the frontier was emically defined as culture contact between Native Americans and Euroamericans, the word “frontier” should appear in both peaceful and warfare situations. However, during peaceful exchanges, Euroamericans perceived Native Americans as a regular part of life and not defining the frontier. Frances Carrington, wife of Col. Henry Carrington, wrote a typical description of the daily interactions between Native Americans and Euroamericans at Fort Laramie in 1866.

> I grew somewhat interested in the little Indians. Children intuitively recognize their friends and these Indian children were no exception to the rule. Their eyes would follow me curiously and earnestly as I strolled about the garrison. I was sitting near my window one day, occupied with some work, when a dark cloud seemed to obscure my vision. Looking up I found the window space covered by little brown faces, to which I gave a smile of recognition, and with a friendly word, which, of course, they could not understand, though my manner was easily interpreted, I beckoned them to the door and dispensed with generous hand some ginger-snaps obtained from the sutler's store (Carrington 1990 [1910]:58).

She continued that during a hunting trip with her husband these little boys accompanied them. "Indian boys . . . were very agile in finding any game that dropped in obscure places and quite adept, true to their natural instinct, in such exercise. These little boys had adopted the American boy's dress, with some difference of adjustment, minus the seats of their trousers" (Carrington 1990[1910]:59). Other officers, civilians, and their wives tell similar stories about everyday life at the fort. While the word "frontier" does not appear in terms of peaceful culture contact situations, the word does appear in the context of landscapes of conflict and potentially violent situations. This is not a unique historical phenomenon, since Latin American frontiers are frequently viewed in terms of violence.

Comparative frontier studies in Latin America introduced the idea that violence defines the frontier. Latin American frontiers are viewed as occasionally brutal places, and violence establishes the frontier area (Duncan and Markoff 1978; Foweraker 1994; Guy and Sheridan 1998; Weber and Rausch 1994:xx). An example of a Latin American frontier comes from Duncan and Markoff (1978). They describe how violence on the cattle frontier was a mechanism for character development, and it was through the performance of violence that lower-class individuals earned recognition from members of frontier communities. Duncan and Markoff go on to write that “[f]rontiers are boundaries beyond the sphere of the routine action of centrally located violence-producing enterprises, although they may well be within the range of isolated attacks” (Duncan and Markoff 1978:590). These isolated attacks occurred upon contested ground created by polities reaching their social and geographical limits of power (Guy and Sheridan 1998:10). The western U.S. frontier experienced by people living at Fort Laramie was similar to the violent Latin American frontier.

3.3.2: Violence Defined the Western Frontier

In the West during the 19th century, several cultural groups, with often competing interests, vied for domination of the landscape. The frontier played host to several conflicting groups, including fur traders, miners, homesteaders, travelers on the Oregon–California–Utah Overland trails, soldiers and their families, railroad workers, and a variety of Native American tribes, many at war with each other. The U.S. Army was charged with keeping peace, but the military was far outnumbered. The military was fighting on several fronts to keep any sense of order in the area. No one party clearly held control of the West until 1890, when the “frontier” and several of the Western forts closed. Prior to this time, every group held a tenuous position in the landscape.

Euroamericans associated with the military described this area of potential violence and lack of control as the “frontier." Victorian culture placed great emphasis on the control of the landscape, and the frontier represented a lack of control. The area of uncertainty and violence became described as the "frontier" in contemporary journals, diaries, stories, and newspapers (Carrington 1990[1910]; King 1964[1890]).

Policing the entire western United States with only a quarter million soldiers was a difficult task, and forts usually housed less than 100 soldiers (Hoagland 2004). While the military had the authority of the U.S. government, they rarely had the manpower to control the vast expanse of the West. Forts were isolated and had little hope of reinforcements in dire situations. The diminished military force was subject to raids, ambushes, skirmishes, and massacres (Agnew 2008; Hafen and Young 1984[1938]; Hedren 1998; McChristian 2008).

The military frequently interacted with the Native American tribes that dominated the western landscape until the late 1800s. U.S. Army forts served as refuges for weaker tribes from more aggressive groups, provided supplies for peaceful tribes, and also to subdue “hostile” Native Americans. Peaceful Native American tribes were a regular part of military fort life, and the military provided protection for them from other groups. As one officer wrote, “A large number of friendly Indians at Fort Laramie are in a starving condition. What shall I do with them? They say they dare not leave their camps to hunt or provide for themselves in consequence of the threats of hostile Indians” (Davis et al. 1896:1104). The military also gave supplies to groups that agreed to settle on reservations. However, this did not always work as the U.S. government intended. For several years at Fort Laramie, every winter one Native American group would arrive and agree to settle on a reservation. The military then furnished this group with food and supplies all winter until they could move to the reservation in spring. Come spring, the group would pack up their belongings and decide not to settle on a reservation (McChristian 2008). In 1865, out of the approximately 270,000 Native Americans across the Western United States, 100,000 were considered to be hostile, and were the targets of military campaigns (Agnew 2008:13). William T. Parker, a soldier, wrote, “The Indians were brave and desperate fighters, and a foe which could develop the real manhood of the frontier solider” (Smith 1990:139).

The military could not maintain control over much of the Western territory, and the land was frequently referred to as “Indian country” until the later part of the 19th century. The Secretary of War in 1828 wrote,

> The policy of pushing our military posts . . . so far within the Indian country, and so far ahead of the regular advance of our population, may well be questioned. Instead of protecting our frontier inhabitants against the incursions of the Indians, these isolated garrisons must, in the event of serious Indian War, inevitably become the first victims of its fury. At present, they only serve to invite wild and profitless adventure into the Indian Country, the usual consequences of which are personal collisions with the natives, and the government is then put to the expense of a military expedition to vindicate the rights of these straggling traders (Hunt and Lorence 1937:20).

George Catlin related a similar perspective in 1833 during his travels westward. He wrote about Fort Leavenworth, Kansas,

> There is no finer tract of lands in North America, or perhaps, in the world, than that vast space of prairie country which lies in the vicinity of this post, embracing it on all sides. This garrison, like many others on the frontier, is avowedly placed here for the purpose of preserving the peace amongst the different hostile tribes, who seem continually to wage and glory in their deadly wars. How these feeble garrisons, which are generally but half manned, have been or will be able to intimidate or control the warlike ardor of these restless and revengeful

> spirits, or how far they will be able to desperate necessity to protect the lives and the property of the honest pioneer, is yet to be tested (Hunt and Lorence 1937:40).

Maj. O. F. Winship wrote in 1854,

> The forts at present located in the Indian country are most emphatically poor affairs. They can give no protection to any person beyond the reach of their own guns. Infantry in the Indian country, so far as protecting the roads is concerned, are about the same use as so many stumps would be. Emigrants are compelled to protect themselves, and buy their way with sugar and coffee (Hafen and Young 1984 [1938]:232).

David D. Mitchel wrote an editorial stating similar concerns with the military.

> The miserably mistaken policy which the Government has pursued in establishing petty little Forts, along the Arkansas and Platte, for the purpose of protecting traders and travelers, and at the same time overawing the Indians, has been worse than a useless waste of public money. These little Forts were generally garrisoned by the fragments of a company of infantry, a force that could be of no more use in protecting travelers, or chastising Indians, than so many head of sheep. The Indians being well mounted, could at any time come within sight of a fort and commit any murders or outrages that chance might throw in their way, and laugh with scorn at any impotent attempts that might be made to punish them (McChristian 2008:88).

The military was under-manned for the vast territory, and in addition, the Euroamerican homesteaders did not completely support the Western military presence. As one rancher wrote,

> [A]ntipathy to the military was not founded on any lack of patriotism, but it did have two clearly defined bases. The puncher, whether mistakenly or not, confidently blamed the private soldier for the physical contamination of a certain class of women in the frontier towns. Then, too, the army had been the only policer of the West, and thus the cowboy had acquired toward the army as a whole the same quasi-resentment that has ever marked the attitude of the college under-graduate toward the faculty above him (Rollins

1997[1922]:188).

Their lack of support by Euroamerican western residents was also demonstrated in the low recruitment rates. Euroamerican settlers in western states and territories had some of the lowest recruitment rates in the U.S. Army (Adams 2009).

Highway robbers and bandits were constant problems, and the military could do little to catch them. The Fort Laramie post trader John S. Collins wrote, “It was quite apparent that a United States Marshall could accomplish no more in the Indian country where road agents held full sway, than could any other ordinary citizen so unfortunate as to be thrown in their way” (Collins 1970:128–129). He tells a story about the Rustic Hotel cook who was traveling on the stage down to Cheyenne. At the Eagle’s Nest stage stop,

> the passengers were met by two robbers who poked revolvers under their noses and ordered them to plank down their valuables. In addition to this they requested the women to take down their hair in which they found a few diamonds that had been concealed there. . . . When the commanding officer heard of the coach adventures, as usual, he ordered out twenty men to search for the robbers. They found a trail of two unshod horses that had doubled back north to the Platte River. They crossed the Platte and in the vicinity of the ‘4 P’ ranch kept by one Breckenridge, they met a party coming west, two Chinese traveling with them. The robbers held up this party and gone north. The troops returned empty-handed (Collins 1970:129–130).

The term frontier is found in contexts that discuss “hostile and warlike” Native American tribes and the threat of violence from other forces. The writings of Frances Carrington, wife of brigadier general Henry Carrington, revealed her intimate perception of the uncertainty of violence on the frontier as she traveled north from Fort Laramie to Fort Phil Kearny in the 1866, during the Bozeman War.

[B]ut few, even at [Fort] Laramie, so far west, realized that a real war of extermination prevailed about Fort Phil. Kearney, and that this war was being waged for the extermination of the white man and not of the Indian. And yet, at the very time, the advantage was on the side of the redman in every particular, firearms included, as we learned later to our sorrow. There was no telegraphic communication between the two posts, and practically no travel, except with an occasional mail party which the colonel commanding persisted in sending over the trail at great risk of life, as we viewed it" (Carrington 1990[1910]:54).

She continued by saying,

> The prospect of a long tedious journey to Fort Phil. Kearney, in another ambulance, and the possibilities of disaster to myself over the rough way through a hostile Indian country, would almost paralyze me with fear and foreboding. My mind would be filled with such desperation that at times I would close my doors and windows and pace the floor from agony at the situation. The officers at the Fort would not admit that there was any danger for even a small party following the established trail, but the apprehension, long maturing, and from signs and portents that only can be appreciated on the frontier, never left me (Carrington 1990[1910]:60).

Another officer's wife related a similar story of fear while she traveled the Arizona Territory frontier to Fort Whipple. Her experiences capture the ideas of uncertainty at the time.

> Whenever the Colonel rode with me, he had his rifle ready for instant use, as all the escort had, but before riding off with the men, he took a pistol from its case and while hurriedly loading it, said: 'The men see signs of Indians; I must ride ahead for a while [sic].' He handed me the pistol saying: 'Keep courage and remember what I have always told you – never let an Indian take you alive.' A great lump rose in my throat; my head swam, and I was terribly scared, but almost instantly I thought of my child who must be protected; and the poor girl who had braved danger in coming to make my journey across the desert more comfortable was in a panic of fear, so in trying to reassure her my own courage was somewhat restored . . . We stopped, and it seemed an eternity before the Colonel returned, but I saw from his face, before he

> spoke, that he was somewhat relieved. He said: 'There are signs of Indians, but I think they have passed on, and we will go on as rapidly as possible… (Biddle 1907:160).

In historical writings, a continuum appears that places the violent frontier on one side and a stable civilization free of violence on the other. Once Euroamericans dominated an area, it became civilized. This is best demonstrated by the writings of General Pope in 1881 when he wrote,

> Nearly two-thirds of the domain of the United States lies west of the Mississippi, and at the close of the Civil War, the greater part of it was occupied by wild bears, buffalo, elk, antelope, and deer, and by wild Indians. Now, by the indomitable courage, industry, and thrift of our people, this vast region has become reduced to a condition of comparative civilization" (Hunt and Lorence 1937:129).

When the Union Pacific Railroad reached Wyoming, it was viewed as the beginning of the end to the frontier and the arrival of civilization. The morning after the railroad reached Cheyenne, the newspaper ran a story talking about the transition of the area from the frontier to civilization.

> There was no shouting and cheer [at the Union Pacific arrival], but one fall tide of joy that sprung from the deep and heart-felt appreciation of the grandeur of the occasion and the enterprise, and that bright future now dawning on the remote regions of the far west. . . Farewell, ye eternal solitudes that have held here your reign from creation's dawn, over these magnificent reaches and ranges of plain and mountain; the first note in the grand harmony of a rapidly extending commerce and civilization, has been struck. Farewell, ye roaming herds of bison and antelope; your green pastures are passing into the hands of tillage and husbandry. And now the recollections of oriental opulence, of hanging gardens and golden palaces, glowing in their time – stained splendor, become obscure as this vision of western wealth, civilization and power, of fields, and mines, and cities teeming with life and treasure, panoramic-like opens from the Yellow Stone [sic] to the Rio Grande, and from the Missouri to the Sacramento. All hail! Ye mighty

> agencies, steam and lightning, of modern civilization, that like some enormous chieftain, dashing so gallantly forward, and opening the seaboard purses to pour the world's treasures at the feet of the 'Pride of the Plains,' and bind about her the pearly necklace of population and power . . ." (*Cheyenne Leader* [CL], Dakota Territory, Nov. 18, 1867).

3.3.3: Conflict Archaeology

Since the 19th century, the western frontier was defined through violence, conflict archaeology is the most appropriate way to approach research at Fort Laramie. The following discussion provides an overview of conflict archaeology, and its previous applications to Western Indian War sites.

Conflict archaeology is a grand theory that encompasses any research that deals with landscapes of conflict. Conflict is the product of individuals or groups competing, and once negotiation fails to resolve the competition, these groups work toward a violent resolution (Brouwers 2011; Smith and Davis 2008). While an ugly part of history, conflict archaeologists view violence as a normal part of human nature (Carneiro 1994). Conflict archaeology studies the material remains associated with past hostilities, including military action, battlefield analysis, development of weapons and technology, interpersonal violence and homicide, and to study the far-reaching impacts of conflict on the physical and psychological landscape (Brouwers 2011:21). Conflict archaeology gives anthropologists a framework to compare warfare throughout time and cross-culturally (Banks 2008; Brouwsers 2011; Thurston 2008). In addition, it allows researchers to study the impact of violence at different societal scales, such as intrafamily, intracommunity, intercommunity, and intercultural (Smith and Davies 2008). While there is a lot of potential within conflict archaeology as a field, it is still developing, and there are limited number of case studies where people use conflict archaeology to understand violence and warfare as a cultural phenomenon. The grand theory is divided into four subdisciplines: battlefield archaeology, combat archaeology, modern conflict archaeology, and conflict archaeology as a subfield (Figure 3.1).

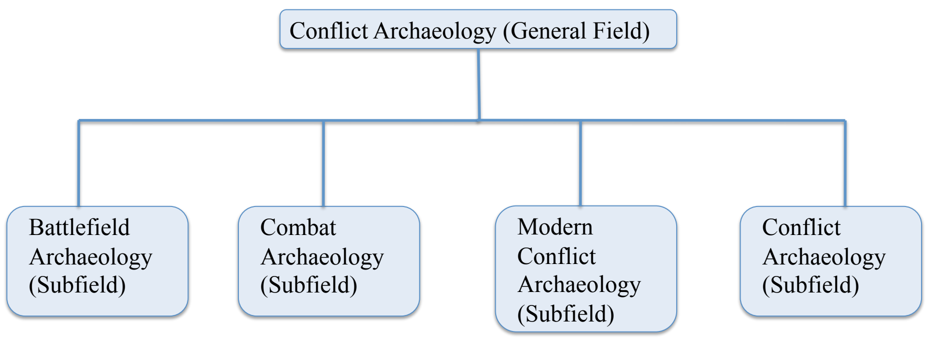


Figure 3.1: The grand theory of conflict archaeology divided into four subfields. (Created by Sarah Wolff.)

The current paradigm of conflict archaeology emerged in the 1980s (Brouwers 2011; Otterbein 1999; Scott and McFeaters 2011). Warfare is a socially charged topic, and several social changes influenced the development of the field. Brouwsers (2011) suggested that conflict archaeology did not emerge until the 1980s because the WWII generation was emotionally traumatized by war, and they needed to retire from academia before the field could grow. Otterbein (1999) suggested that cultural anthropologists became interested in conflict anthropology as a social pathology and abnormality during the Vietnam War in the 1960s (Otterbein 1999). It was not until the 1980s that scholars began to question this paradigm, and started treating violence in history as a norm (Carneiro 1994). During the 1980s, studies in warfare and violence began to appear in biological anthropology, archaeology, and cultural anthropology. Researchers documented a long history of interpersonal violence in chimpanzees, *Homo erectus,* and *Homo neanderthalensis* (Byers 2005; Kelly 2005; Thorpe 2005; Zollikofen et al. 2002). Large-scale orchestrated warfare did not occur until the development of agriculture and primarily state organization (Kelly 2005). The earliest evidence for large-scale organized attacks is in the town of Jebel Sahaba in the Sudan occupied from 12,000 to 14,000 B.P., as demonstrated by skeletal trauma (Kelly 2005). Violence also appeared in the prehistoric North American record (Lambert 2002), supporting the view that violence is a normal part of human culture and not an abnormality (Carneiro 1994). One of the first applications of conflict archaeology was in historical archaeology. Richard A. Gould (1983) was the first to argue that a shipwreck from a battle could reveal relationships between material culture, human conflict, and a broader understanding culture under the stress of warfare (Scott et al. 2009).

Of the four subfields, battlefield archaeology is the most developed theoretically and methodologically because it was the original focus of conflict archaeology. Battlefield archaeology, as the name implies, is the archaeological study of a battlefield or singular place of physical engagement (Brouwers 2011; Starbuck 2011). No two battlefields are exactly alike, and a battlefield analysis could include scattered artifacts as seen in skirmishes of the High Plains (Espenshade 2002; Miller 2012). As a result, there is heavy emphasis on studying the landscape (Bleed and Scott 2011; Freeman and Pollard 2001; Schofield 2005).

One of the best examples of battlefield archaeology comes from the Battle of the Little Bighorn, Montana Territory (June 25, 1876) (Scott et al. 1989), which is still held as the gold standard in battlefield archaeology (Brouwsers 2011; Freeman and Pollard 2001; Scott et al. 2009; Scott and McFeaters 2011; Starbuck 2011). During the Battle of the Little Bighorn, all of the Regular Army perished during the fighting, and the only way to reconstruct the battle was through battlefield archaeology and ethnohistories. After the battlefield was exposed by a grass fire, Richard Fox and Douglas Scott (1989) created a systematic approach for surveying battlefields with metal detectors, and a ground-breaking application of precise mapping of individual bullets and cartridge casings to determine specific individuals' actions during the battle. Ultimately, this precise study of individual movements in a battlefield led to the development of a post–Civil War battlefield pattern (Fox and Scott 1991), and it also demonstrated that battlefield archaeology could reveal a great deal of information about how individuals and groups behave in an intense life-or-death situation (Scott and McFeaters 2011). The military had specific tactical procedures during a battle, but archaeological analysis from the Battle of the Little Bighorn showed that individuals did not necessarily follow this procedure (Fox and Scott 1991). Finally, ethnohistories and material culture from the Cheyenne Indians independently support the story told by the archaeological findings (Powell 1969; Scott et al. 1997).

Combat archaeology, also known as warfare archaeology, focuses on the archaeology of an entire war, not just a specific battle. This allows for larger-scale questions to be asked, such as what does archaeology reveal about overall warfare tactics, how wars were waged, and how do battles and wars compare cross-culturally (Bleed and Scott 2011). To better understand military strategy over the course of a war, combat archaeologists borrow ideas from military planners, including the KOCOA system of terrain analysis to understand landscape decisions in battles (Bleed and Scott 2011). In this example, Scott and Bleed (2011) used the *Field Manual 3-o Operations* (*FM 3-o*), which is a 20th-century manual on military operations, to guide their creation of a model of hierarchical decision making during warfare that they then applied to the Cheyenne and U.S. Regular Army. They constructed a potentially universal model of warfare decisions using combat and warfare theory. Bleed and Scott (2011) define three levels of warfare: strategic level, which describes national policy and long-term goals; operational level, which is composed of major operations; and the bottom level is tactical, which is the company or individual actions. The 19th-century Regular Army possessed a similar structure to the current U.S. military. Military leaders not present on the battlefield made large-scale strategic decisions. The operational level was composed of the movements of the company. Finally, the tactical level is composed of individual actions.

Modern conflict archaeology is the use of archaeological techniques on contemporary sites of conflict. There is much debate about whether archaeology should be done on modern conflict sites because of the strong emotional and sentimental connections to recent engagements, which raises ethical issues (Moshenska 2008; Schofield 2005). However, there have been four justifications for why contemporary conflict archaeology is needed (Schofield 2005). First is that studying modern warfare can help us better understand past warfare through ethnoarchaeology (Schofield 2005). Second is that by studying modern warfare we can better understand our own society, and how to improve it for the future (Schofield 2005). Third, archaeology gives a voice to those that were silenced in society, and that happens in both past and present conflicts. Fourth, studying current conflict allows for memory and protection of sites (Schofield 2005).

The subfield of conflict archaeology studies the broad impacts of warfare on individuals and society, and primarily addresses noncombat warfare archaeology. This subfield is the most general approach to the study of conflict, and recognizes that conflict can deeply affect people not directly involved in combat (Schofield 2005). The ripples of warfare are felt on many sectors of daily life, and this archaeology addresses how lifestyles changed during periods of conflict. For example, the presence of a fort in an area often changed the local economy. Local residents were more than happy to cater to the military population, and they often profited by exploiting soldiers' wants. Small towns often sprouted up around military forts. Some of the most notorious businesses included "hog ranches" and "whiskey houses," which specialized in booze and prostitutes (Adams 2009; McChristian 2008; Stallard 1978). While "hog ranches" were not part of the military or combat, they would not have existed on the frontier without a landscape of conflict. Conflict archaeology provides a means to study the societal impacts of conflict, including the establishment of "hog ranches" or how military changed the economy of a region.

David Crass and Deborah Wallsmith's (1992) study showed that the establishment of a fort in a remote New Mexican region had broad social and environmental impacts, an excellent example of research conducted within the conflict archaeology subfield. Military forts used a mixed strategy of obtaining food from local producers and importing rations from the Quartermaster Department. The foundation of the military ration was flour-based starches, such as hard tack and bread, and cattle (Agnew 2008; Utley 1973). The military created a market for meat and flour on the New Mexican frontier, and this greatly changed the surrounding economy and ecology. Because of the military demand for flour, local farmers changed the agricultural emphasis in the Taos Valley from corn to flour (Crass and Wallsmith 1992).

This dissertation contributes to the expanding field of conflict archaeology by examining previously unaddressed aspects of life in a landscape of conflict, the western frontier. A data gap exists in the current archaeological literature on the social impacts of landscapes of conflict on social status displays in the military. This dissertation directly discusses the impact of a conflict landscape on daily social status displays through an analysis of diet and pet ownership at a frontier fort, Fort Laramie.

3.4: RESEARCH THEME

Overall Research Question: Did Victorian social status displays endure in the frontier environment at Fort Laramie, Wyoming?

There has been little work discussing the persistence of Victorian social status displays on the frontier. Previous historians have suggested that Victorian culture was omnipresent, including social status displays (Howe 1976). However, few studies have discussed the presence of social status displays in the periphery areas. It is possible that on the frontier, created by conflict and away from the Victorian cultural core, social status displays were weakened. Fredrick Jackson Turner suggested that the harsh frontier environment forced social distinctions to weaken, and caused a social change towards egalitarianism. It is possible that under the continual stress of potential violence and conflict at Fort Laramie, the importance of survival trumped the importance of Victorian social status distinctions. A biological analogy is how the body reacts under normal conditions versus under stress. All the energy of the body can be divided into growth, maintenance, and reproduction. Under normal conditions, energy is distributed to all of these functions. However, under stress, energy is diverted from growth and reproduction to making sure the individual can survive. Under stressful conditions, juvenile individuals will literally stop growing, causing growth arrest lines in bones, also called Harris lines (Ogden 1984). Similarly, stressful conditions cause females to suffer from amenorrhea and become infertile, shutting down reproduction (Nelson 2005; Weissheimer et al. 2010). In this case, enlisted men and officers should experience similar living conditions, and there should be few differences between these groups in lifestyles.

While there are many ways of signaling social status, this dissertation addresses three previously unstudied aspects of Victorian cultural on the frontier at Fort Laramie that are directly related to social status: hotel standardization, pet ownership, and dietary differences between enlisted men and officers. Hotels emerged during the Victorian Era, and in the 1870s, as travelers increased, accommodations began to standardize. A standard hotel experience emerged, and it mimicked the upper-class hotels in urban centers. If social status distinctions persisted on the frontier, the Rustic Hotel, at Fort Laramie, should contain faunal remains of animals that would resemble other Victorian hotels. This is further explored in Chapter 4. Enlisted men and officers did not have the access to many luxury goods on the frontier, and there are distinct differences between the two groups in personal effects (Adams 2009). Dogs were abundant at forts, and could be obtained by both officers and enlisted men. Since both groups could physically obtain a dog, differences or similarities of pet ownership can reveal information about status differences in the frontier military. This is investigated in Chapter 5. Similarly, rations were supplied to all soldiers, and any differences in the meat quality reflect internal status differences between officers and enlisted men. Supplementing the diet through hunting was also related to the availability of leisure time and an individual's ability to leave the fort. Enlisted men were relatively restricted in their ventures off the military grounds, while officers were given ample time to engage in recreational activities, such as hunting (Adams 2009). Hunting was considered to be an elite activity in the military culture in the late 19th century, and officers took great pride is signaling their gentlemanly status through long, leisurely hunting trips (Adams 2009). Studying dietary diversity and meat- cut quality targets institutionalized differences between officers and enlisted men, and is discussed in Chapter 6.

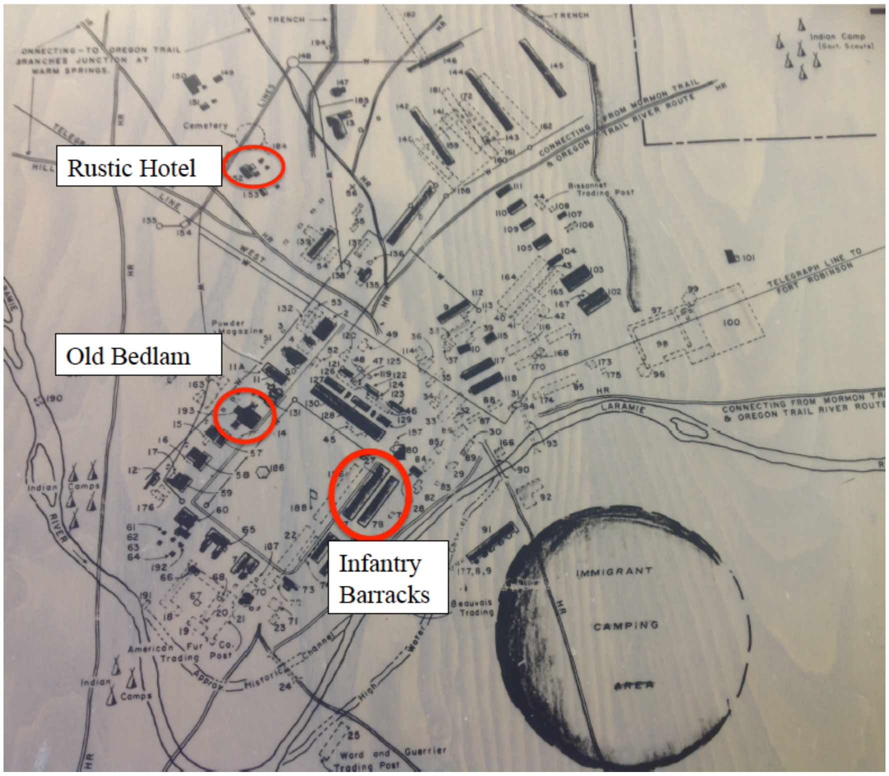
3.5: METHODS

To adequately answer the above research question, this dissertation draws upon two independent lines of evidence: zooarchaeological data and historical documents. Previous zooarchaeology studies in social status and diet have proven that correlating status and faunal remains can be highly variable, as I discuss later in this chapter. This is why it is important to balance independent lines of evidence.

3.5.1: Archaeological Methods and Excavations

This research utilizes previously excavated, but unanalyzed, faunal material from four sites at Fort Laramie, Wyoming: the Rustic Hotel (excavated 1971), bachelor officers' cellars behind Old Bedlam (excavated 1998), enlisted men's infantry barracks (excavated 2010), and the Quartermaster's Dump (excavated 1994) (Figure 3.2).

Over the past 77 years, many archaeological investigations have been undertaken at Fort Laramie, and the materials recovered from that work have not been analyzed to their full potential. A detailed discussion of previous archaeological investigations can be found in Danny Walker and Steven DeVore's (2008) report on the archaeology of Fort Laramie NHS. Instead of proposing more excavations at the site, this dissertation was based on previously excavated material.



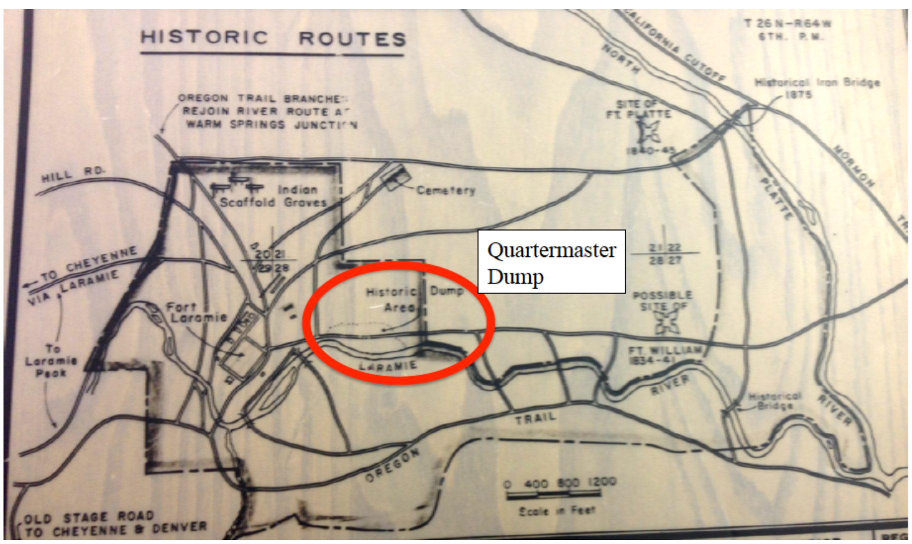


Figure 3.2: Circled in red are previously excavated sites analyzed for this dissertation. (Property of Fort Laramie NHS Library.)

Dr. Danny Walker, of the Wyoming State Archaeologist's Office (WSAO) and University of Wyoming (UW), oversaw all the excavations after 1994, and used standardized archaeological methods for excavation, which allows for direct comparability between excavation sites. For each of Walker's excavations, units were hand excavated by a team of volunteers and employees. Excavation units were oriented to magnetic north, placed onto a grid system, and tied to a principal mapping datum. Elevations were measured relative to the datum, with an arbitrarily established elevation of 100.00m. All fill was dry screened trough 1/4'' mesh, and selected units were screened through a 1/8'' mesh (Walker 2012). All artifacts were collected for analysis. Notes were taken for each level, describing cultural and natural materials. A wall profile was created for each unit, and photographs were taken. Levels were excavated, with arbitrary 5- or 10-cm levels within natural stratigraphic levels. "That is, if a natural level was reached before the end of an arbitrary level, a new level was established at the top of the new natural level" (Walker 1998:75). Several recording forms were used during excavations, including Unit Record Forms, Wall Profile Forms, Photographic Log Forms, and Daily Journals (Walker 1998). Flotation samples were also collected for seed analysis. Flotation samples from the Hospital Steward's privy revealed strawberry (*Fragaria virginiana*), raspberry (*Rubus ideaus*), and grape (*Vitis riparia*) seeds (Walker and DeVore 2008:153). Recent archaeological investigations have largely emphasized the use of ground penetrating radar and geophysical surveys to noninvasively examine location and construction of buildings (Walker and DeVore 2008). Below is a brief summary of each of the four excavation sites analyzed in this dissertation.

Rustic Hotel (1876–1890) – Excavated 1971

John Ehrenhard of the Midwest Archeological Center excavated the Rustic Hotel in 1971 as part of an expansion of a drainage pipe system at the NHS (Ehrenhard 1973). This excavation largely focused on the construction of the building, and determining the source of the fire that burned the establishment down in 1890 (Ehrenhard 1973). Soil was dry screened through 1/4’’ screen mesh. The four impacted and excavated areas included: the kitchen; bedroom/sleeping area; parts of the main room; and a detached cellar (Figure 3.3). Dislocation of artifacts in the kitchen area suggested some salvage attempts following the fire. Seventy-five percent of the 3,770 artifacts excavated came from the kitchen area. Concentration of burning in the kitchen area suggests the fire started around the kitchen stove. Located five feet northeast of the main building, the cellar was semi-subterranean. A similar cellar can be seen in Figure 3.4. There was a variety of glass, earthenware, nails, metal, tin, and charred wood. The glass and earthenware was cross-matched with material from the kitchen, and it appeared that the cellar acted as a refuse dump during salvage operations in the kitchen. Most of the faunal remains came from the cellar and kitchen areas. The nature and dates of the artifacts implies they were used during the operation of the building (Ehrenhard 1973). A more detailed discussion of the analysis can be found in Ehrenhard’s article (1973).

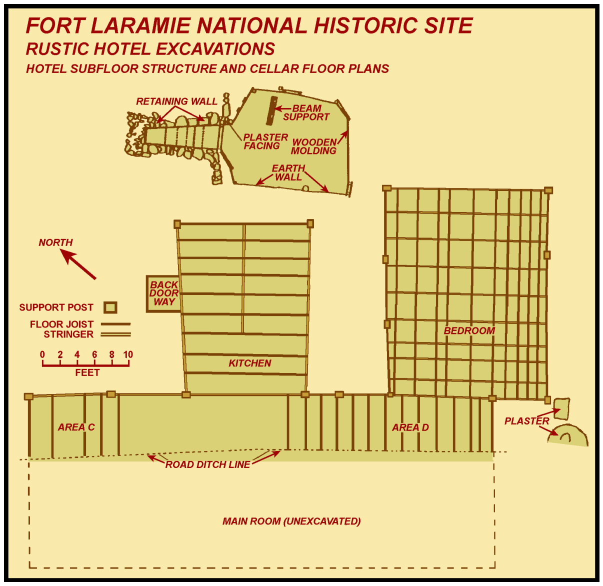


Figure 3.3: 1971 Excavation map of Rustic Hotel (Adapted from Ehrenhard 1973).

Figure 3.4: Taken in 1883, this photograph shows one cellar associated with the Rustic Hotel, and the Post Trader's store in the background. The Rustic Hotel chef is in the center of the picture, wearing an apron and holding cast iron skillet (Property of Fort Laramie NHS).

A very limited faunal analysis occurred after excavation, sampling only 39% of the remains (324 out of 823 remains) (Ehrenhard 1972). Conclusions from this preliminary analysis were extremely cursory in nature, and suggested that the bulk of the sample was composed of domestic cattle (Ehrenhard 1972). Due to storage limitations, most of the Rustic Hotel items, including faunal remains, underwent reburial in barrels on the National Park property (Mattes 1980). As one park historian wrote:

> As to archeological collections, while in theory all items of a given provenience should be retained in "study collection" status, in practice some of the more scroungy fruits of archeology are felt to be a drug on the market, of little or no research value, and therefore disposable. There is a new policy of sometimes reburying such a collection in vaults or barrels, and the site recorded on a map and photos in the catalog. This treatment was given to most of the items yielded by the Rustic Hotel dig of 1972 (Mattes 1980:165).

In 2005, Dr. Danny Walker, while engaged in archaeological investigations in other areas of Fort Laramie, re-excavated the barrels of Rustic Hotel material for proper curation. The analyzed faunal remains for this study came from the reexcavated barrels. Little provenience and documentation accompanied the remains. However, the results of the following analysis do demonstrate that previously discarded "scroungy fruits of archeology" (Mattes 1980:165) can provide information about the lifeways of travelers at the Rustic Hotel.

Quartermaster's Dump Blocks One and Two (1880s) – Excavated 1994

In 1994, seven blocks along the Laramie River were excavated to preserve threatened archaeological material due to continual flooding and riverbank erosion (Walker 1998, 2008). Survey of the area revealed several different individual dumping episodes, "often with several meters of space between the clusters" (Walker 2008:83). Some of the blocks had been impacted by plowing in the area prior to the land being incorporated into the NHS in 1961. Using material culture, cultural groups were assigned to the different blocks. Block Areas One and Two "were interpreted as being primarily dump episodes from Officer's Row, based on the artifact types recovered" (Walker 2008:87). Walker continues by explaining about Block One,

> Most uniform buttons recovered were officer's buttons, and not general issue. Ceramics and bottles recovered from the block also were more of a 'higher' class than that recovered from block areas felt to be enlisted men's trash. There were also several children's artifacts of a type of suggestive of a higher quality than expected for children of enlisted men or non-commissioned officers (Walker 1998:159).

The presence of intact artifacts also suggested that there was a lack of disturbance to Block One. A similar story emerges from the artifacts recovered from Block Two. Few of the artifacts were dispersed, and it appears that there was little disturbance to the area over time. "Again, most artifacts recovered suggest a 'higher' class of living than expected for enlisted men at the fort. While no 'children's' or 'women's' artifacts similar to those in Excavation Block One were recovered in this block, fine household goods, such as a brass clock pendulum and brass key, along with officer's uniform buttons suggest this dump material was also related to an officer's quarters" (Walker 1998:167). The other five cultural units were not as clearly differentiated by the material culture. For this reason, only Blocks One and Two were analyzed in this dissertation. In addition, the amount of faunal material from Blocks Three through Seven is significantly less than that found in Blocks One and Two. A brief analysis of the faunal material from Block Four can be found in the 1998 Quartermaster's Dump archaeological report (Rogers et al. 1998).

Old Bedlam Cellars (1850s, 1860s, and 1880s) – Excavated 1998

In 1998, Dr. Danny Walker excavated the area behind Old Bedlam, the bachelor enlisted men's house, in search of the historical Fort William (Walker 2008) (Figure 3.5). While these excavations did not lead to the discovery of Fort William, they did reveal four officer meat cellars (Walker 2004, 2008). Using the material culture found in the cellars, three were found to date to approximately the 1850s, 1860s, and 1880s, respectively. A fourth root cellar existed under the east wing of Old Bedlam, and appeared similar to the 1880s cellar. This fourth cellar was unique because it was used as a trash dump after being used as a root cellar (Walker 2004, 2008). Old Bedlam was discussed in detail in section 2.2.2, since it was one of the first buildings constructed by the military and played a crucial role in the development of Fort Laramie (Figure 3.6).

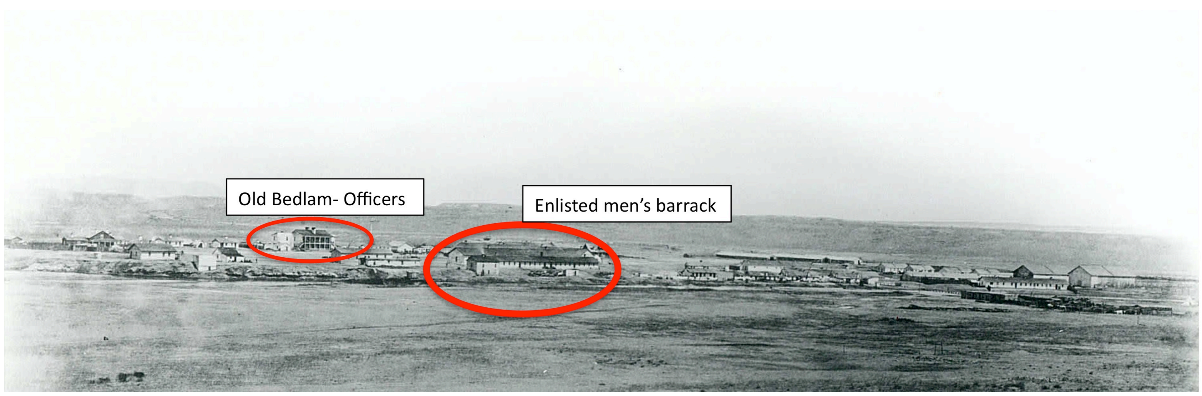


Figure 3.5: Photo from 1868–1875 showing location of enlisted men's barracks and Old Bedlam, the bachelor enlisted men's quarters. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources).

Figure 3.6: Photograph of Old Bedlam from the front in 1889. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

Enlisted Men's Infantry Barracks (1866 – 1890) – Excavated 2010

In 2010, Dr. Danny Walker led an excavation of the 1866 Enlisted Men's Infantry Barracks along the Laramie River (Figure 3.7). This was the last building the military inhabited before the fort's abandonment in 1890 (Danny Walker, personal communication 2016). This was a one-company barracks, measuring 76 by 24 feet, and divided into two rooms (Hoagland 2004:48) (Figure 3.5). While infantry enlisted men occupied the barracks for 24 years, most of the material culture dated from the 1880s (Walker 2012). In contrast to most of the buildings at Fort Laramie, the barracks was never excavated or disturbed, and the remains were in very good condition (Walker 2012). Excavations focused on the interior of the building.

Figure 3.7: 2010 excavation of the enlisted men infantry barracks. (Photograph by Sarah Wolff.)

3.5.2: Zooarchaeological Analysis

The four analyzed archaeological units from Fort Laramie produced 8,935 fragments of animal bone, which were recovered from well-defined contexts. One hundred percent of the excavated faunal remains from these units were analyzed for this dissertation. Natural preservation was excellent, and the recovery damage was comparatively low. Only 0.1 percent of the faunal fragments could be identified to only the general category as a faunal remain.

Faunal analysis was completed at the Stanley J. Olsen Laboratory of Zooarchaeology Comparative Vertebrate Collection at the Arizona State Museum, Tucson by Sarah Wolff, with some assistance of Tracie Mayfield, Ph.D., using standard zooarchaeological methods (Reitz and Wing 2008). A numerical coding system was employed for collecting primary data, which were recorded in an Excel spreadsheet (Appendices A–E). The coding sheet include 30 different fields of identification that later underwent secondary analysis. The specimen elements were identified by represented elements, portion recovered, and symmetry. Additional information collected during primary analysis included the weight of the specimens to determine the relative abundance of the taxa. In addition, fusion, natural modifications, animal modifications, recent breakage, burning, human modification / butchery marks, meat cut, tool mark orientation, and length of fragment were identified.

The main unit of analysis was the number of identified specimens per taxon (NISP). While bone fragments for species were collected, NISP proved the best method for intersite comparisons. Bone fragmentation varied greatly between the four units, particularly in regards to the Rustic Hotel. Most of the small bone fragments from the 1971 excavation from the Rustic Hotel were discarded before curation and analysis. The number of bone fragments from the Rustic Hotel is extremely small compared to the later excavations. In addition, not all bone fragmentation is original, and recent breaks from excavation, curation, and transportation are found in all assemblages. While NISP is one of the most widespread indices of abundance, NISP is complicated by the degree of fragmentation (O'Connor 2008:56). Lots of fragmentation can, inaccurately, increase the number of NISP. Hence, NISP, along with descriptions of fragmentation based on old/new breaks, was determined to be a better measure of species and element representation (Figure 3.8). Pieces that were cross-mended counted as a single identified specimen. The only exceptions to the above procedures are the unidentified vertebrate category. These specimens were excluded from counting in this study due to the fragmented condition of the bones.

Mammal bones too fragmented to be correctly identified to family, genus, or species were classified on the basis of size: small, small-medium, medium, medium-large, or large. A small mammal was approximately the size of a cottontail or rodent. Medium mammals were about the size of a sheep, and large mammals consisted of mostly Artiodactyls, such as cattle, bison, or horse. Similar categories were used for birds whose species could not be determined. Small birds were the size of finches / songbirds, medium birds were the size of mallard ducks, and large birds were the size turkeys. Although rare in this collection, there were also categories for indeterminate vertebrate animal and indeterminate bird or small mammal bones.

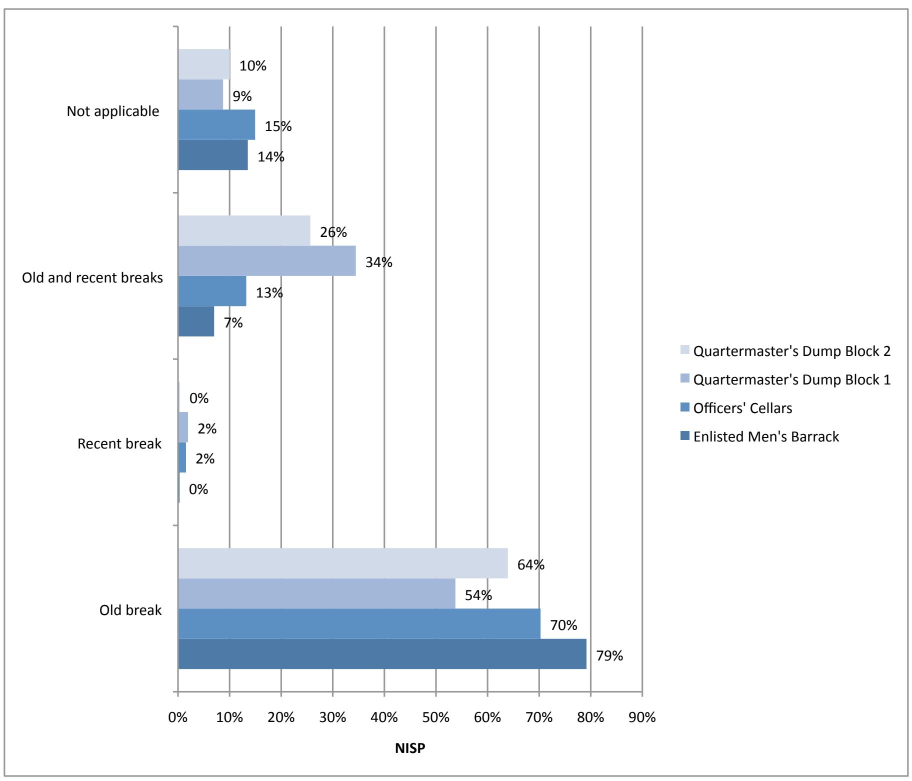


Figure 3.8 Bone breakages for all assemblages (Enlisted Men's Barracks NISP=1042; Officers' Cellars NISP=582; Quartermaster's Dump Block 1 NISP=309; Quartermaster's Dump Block 2 NISP=269; Rustic Hotel NISP=823).

Minimum number of individuals (MNI) was also utilized to discuss taxonomic relative abundance (Hesse 1985; Reitz and Wing 2008). MNI refers to the fewest possible number of individuals from a taxon to account for the skeletal collection. MNI was determined based on paired elements and age of specimens within a taxon. While a common measurement, there are several inherent biases, including an overemphasis on small species and rare taxa (Reitz and Wing 2008). For example, in a hypothetical assemblage there is a MNI of one for a frog and an MNI of four for jackrabbits. MNI distorts the data to make frogs seem nearly as abundant in the assemblage as the jackrabbits. MNI also exaggerates the importance of smaller animals compared to larger animals. In a hypothetical assemblage, there could be an MNI of twenty jackrabbits, and an MNI of one elk. While there are more jackrabbits at the site, the meat from the one elk would dwarf the amount from the jackrabbits. Since MNI is determined through presence of paired elements, species that have fewer paired elements, or hard to distinguish paired elements, are more likely to be misrepresented through MNI measurements. For example, trunk vertebrae are the most common element in fish, and it is an un-paired element. Determining the MNI of fish based on vertebrae is nearly impossible. Finally, MNI is also greatly affected by sample size, and larger sample sizes are less likely to manifest many of the statistical problems with the unit of measurement (Grayson 1981; Reitz and Wing 2008). The small sample size in each unit from Fort Laramie makes the MNI calculations more susceptible to error.

Biomass was calculated to compensate for some of the problems with MNI and NISP, and estimates the amount of meat a taxon supplied. The foundation of biomass estimates is the allometric principle that predicts the growth of body parts at different rates, which results in a change of body proportions (Reitz and Wing 2008). The allometric principle establishes that as an animal increases in size, the proportions of body mass changes in a predicable manner. Using the principle of allometry, a given quantity of skeletal material can be used to derive a predictable amount of tissue. There are no current allometric equations for reptiles and fish, and therefore were excluded from the calculations. The allometric formula used in this dissertation comes from Reitz and Wing (2008:236).

$$Y = aX^b$$

$\underline{Y}$= the estimated sample biomass

$\underline{a}$ = is the Y-intercept for regression and line

$\underline{X}$ = specimen weight for taxon

$\underline{b}$ = slope of regression line

One weakness that NISP, MNI, and biomass all share is that they rely on the identifiably of a specimen. This is a fundamental bias in the research because some specimens and elements are more identifiable than others. For example, some fish bones were unidentified due to a lack of comparative specimens in the comparative collection. In another example, positive identification of bison relied upon element features that were often destroyed by butchering (Whitehead 1884).

Identified specimens were classified as “domestic” or “wild” animal species categories because dietary diversity is associated with social status in a variety of archaeological contexts. Upper-class individuals consume a greater diversity of fauna, including rare, exotic, prized, highly mobile, and expensive to obtain species of animals (Cheek 1998; Crabtree 1990; Curet and Pestle 2010; deFrance 2009; Ervynck et al. 2010; Pavao-Zuckerman and Loren 2012). However, there are several other factors influencing faunal diversity besides status, including urban or rural residence (Rothschild and Balkwill 1993) and presence of a skilled hunter in the community or household (Schmitt and Lupo 2008). On a final note, diversity studies also require a large sample size since small samples statistically are less diverse (Reitz and Wing 2008).

In the case of 19th-century military sites, the amount of wild fauna is influenced by social status and rank. Officers could leave the fort for hunting expeditions when they chose to, while enlisted men needed permission from the commanding officer to leave the fort to acquire game (Adams 2009; Unrau 1979). In addition, officers could individually leave, while enlisted men's hunting parties consisted of several individuals, usually supervised by an officer (Roe 1981[1909]; Unrau 1979). Hence, there was not equal opportunity for enlisted men and officers to hunt.

Collection of primary data also included information on epiphyseal fusion for the purposes of establishing MNI (Reitz and Wing 2008). Epiphyseal fusion data can also be used to determine age of slaughter for animals (Hesse 1985), but this was not a topic addressed in this dissertation. This dissertation addressed the importance of social status in diet, and not reconstructing butchery practices at the time. Future research could draw upon the information collected in this dissertation to discuss the age of animals at slaughter.

Tooth eruption was only used to age two juvenile pigs in the collection. Mandibles, crania, and teeth were exceptionally rare in the assemblages, and the juvenile pig mandibles were some of the only instances in which tooth eruption proved a valuable means of determining age of the individual at death. In these cases, the age was determined using previously measured tooth eruption patterns (Hillson 2005), and was noted in the comments section of the excel spreadsheet.

Burned specimens could result from the bones being intentionally burned during cooking or after being discarded. Specimens were analyzed for light burning, charring, and calcification, which occurs from exposure to extreme heat. Most of the assemblages were unburned (Figure 3.9). Material from the Rustic Hotel was most frequently burned most likely a product of the fire that burned down the establishment in 1890.

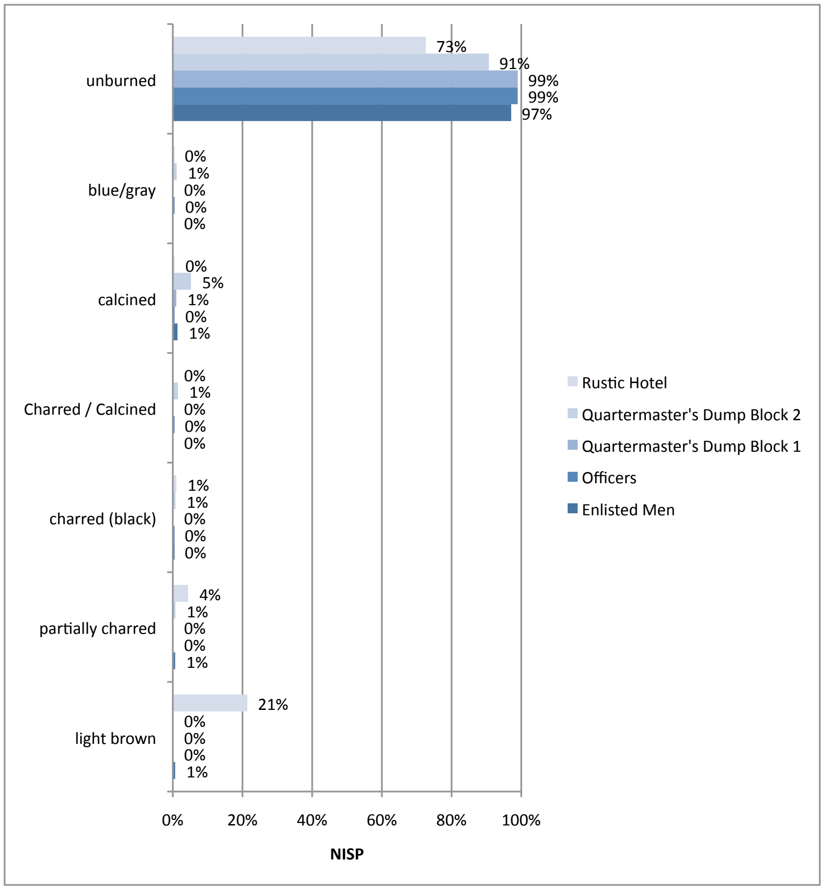


Figure 3.9: Burning of analyzed faunal assemblages (Enlisted Men's Barracks NISP=1042; Officers' Cellars NISP=582; Quartermaster's Dump Block 1 NISP=309; Quartermaster's Dump Block 2 NISP=269; Rustic Hotel NISP=823).

Natural modifications to specimens were also noted. Collapsed buildings quickly buried material from the Rustic Hotel, enlisted men's barracks, and officers' cellars, and as a result, there were little natural modifications to these faunal remains besides root etching from topsoil grasses (Figure 3.10). In contrast, the Quartermaster's Dump Blocks One and Two did not preserve as well, and were not as protected from erosion. Figure 3.10 shows that Quartermaster's Dump Blocks One and Two exhibits the highest amount of sun-bleaching from being exposed to elements prior to burial. In addition, Blocks One and Two were along the Laramie

River, which could impact the taphonomy of the deposition by removing some faunal elements and possibly introducing offal elements that were dumped into the Laramie River. Pathologies were noted as part of natural modifications, but very few specimens exhibited pathologies. Pathologies occur from trauma to the bone during life, and subsequent healing. Multiple modifications could occur to one specimen, and the same specimen could appear in several categories in the graph. This is why the NISP count is higher for natural modifications than in the other graphs (Figure 3.10).

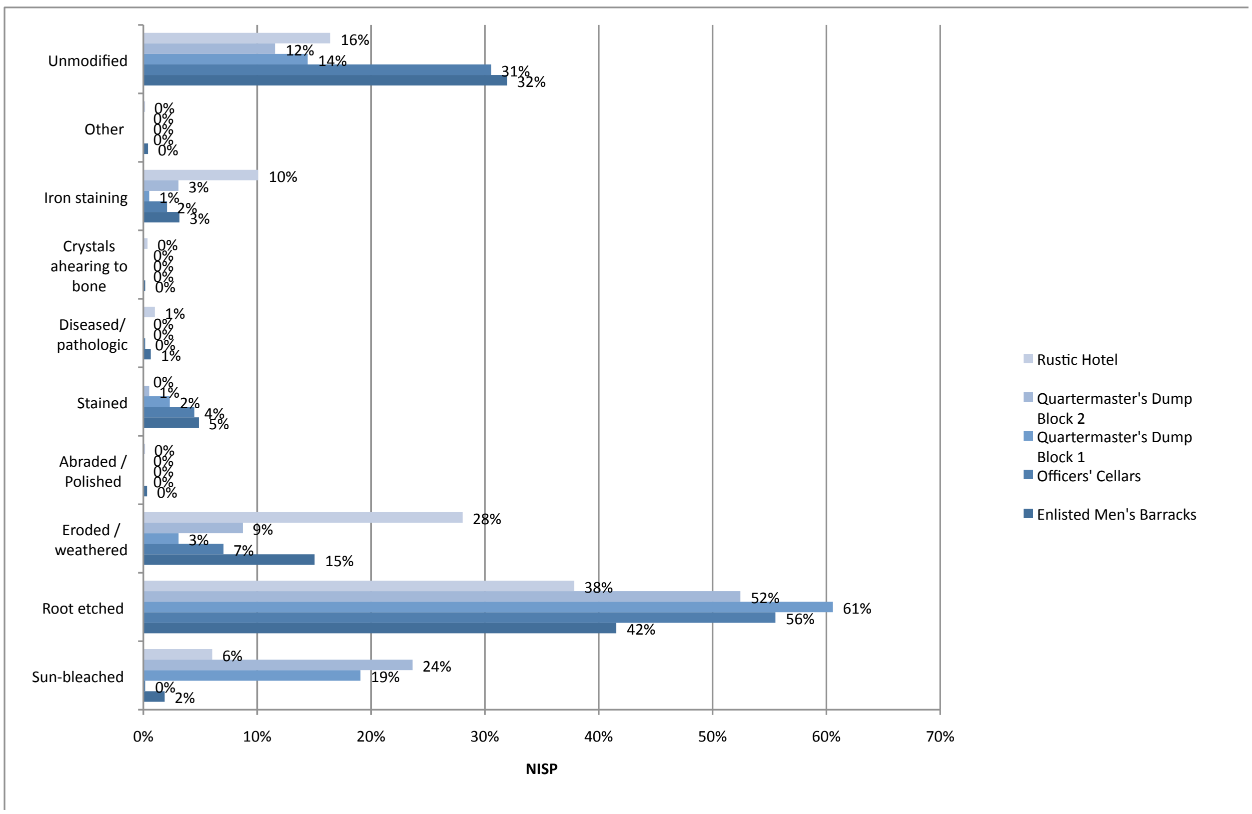


Figure 3.10 Natural modifications for all assemblages (Enlisted Men's Barracks NISP=1230; Officers' Cellars NISP=625; Quartermaster's Dump Block 1 NISP=388; Quartermaster's Dump Block 2 NISP=389; Rustic Hotel NISP=1091).

Animal modifications to bones included carnivore and rodent gnawing, which indicates that the specimens were not immediately buried. The absence of gnawing does not prove that the faunal remains were left exposed, but the longer bones are in an open exposure environment the more opportunity there is for rodents and carnivores to gnaw them. Nearly 100% of the assemblages were unmodified by animals, implying that all assemblages were buried quickly after disposing of the remains (Figure 3.11).

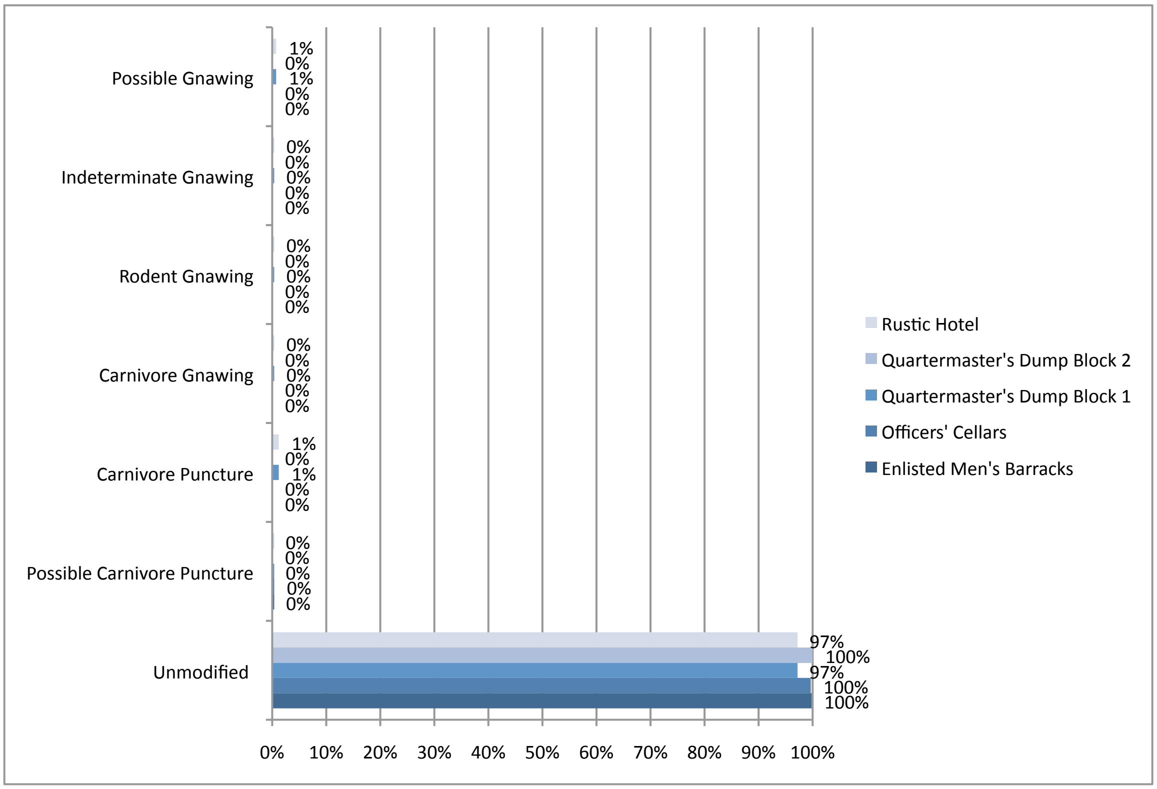


Figure 3.11: Animal modification of analyzed faunal assemblages (Enlisted Men’s Barracks NISP=1042; Officers’ Cellars NISP=582; Quartermaster’s Dump Block 1 NISP=309; Quartermaster’s Dump Block 2 NISP=269; Rustic Hotel NISP=823).

Meat played an important role in the Victorian diet, in both America and England, and it was the main component of every meal. On a dinner menu, there were nearly twice as many meat dishes compared to dishes featuring starches, vegetables, and dairy combined (Whitehead 1883). As a hotel guidebook advised proprietors, “In an average way four-fifths of the people take meat for breakfast and two-thirds or three-fourths take meat for supper" (Whitehead 1884:282). Victorians believed meat was an essential part of every meal because it stimulated digestion, and without it, the meal would sit in the stomach and ferment (Carroll 2013:139). The low fiber and high meat diet created one of the most common diseases at the time, dyspepsia, now known as chronic indigestion (Carroll 2013). The opening of the cattle grazing lands in the plains also made beef easily accessible and reasonably priced (Freeman 1993). Beefsteaks and meat cuts are some of the most common faunal remains found at Fort Laramie and in other 19th- century sites.

Social status influences the frequency of different meat cuts. Upper-class individuals are thought to enjoy higher quality meat cuts including the meatiest parts of an animal, such as roasts, and lower-class individuals receive the less desirable parts, such as feet and heads (Crabtree 1990; Crader 1984, 1990; Ervynck et al. 2007; Reitz and Zierden 1991). However, there are complications in distinguishing status from meat cuts. Sometimes the meatiest parts of the animal are carved in a way that bones are not left behind, such as filets. In an archeological site, it is possible that high quality meat cuts were discarded prior to consumption at the site. For example, in 19th century restaurants, it was common for the chef to remove the lumbar vertebra of a porterhouse beefsteak prior to serving the dish to guests (Whitehead 1884). As a result, the steak bones would only be found in the kitchen refuse and not in other contexts. This cultural modification played an important role in interpretations at the Rustic Hotel in this dissertation. Few faunal remains were found in the kitchen, living room, and bedroom areas, while the majority of bones were found in the cellar area (Ehernhard 1972). Ehernhard (1972) concluded that the cellar was used as a kitchen refuse area, and this explained the abundance of bones in that location. Another weakness is interpreting social status from meat cuts is the possibility of increased processing of less desirable cuts of meat, which leads to more bone fragments and inability to identify meat cut (deFrance 2009). Finally, the definition of "high quality" meat is not universal, which can be problematic in interpretations of status (Bowan 1996; Crabtree 1990; deFrance 2009; Ervynck et al. 2007). For example, fish are usually considered upper-class (deFrance 2009; Singer 1987), but, in climates that fatty foods were preferred for physiological needs, fish were considered very low status (Hamilton 2000).

In 19th- and 18th-century American sites, social status is highly associated with meat cut and faunal diversity. Schulz and Gust (1983) demonstrated that prisoners at a Sacramento prison ate poorer meat cuts than the prison guards during the 19th century. Similarly, they illustrated that guests at a Sacramento hotel ate the highest quality of meat cuts, primarily loin beefsteak cuts (Schulz and Gust 1983). Crader (1984, 1990) found that slaves at Monticello ate less desirable cuts of meat, and the faunal bone exhibited higher processing. According to Crader, the slaves augmented their diet with undesirable wild game, such as rabbit, opossum, squirrel, game bird, and chicken.

Primary and secondary sources informed the zooarchaeological criteria used for analysis, such as butchery practices and popular meat cuts. These sources included hotel cookbooks, letters, monographs, and diaries. The evaluation of these sources is further discussed in the historical method section. Overall, these sources proved useful and credible for informing the zooarchaeological analysis. In cookbooks, the author's goal was to instruct the reader on proper cooking method. Hence, they would describe the ideal way to prepare food. Diaries, monographs, and letters drew upon personal experiences and the reality of conditions on the frontier. Balancing the historical research with cookbooks and personal descriptions of diet on the frontier provided an understanding for the faunal remains. For example, Whitehead (1884) advised that hotel chefs prepare loin beefsteaks for the majority of high-class customers in his cookbook. Frances Roe (Roe 1981[1909]) wrote letters to her family describing how she had loin beefsteaks at most meals on military forts on the frontier. Both historical lines of evidence suggest that meat cut relates to social status, which is the reason that meat cut played such an important role in the zooarchaeological data.

Definition of meat cuts for this dissertation drew upon historical diagrams of the butchering pattern for the 19th century (Caperton and Fry 1974), and the definitions previously established by Schulz and Gust (1983). These categories included the cranial, mandible, chuck, prime rib, full plate / full brisket, foreshank, loin, hip / round, hindshank, foot bones, tail, miscellaneous ribs, indeterminate steak, and indeterminate vertebrae cuts (Appendix A). Similar categories were adapted for sheep and pig, but they were much few in the assemblage. Specimens that could not be categorized by taxon were not classified in meat cut, since different species were frequently butchered differently.

Historical records, such as letters, monographs, diaries, and cookbooks, from the 19th century clearly defined the meat cut preferences (Caperton and Fry 1974; Rogers et al. 1998). I further discuss the incorporation of historical records with faunal remains at the end of this section. These historical documents describe that beefsteak, from the loin region, was the favored meat cut at the time (Rogers et al. 1998; Schulz and Gust 1983; Whitehead 1884). The loin cut created the porterhouse and sirloin steaks, the most tender and choice meat cuts (Whitehead 1884). One author wrote, “For a roast of beef, the sirloin and tenderloin cuts are considered the best” (Henderson 1877:129). An English traveler wrote that the “monarch did at least one wise thing who made the loin of beef Sir Loin” (Burton 1990[1862]:49). “The porterhouse cut is the middle or best part of the loin . . . A loin yields from 8 to 12 such steaks depending upon the thickness . . . Brush over with the butter brush and broil from 6 to 10 minutes or as ordered. Serve with a border of chip or fried potatoes” (Whitehead 1893:19). The second most preferred meat cut were prime ribs, followed by round, chuck, full brisket, neck, foreshank, and finally hindshank (Rogers et al. 1998). Foot bones, tail, cranium, and mandible were frequently discarded with offal prior to consumption. The hypothesis for this dissertation is that officers received better cuts of meat, such as loin and ribs, while enlisted men received the less desirable cuts of meat, such as round, chuck, and full brisket.

An additional measurement done in this analysis was the maximum thickness of steak cuts. Cookbooks from the 19th century state that a good steak would be an “inch thick sawn through the bone and fat, upper loin, tenderloin and everything” (Whitehead 1884:267). Steak cuts from the loin region should adhere to this one-inch thickness if those in the Fort Laramie region were receiving good cuts. However, less reputable establishments cut these steaks thinner to save money (Whitehead 1884). Measuring the loin steak thickness provided a new means to investigate the status of the individuals across sites. Since the steak thickness was measured in inches at the 19th century, the measurements taken during the primary analysis was also conducted in inches with electric calipers.

Butchery marks were noted in data collection and primary analysis. Butchery at this time period was very similar to today. “After killing the animal, the head, hide, and feet were removed. Then the carcass was split in two and quartered with a saw or axe” (Walker, Vaughn, and Cooper 2004:129). The fort only had the same butcher for both officers and enlisted men. Hence, samples from both cultural groups should have similar butchery patterns for cattle. It is possible, but unlikely, that a scapula in the enlisted men’s barracks also belonged to the same animal as a lumbar vertebra in the officers’ cellar. For this reason, quantifying the number of animals across the cultural units did not play a large part in this study. Instead, it was deemed more important to discuss the relative abundance of meat cuts at each of the cultural unit sites.

In instances that upper and lower status individuals consumed the same foodstuffs, status distinctions relied upon presentation and preparation. Since eating is a performative act, sometimes there is no difference in food substances between low status and high status individuals, but the status indicator is in the performative display of the cooking of the food and how it is served (Bowen 1996; Crabtree 1990; Curet and Pestle 2010; deFrance 2009; Pavao-Zuckerman and Loren 2012). For example, Pavao-Zuckerman and Loren (2012) found that Los Adaes residents all shared the same basic diet, and ceramic analysis revealed that status differences appeared through presentation of the dishes. Crader (1984, 1990) found that both slaves and Monticello residents primarily depended upon pork, but the quality and preparation greatly varied by status. At Fort Laramie, military officers and enlisted men consumed similar daily rations of beef and pork (Caperton and Fry 1974; Crass and Wallsmith 1992). However, the preparations and presentations between the two groups were dramatically different.

While beef was the staple in the diet of both officers and enlisted men, social distinctions between the two groups appeared in the presentation of meals. Victorian social status displays heavily relied upon small details. For example, all meat pies might contain the same basic ingredients, but intricate details on the crust would convey a higher status. Similarly, while officers frequently consumed beef, like enlisted men, they served the dishes on elaborately decorated and patterned dish sets. The officers individually purchased these ceramic sets, and they often contained a variety of dishes that served one specific purposes, like a butter dish (Adams 2009). The more specialized the dishes, the higher the status of the individual. While the fanciest table settings might not be used for every meal, entertaining guests at dinner parties was an extremely important part of the officer lifestyle. At such dinner parties, officers and their wives would invite fellow officers and their spouses to dinner, as Victorian social decorum dictated (Adams 2009). Paying "calls," visiting with others of your social status, was an almost daily activity for those in the upper and middle class, and it became a way of establishing and maintaining social position (Plante 1997:121).

Preparation of food greatly differed between officers and enlisted men. Officers often had a household servant that would cook meals (Adams 2009; Roe 1981[1909]). The household servants usually came from the enlisted men's ranks, and the best cooks were prized among the officers. Frances Roe, an officer's wife, lamented that the commanding officer took their enlisted man servant away because he was a great cook (Roe 1981[1909]). Part of the inedibility of the enlisted men's food was the lack of trained cooks. Cooks were not trained until 1898, and during the military phase at Fort Laramie, company men took turns cooking for each other (Adams 2009).

Fort Laramie most likely obtained cattle from local ranchers, and the cattle were kept at the fort until consumption (Hafen and Young 1938; Walker et al. 2004). Remote forts often utilized a mixed strategy of buying meat from the Quartermaster's department, and from local suppliers and ranchers (Crass and Wallsmith 1992). Once the animal was slated for slaughter, it was taken to the post abattoir. In the later half of the fort's history, the abattoir was located over the Laramie River. There was trapdoor that the fort butcher could open to dump the offal, the unwanted animal remains, directly into the Laramie River (Danny Walker, personal communication 2013).

One significant weakness in this study is the comparatively small sample size of the different assemblages. Larger specimen counts, greater than 1,400, are usually needed for reliable and statistically significant results. Smaller samples, such as the ones in this dissertation, will overemphasize one species in relation to others (Reitz and Wing 2008). Only with additional research will this innate bias be weeded out. Since this research tackles 100% of the faunal remains recovered from five different excavation units, further excavations and analyses are required in order to increase the sample size. To balance out the lack of faunal material recovered during excavation, the historical record was consulted as an additional line of evidence.

3.5.3: Historical Research Methods

Historical analyses of primary and secondary sources are a fundamental part of the research design for this dissertation. Research methods drew heavily upon Raymond Wood's (1990) work. In this chapter, Wood suggests that historical documents should be treated as artifacts, and establishes criteria for selecting data. He defines documents as a wide range of materials including written accounts, archaeological records, photographs, maps, and even the landscape. Primary sources are historical documents created by people living during the time period. In contrast, secondary sources are produced by people after the time period, and writing about past events. For example, books written by historians about Fort Laramie are considered secondary sources. Secondary sources are good for an introduction to a problem, but they should be used with caution. A historian's aim is "verisimilitude," the appearance of being true or real. The historian tries to get as close to an approximation to the truth as possible that can be constructed through mental images at the time.

Wood argues that historical method can be broken down into four parts. First is the formulation of the problem that requires documents to solve. Second is the determination of which documents are authentic, which is called external criticism. Third is the determination of what details in the source are credible, which is called internal criticism. Fourth is organizing the reliable information into a story to answer the question. External criticism is concerned with what sources are original, and deciphering those from fakes by using other sources to verify the document. Internal criticism of a source focuses on three tests. First is the temporal proximity of the event to the account. Second is determining who the audience was for the document. Third is determining whether the author of the document was actually a witness to the event. The following discussion of historical methods describes the variety and scrutiny of primary sources used as data for this dissertation.

Primary Source Monographs

Primary sources abounded at the time period due to the increased Victorian cultural emphasis on reading and writing (Howe 1976). Victorians thought literacy was of paramount importance. For example, following the Civil War, Northerners traveled to the South to teach freed slaves how to write (Stevenson 2001:xxix). On the frontier, large forts had a school to educate enlisted men and children how to read and write (Adams 2009). Individuals from the upper class, including officers, their wives, and some civilians, such as the post trader, were culturally expected to write about their experiences on the frontier (Adams 2009; Collins 1970). As a result, several books document the perspectives of officers, their wives, and upper-class civilians on military forts.

Experiences on the frontier were topics of interest to Victorian readers in the late 19th century, and several officers capitalized on their time spent in military by writing books. Some of the most well-known authors included George Armstrong Custer and Charles King. These monographs provide a window into their personal interpretations of historical events. Monographs contain many strengths as a primary source. Authors often weave tales including who was present, what happened, when did something occur, why did something happen, and how certain events occurred in history. These details can help to reconstruct scenarios in the historical record. Books often include information about the author, such as rank, which can reveal many of the innate biases. Author biases must be taken into account when analyzing historical documents, and having a clear understanding of an author's intent can impact the quality of external and internal criticism of the source. Anonymously written historical documents, such as newspaper articles, census records, or photographs, mask many of the innate biases of the author. In contrast, the ability to assess the reliability of the author of monographs makes books a reliable data source for historical research. Books are also useful sources of data because they usually describe the intent of the author, which also impacts the credibility and reliability of the historical source.

The most obvious weaknesses about monographs are the biases in the writing. An author's interpretation of invents is heavily skewed by his/her own worldview point, and the monographs from officers do not accurately reflect an objective view of a historical event. Books are also written years after events occurred. There is more chance for error due to the time difference between witnessing an event and writing about it. For these reason, books are often weighed against primary sources that capture the moment in history, such as letters, newspapers, or photographs.

There is a historical bias toward the educated and Euroamerican populace in authorship. There are a variety of silent voices in the historical record, including illiterate groups, lower-class individuals, and several ethnic groups, including Native Americans. Only in a few circumstances did enlisted men write about their experiences. H. H. McConnell's book *Five Years a Cavalryman, or, Sketches of Regular Army life on the Texas Frontier, 1866 – 1871* (1996[1889]) provides some insight into the daily life of a cavalry enlisted man. McConnell candidly discusses the boredom, the doldrums, general disorganization, thievery, intra-military politics, and the heavy drinking that occurred among enlisted men.

The writings of Captain Charles King demonstrate the type of biases and inaccuracies that occurred in monographs on frontier life. After being promoted to captain in 1879, at Fort D. A. Russell, Wyoming Territory, he retired to become a professor of military science and tactics at the University of Wisconsin. He continued to teach at a variety of military institutes and schools through the late 1920s. Over the 50 years of his teaching career, 69 books bearing his name were published. "The first of these is said to have started with the suggestion that Captain King as an army officer must be experienced in the sweetness of doing nothing" (Russell 1964:xv). More than half of his books were on frontier life, and the other half on the Civil War and other life experiences. In order to produce this high volume of books, he employed Miss Lucile Rhoades as a typewriter for his dictated stories, sometimes referred to as the "fiction factory." King's books never gained the notoriety of being great literature. As a modern historian, these stories can reveal interesting aspects about life in the frontier military, but the interpretation of events cannot be taken as fact. The objective of these books was to sell, and not to completely document history. "They [the books] were much alike; one observer has noted that of fifty-one novels, all except seven rely upon wrongly assessed circumstantial evidence in their plot structure, and twenty-eight have one or more characters accused of wrong-doing on the same basis" (Russell 1964:x).

Letters

Another common primary source are letters written by soldiers and their wives to friends and family. Letters were the only communication between those stationed on the frontier, and their distant family and friends on the East coast. As a result, letters were frequently written between families, and were subsequently published in books as a collection of stories. Letters were stylistically written, and greatly contrasted with novels about frontier experiences. Victorian letter-writing guidelines, such as those found in *Hill's Manual* (1888), emphasized that letters should be written in a conversational manner and be an outlet for emotional expression.

> Let your letter be the record of the fancies and mood of the hour; the reflex of your aspirations, your joys, your disappointments; the faithful daguerrotype [photograph] of your intellectuality and your moral worth. You little dream how much . . . it may give of hope and happiness to the one receiving it. How much it may be examined, thought of, laughed over and commented on; and when you suppose it has long since been destroyed, it may be brought forth, placed in type, and published broadcast to millions of readers (Hill 1888:78).

One of the strengths of letters as a primary source is that they often provide a snapshot into the past, and more accurately capture moments in time compared to books written years after events. Some of the best examples of letters turned into books include: Frances Roe's (1981[1909]) *Army Letters from an Officer's Wife*

(1981[1909]) and Alice Grierson's (1989) *The Colonel's Lady on the Frontier: The Correspondence of Alice Kirk Grierson*. Letters also capture the emotions and personal feelings of those at the time. While books are more reflective on historical events, letters capture the immediate reaction.

While the immediate nature of letters can be a strength, it can also be a weakness. Letters often lack a broader understanding of historical events. While authors of books often link different incidents, letters are disjointed segments of history. In addition, some letters were not kept, were lost in transit, or were dislocated from the rest of the letter collection. There is a sampling bias in the number of letters received, kept, and published in a book. The sampling bias impacts the ability of historians to re-create history using only letters, which is why letters are used alongside other sources.

Newspapers

In the 1800s, newspapers became very popular, and were published in abundance (Udall et al. 2010). Major cities in the Wyoming Territory had several newspapers, including one for the morning, one for the evening, a daily one, and a weekly one. Newspapers provided information concerning global or national events, but also heavily emphasized local activities. Hotels, restaurants, stores, liveries, and stagecoach lines advertised in the local newspapers. Newspaper articles often provided colloquial stories and advice, such as how a woman should cross train tracks. The names and local addresses of visitors of notoriety were also published. Newspapers provide a unique window into the past because they captured important daily events. As a researcher, it is important to keep in mind that newspapers were generally written for an intended audience. They were not meant to document history, but were instead written to sell with entertaining stories. Hence, some stories are sensationalized, particularly during times of conflict and warfare.

Newspaper correspondents followed campaigns to document warfare events, and their stories often appeared in books and newspaper columns. For example, the newspaper industry was fascinated with the Great Sioux War of 1876, because it was called "the greatest of all white-Indians wars" (Finerty 1955:xxx). In May 1876, General Crook and his 1,050 men began a second advance on the Power River area, northern Wyoming Territory, and in tow was the Chicago *Times* special correspondent John F. Finerty. Finerty's letters were published in the *Times* in 1876, and then Finerty condensed the letters into a published book, *War-Path and the Bivouac*, in 1890 (Finerty 1955). While some of the *Times* letters were copied verbatim, much of the book was new material. Primary sources, such as these, provide a window into the military's actions from an etic, outsider's perspective. However, the writer clearly had an audience in mind, and much of the writing is geared toward entertaining the Euroamerican general reader.

Newspapers as a data set possess both strengths and weaknesses. As the name implies, they convey "news" to an audience. Newspapers contain a variety of data, including editorials, public opinion pieces, community updates, and articles of current events (Shafer 1980). For this dissertation, only articles related to the news or notifying the public of an upcoming event, such as the opening of the Rustic Hotel, were assessed. Overtly opinion pieces were not analyzed. One of the strengths of newspapers is that they are a primary source that documents the events at the time. However, newspapers are conveying information to an audience (Shafer 1980). Newspapers are not reporting unbiased opinions of events, but instead are writing for a targeted audience in order to sell papers. Historically, there was a lot more competition between papers for readership than today. The small town of Cheyenne, Wyoming, had four or more newspapers throughout the late 19th century. The competition dwindled down, and now there is only one newspaper in Cheyenne. Each newspaper tried to catch readers with different angles on events, and by selling newspapers at different times of day. For example, one newspaper had more opinion pieces, while another had more current local events, and a third paper had more current world events. Newspapers also present unique problems in assessing the reliability and biases of article authors. Authors usually have biases deeply rooted in culture, gender, and personal backgrounds, which is why it is important to assess authors' backgrounds if possible. Assessing an author's background is particularly difficult with 19th-century newspapers because the author was frequently not listed. For these reasons, newspapers were used sparingly, and usually cross-referenced with each other. For example, the opening date of the Rustic Hotel appeared in several newspapers, with all the same information. This supported the accuracy of the date and information. Newspapers were primarily used to reconstruct the history of the Rustic Hotel, such as the opening and closing of the establishment.

The majority of newspaper research for this dissertation was done using the Wyoming Newspaper Project website (http://newspapers.wyo.gov/). This website is a service of the Wyoming State Library, and it is a free resource that contains more than 340 historical Wyoming newspapers.

Archival Documents

The Wyoming State Archives (WSA) in Cheyenne and the Fort Laramie NHS Library (FLNHSL) were consulted for additional archival material, primarily business ledgers and images. The WSA contains a variety of primary sources, including county records, death certificates, newspapers, photographs, and a variety of other historical records, such as business ledgers. Over the course of a month, several different types of primary sources were analyzed at these two archives. However, two types of sources emerged as being the most useful for this dissertation: civilian business ledgers and images.

Business ledgers from the Fort Laramie post trader recorded daily interactions and expenditures. The civilian post trader kept precise business records because soldiers accumulated a tab between paychecks. At best, the military paid soldiers once a month, and once the paycheck came, the company clerk or officer would pay off their bill (Agnew 2008). The post trader's ledger contained the accumulated tab, and when it was paid (FLNHSL 1888: Sutler's Report 17, April – June). Many of these business ledgers were consulted to understand the differences in dietary purchases between officers and enlisted men. Overall, business ledgers prove a valuable resource to historians because they are objective accounts of business transactions. They accurately record the price and purchases of individuals living at the time. However, this is a limited resource because it does not clearly describe relationships of people, places, or things. Many of the conclusions that come from these ledgers are based on inference. For example, one post trader ledger revealed that companies of enlisted men bought exceedingly large numbers of canned prunes (FLNHSL 1888: Sutler's Report 17, April – June). While not conclusive, this might be related to medical records of enlisted men frequently suffering from constipation (Willey and Scott 2015). While these two historical activities could be connected logically, there is no proof of correlation. This is why information from business ledgers is often used in conjunction with other archival source data.

Images of fort life found in the FLNHS library and WSA proved a valuable primary resource. Some of the strengths of images (e.g., photographs, paintings, sketches, etc.) as a primary source include that they capture a moment in time, and can convey information about people, places, everyday life, and events. This was particularly useful in understanding the breeds of dogs present at Fort Laramie. While individuals wrote about dog breeds, their categorization of dog breeds was different than today (see Chapter 6). Photographs objectively documented the breeds of dogs found at Fort Laramie. However, photographs are not completely impartial, and the photographer's biases can impact the composition. In addition, the relationship between the photographer and the subject is not always clear, and understanding and controlling for bias can be very difficult. Early photographs also lacked many identifiers of time, place, and subject. Several archived photographs do not have an exact date, but instead a range of possible dates. This can complicate a historian's understanding of the sequence of historical events.

The military kept official files on personnel registers, purchase orders, supply requisitions, financial records, commanders' reports, and War Department correspondence (Whitehorne 2010). However, these Government records were often selectively discarded. In modern government records, close to 95% of material is discarded (Galloway 2006). In the past, many of the records were kept, but have slowly been lost over the course of time. At Fort Laramie, much of the military documents were discarded when the fort was decommissioned in 1890. During the 48 years of private ownership, many military records were lost. Since Fort Laramie became a NHS in 1938, researchers have slowly accumulated historical records lost during the civilian habitation. However, most of the records collected relate to civilians associated with the fort during military occupation, such as the post trader's business ledgers. This sampling bias skewed the types of primary sources found in the archives, and most of the referenced archival sources came from civilians. As a result, most of the archival resources used in this dissertation came from the WSA and were described above.

Federal Census Records

Federal census records are an important primary source for obtaining information on population dynamics, household composition, ethnicity, and tracing movements of individuals across the landscape. For this dissertation, census records played an important role in understanding the types of individuals employed at the Rustic Hotel. Looking at the 1870, 1880, 1890, 1900, and 1910 censuses allowed the author to trace the movement of people working at the Rustic Hotel. Many of proprietors stayed in the Wyoming region, working in Cheyenne or Laramie, the city. Census records have several strengths as a primary source. First, they document basic information about an individual and family. At the time, information collected in the census included occupation, age, “color,” marital status, number of individuals living in the household, value of owned real estate, location of birth, origin of mother and father, education level, and physical and mental handicaps. Ancestry.com, a digital genealogy website, is an online resource that allows for researchers, including the author, to easily search through different census records for one individual. While the search engine is fairly good at identifying the same individual throughout different years, it only works if the spelling is consistent. In most cases, being creative in coming up with name variations often resolved these issues. For example, Jonathan could be spelled out in the census record, or shortened to Jon.

While census records are a widely used primary source, they have several inherent weaknesses as a data set. First, the census is taken every 10 years, and captures a snapshot in time. In between these snapshots, areas, families, and people can change drastically. Census takers were also biased in their documentation of marginalized groups, and there was little consistency between the different census takers, particularly in terms of legibility of handwriting. While some census takers were very careful in spelling of names and clearly documented individuals in the census, others were sloppier. In the latter, the descriptions of occupation and name are almost illegible. The ability to read the census record biases the historical data set. In addition, much of the 1890 census record was accidentally destroyed in a fire in St. Louis in 1921 (Ancestry.com 2016). There is also the possibility that people lied to census taker at the time, which distorts the historical record (Ancestry.com 2016). Finally, the census record can also contain inaccuracies. For example, in the 1880 census, Gilbert Collins appears twice, once at Fort Laramie and then again in Omaha, Nebraska (U.S. Census Bureau 1880).

Secondary Resources

Secondary resources address historical events, people, or topics after the fact. Some of the strengths of secondary resources are that they provide background information on a time period, culture, or area. While primary resources capture the perspectives of people witnessing the event, secondary resource contextualize the event with a broader historical understanding. In addition, secondary resources synthesize information from a variety of different primary sources. These syntheses provide an overview perspective on historical events. From a practical standpoint, many secondary resources present information collected from hard-to-access libraries and archives, and as a researcher it is cheaper and easier to access the secondary resources than the primary ones. One of the weaknesses of secondary resources is that the primary information is filtered through the author's mental lens, and this creates a bias in the research. Hence, it is always important to critically assess the author's credibility and reliability.

For this dissertation, several secondary resources were consulted on Victorian culture and Fort Laramie history. Research on Victorian culture is an excellent example of how secondary resources provide information not contained in primary sources. Individuals living in the 19th century did not describe themselves as

Victorians, but historians have, after the fact, labeled the cultural changes at the time as "Victorian culture." The time period, events leading up to Victorian culture, and syntheses of Victorian culture, all come from secondary resources written by historians. Secondary resources on Victorian culture provide a contextualization of the period and traditions, which would not necessarily emerge only looking at primary resources. For example, there are several primary resource cookbooks, such as Mary Henderson's *Practical Cooking and Dinner Giving* (1877). These primary sources describe the method of preparation and presentation for food, but the source by itself does not convey information on the cultural movement in home baking that occurred during the Victorian era. Technological changes during the Victorian era made home baking comparatively easy, including the creating of baking powder, improved ovens, and access to packaged gelatins (Broomfield 2007). Home baking gave Victorian social climbers a way to emulate their social superiors, but without much of the expense. Cookbooks became very popular as the demand for home baking increased (Broomfield 2007). Secondary sources provide the background information on the changes in cultural trends, and how the primary source cookbooks fit into the broader understanding of Victorian culture.

3.5.4: Internal Criticism Case Study – Spotted Tail's Daughter's Grave

For all of the primary resources examined for this dissertation, it is important to apply the principles of external and internal criticism (Wood 1990). External criticism is the process of assessing the authenticity of the source, and making sure it is not a fake document. Internal criticism assesses the credibility of the author of the source, and whether the author might be biased. This is done by checking the temporal proximity of the author to the event in the writing, determining who was the audience for the writing, and determining if that person could competently determine what was being done at the event (Wood 1990). External and internal criticism was applied to all historical resources, but the best way to demonstrate the technique is through an example. The necessity of internal criticism of historical documents in regard to the burial of Spotted Tail's daughter is an excellent example of the method used in this dissertation. The burial of Spotted Tail's daughter occurred in 1866 and quickly became the substance of legends. By the 1880s, the story of Spotted Tail's daughter and the burial was drastically different than the descriptions of people giving firsthand accounts. Internal criticism emphasizes the importance of witnesses' accounts compared to authors writing after the event, and the below example shows why.

The burial of Spotted Tail's daughter is an important moment of peace during Bozeman War (1866–1868). The Bozeman War was a fight between northern Native American tribes, including Brulé Sioux, and the military over the illegal migration of Euroamerican miners through Sioux hunting grounds in northern Wyoming Territory. Spotted Tail was one of the great chiefs during the Bozeman War, which is why this story is particularly historically significant. In the spring of 1866, Spotted Tail's 17-year-old daughter became very ill. There is no complete consensus on his daughter's name, but most sources suggest it was Fallen Leaf (Griske 2005) or Brings Water (McChristian 2008). For many years, the Brulé Sioux lived next to Fort Laramie in peace, and Spotted Tail's daughter grew up on the fort grounds. She was always very fond of the fort, and when she became ill, she requested to return to Fort Laramie. While war waged in the north, Spotted Tail took his daughter back to Fort Laramie. Unfortunately, she died en route. When the party approached Fort Laramie on March 8, Colonel Maynadier and several officers road out to ceremonially greet them. As a gesture of friendship, Colonel Maynadier invited Spotted Tail to lay his daughter to rest on a hill overlooking Fort Laramie and had the soldiers construct a scaffold for her (McChristian 2008). The funeral took place the next day, and was attended by Spotted Tail's party, Colonel Maynadier, his officers, and other civilians who wanted to pay their respects. Spotted Tail's daughter was wrapped in deerskin and a red blanket before being placed inside a decorated wooden coffin. Two white ponies were sacrificed, and their heads and tails marked the four corners of the scaffold. "On the head end the head of her favorite white pony was nailed and its tail was nailed on the other end to 'travel with her to the Happy Hunting Ground.' In the box were placed the trinkets and ornaments she wore when alive" (Collins 1970:153). John Hunton, a local rancher, wrote,

> Major O'Brien [post commander] placed a pair of white kid cavalry gloves in the coffin to keep Fallen Leaf's hands warm on her lonely journey to the other world, and also a new dollar bill with which to buy food along the way. Then the Indian women came up, one by one, and talked to her in long, earnest whispers - - - doubtless messages for her to carry on their own departed loved ones. And each put something she might need beside her body --- a bit of mirror, a string of beads, some little token (Griske 2005:95).

After the coffin was nailed shut, the soldiers fired a final salute of three volleys (Griske 2005). Later that year, France Carrington described visiting the site.

> On our return I visited the small Indian cemetery. A burying-ground, in the ordinary sense, would literally mean nothing to one of these Indians. I came upon what had been the burial *place* of a chief's daughter. The receptacle for the body was a platform erected on four poles and the tails of her favorite ponies that had been slain were tacked to the posts. This was all that remained to tell the story. Their idea is that ponies would be ridden after reaching the Happy Hunting Grounds. Articles used by the dead during life, or furnished by the generosity of friends are considered necessary to the comfort or appearance of the dweller in the future life (Carrington 1990[1910]:59).

Her grave remained on the hillside until 1875, when she was moved to her final resting place in the Black Hills, Dakota Territory (Griske 2005; McChristian 2008; Collins 1970). This was just before the Great Sioux War in 1876. The post trader, John Collins hosted Spotted Tail and his interpreter, Spotted Tail's son-in-law, to dinner prior to the relocation of the coffin.

> Spot' said to me, 'My daughter was buried here where my Indians lived and many of our children were born. We traded here; the young men played their games, raced their ponies and our Great Father's people (the soldiers) were good to us. Now that has all passed and we want our dead at one place. I came to take my daughter to my agency on Beaver Creek" (Collins 1970:153).
>
> The next day "the bones and trinkets were placed in a new box lined with stars and striped calico, covered with Indian cloth, nailed on with brass tacks, in all of which the commanding officer and other officers, including Post Surgeon Hartsuf, assisted and directed with decorum befitting the occasion. The box was placed in the wagon and they drove away to the agency (Collins 1970:154).

John Hunton, a neighboring rancher, related a similar story, but stated the reason for the relocation of grave was because the post surgeon had removed the skeleton for display in the hospital. Once word reached Spotted Tail, he returned to the Fort to collect his daughter's remains. The post surgeon quickly placed the bones back in the coffin, and removed all evidence that the grave had been tampered with (Griske 2005).

While firsthand accounts describe the relocation of Spotted Tail's daughter in 1875, there are several descriptions and a photograph of "Spotted Tail's daughter's scaffold burial" in the 1880s. So, how is this possible? Two possibilities emerge. Either a scaffold burial belonging to someone else was passed off as Spotted Tail's daughter, or there was a fake gravesite constructed at Fort Laramie after Spotted Tail's daughter remains were relocated in 1875. Firsthand accounts from the 1866 to 1875 are very consistent with each other. However, descriptions of the scaffold during the 1880s are very different than the firsthand accounts. Descriptions of Spotted Tail's daughter's grave in the 1880s largely came from tourists and visitors. Rose Pender, a guest at the Rustic Hotel, stopped to see Spotted Tail's daughter's grave in 1883. She wrote,

> The coffin is placed on four poles about 7 ft. high, and the corpse is left for the birds to pick at. The winds of heaven scatter the poor garments abroad; but it is sacred so far that no hand touches anything. It all moulders away. We climbed up and looked in, but only the bones and some beads remained of the poor Indian maiden (Pender 1978 [1888]:65).

This is a stark contrast to the firsthand accounts of the burial, which described the coffin as being decorated and nailed shut. An 1880 photograph shows two travelers visiting the scaffold burial (Figure 3.12). The coffin in the photograph is very plain, and a *Bos taurus* skull is fixed to one of the scaffold polls. There is a branch placed on the side of the scaffold to allow people to climb up to view the remains. Despite the photograph being cited numerous times by scholars as being Spotted Tail's daughter's grave, it is very unlikely.

Figure 3.12: "Spotted Tail's Daughter's Grave" in the 1880. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

In addition, the story told about Spotted Tail's daughter's death changes in the 1880s. While firsthand accounts in the 1860s describe how she died from illness, by the 1880s the story became highly ethnocentric and racially stereotypical. Rose Pender describes the yarn told to her.

> Some years ago a young American officer, shooting in Indian territory, fell in with a party of Indians. As they were friendly and inclined to assist him in his search for game he remained with them for some time. Spotted Tail was the chief – a great brave – and Spotted Tail's daughter was the fairest maiden of the tribe. Needless to say the young

> officer made a deep impression upon her young heart. Possibly she mistook the natural courtesy and kindness with which he treated her for a warmer feeling. Indian women are not accustomed to gentle treatment at the hands of their lords and masters. When, at the end of his expedition, the young officer returned to his camp at Fort Laramie he left a desolate heart behind. Twice did the poor girl endeavour [sic] to follow him, and twice was she stopped and brought back. At last she managed to escape, and set off on foot in search of her love. How she contrived to trace him no one can tell; but some two months after she left her tribe she reached Laramie, in a state of utter exhaustion, during a heavy fall of snow. Poor thing! in spite [sic] of her efforts she never looked on the loved face; her strength failed, and she fell exhausted on the summit of the small hill overlooking the Fort. She was not discovered for a few days, when life, was of course, extinct. Her father and some of his tribe, who had followed her, with the hope, no doubt, of effecting some arrangement with the officer, only came in time to perform the funeral ceremonies. She was buried, or rather laid out, in her open coffin, on the spot where she died, a sad example of misplaced love and devotion (Pender 1978 [1888]:66).

The change in story for Spotted Tail's daughter emphasizes why a historian needs to be aware of perspective and timeliness in historical writings. If the researcher only drew upon stories from the 1880s, the historical interpretation would be completely different than relying upon those in 1866. Currently, several historians inaccurately cite the 1880s photograph as "Spotted Tail's daughter's burial."

CHAPTER 4: FOOD AT THE RUSTIC HOTEL

4.1 INTRODUCTION

Little is known about hotel experiences and meals in remote areas, and how nationwide Victorian hotel standardization appeared in these hotels. While urban hotels could easily standardize Victorian experiences, hotels in remote regions did not have the same access to resources, and often took on unique attributes. Hotels were one of the first buildings erected in a new town or area, and their establishment made settlement of the region easier. The purpose of these hotels was to cater to recent migrants, and once the region was colonized, these hotels vanished. These settlement hotels were affordable to the traveling public, quick and easy to build, and disposable (Sandoval-Strausz 2007). In permanent towns, these hotels were more durable than those along stagecoach lines. Settlement hotels along stagecoach lines rarely developed into permanent buildings, and disappeared with the stagecoach line. As a result, very few settlement hotels along stagecoach routes survive today. In addition, these early hotels are relatively unexplored in historical analyses. These hotels never appeared in the widely disseminated guidebooks of the time, and the advertisements for these hotels specifically targeted a local audience in newspaper ads. Photographs of settlement hotels are rare. In addition, few documents described meals served at these hotels, and the author can find no menus from the time period. Typical descriptions for food served along the Cheyenne–Black Hills stage line (1876–1887) were “good” or “bad,” but never discussed in great detail. Hence, no records directly described the meals served at hotels along the Cheyenne–Black Hills stage line or in remote settlement hotels. Food was a crucial part of the Victorian hotel experience

(Sandoval-Strausz 2007), and an analysis of the conformity of dining experiences on the frontier can inform researchers on the robustness of Victorian standardization in remote areas.

4.2: HOTEL STANDARDIZATION

The word *hotel* did not exist in the English language until the 1760s. Prior to hotels, travelers commonly stayed in small and generalized lodging venues, such as inns or taverns (Penvsner 1976; Sandoval-Strausz 2007). In contrast to an inn, hotels were large, in some cases housing several hundred people (Penvsner 1976). Accommodating a large group of travelers required some creative design, and hotels emerged as a unique architectural building type in the early 1800s (Penvsner 1976). By 1860, hotels were the most common lodging venue, and census takers replaced the occupation of "innkeepers" with "hotelkeepers" (Sandoval-Strausz 2007). While hotels appeared around the world, in the United States they achieved a sense of luxury not matched elsewhere. As one English traveler wrote:

> An American hotel is to an English hotel what a seventy-four is to a jolly-boat, or . . . "an elephant is to a periwinkle" . . . It is (in the chief cities) as large as any two of our club-houses fused together, as roomy as Buckingham Palace, and not much inferior to a palace in its internal fittings. It has ranges of drawing-rooms, suites of private rooms, vast staircases, and interminable layers of bedchambers (American Hotels and American Food 1861:345).

In the 19th century, for the first time in history, hotels became a common part of American life, meeting the demands of the rapidly expanding country. Between 1800 and 1853, the United States more than doubled in size by incorporating all land west of the Mississippi River and Florida. During these same years, the U.S. population more than quadrupled in size, going from approximately 5 million to 23 million (U.S. Census Bureau 1800; 1850). Hotels satisfied the demands of the growing country by providing temporary lodging and regular meals for recently arrived immigrants, businessmen, tourists, newlyweds searching for a permanent home, migrants traveling cross-country, and many others (Aron 1999; Penvsner 1976; Sandoval-Strausz 2007; Wilson 1982).

Because of the guest diversity in the early 1800s, several different hotel types emerged, each catering to different clientele. Sandoval-Strausz (2007) defined seven different hotel types that appeared in the United States: luxury hotels, commercial hotels, middle class hotels, marginal hotels, resort hotels, railroad hotels, and settlement hotels. Each hotel type possessed unique architecture, provided guests with different amenities, and specifically catered to different types of travelers (Sandoval-Strausz 2007).

During this time, stagecoach hotels in remote areas gave little consideration to creating a pleasant experience for guests. On his cross-country stagecoach trip in the 1850s, Sir Richard Burton noted the extreme variety of experiences in hotels along the route, including brothels and a hotel that made the "ruder sex" (men) sleep in the barn (1990[1862]:92). These stagecoach hotels provided few amenities and lacked quality sleeping quarters for travelers. One traveler wrote that "the public . . . was the last thing thought of" (Burton 1990[1862]:92). That being the case, travelers often received poor meals at these establishments. "After half an hour's dispute about who should do the work, they produced cold scraps of mutton and a kind of bread which deserves a totally distinct generic name. The strongest of stomachs of the party made tea, and found some milk which was not more than one quarter flies" (Burton 1990[1862]:30).

Prior to the Civil War, stagecoaches were the only public cross-country transportation, and they did not provide a desirable experience. Stagecoach trips were unreliable, as they did not follow standardized itineraries. In addition, stagecoach drivers were often reckless. Stagecoaches broke down an average of twice a week, and were often involved in wrecks (Sutton 1980). As Sir Burton described on his cross-country trip, "Our conductor had sprained his ankle, and the driver, being in plain English drunk, had dashed like a Phaeton over the 'chuck-holes;' we willingly, therefore, halted at 11 30 [sic] A.M. for dinner" (Burton 1990[1862]:27). A French nobleman wrote of his visit to New Orleans, "I must repeat again and again that the American stage coaches are untrustworthy, and often an insult to common sense . . . to pass from a steamboat to a stage, especially in bad weather, is to descend from paradise to hell" (Sutton 1980:34).

Transportation systems and hotels maintained a symbiotic relationship, and as railroads expanded across the country after the Civil War, as discussed in Chapter 3, hotels followed alongside (Sandoval-Strausz 2007). Hotels depended upon the expanding railroad network to deliver passengers, and railroads relied on the hotels to provide meals and lodging. Railroad companies built resorts and hotels along their lines to increase ridership and profit from the increased travelers (Aron 1999; Sandoval-Strausz 2007). Hotels also housed and fed railroad workers that repaired and maintained locomotives along lines (Sandoval-Strausz 2007).

The publication of hotel and railroad guidebooks in the 1870s made travel easier for the middle-class family, dramatically increasing countrywide trips. Travel books along with railroad guides meant that entire trips could be planned out before departure, including timing and expense (Aron 1999). Guidebooks listed hotels found throughout the continental United States and world. Books, such as *Statia's Hotel List Guide* (1875) and *Boyd's Hotel Directory* (1872), contained drawings of hotels, city population sizes, seasonal closures, expense, and distance between towns on the railroad line. Similar hotel guidebooks remained a popular method of planning trips in the United States until the 1960s (Sandoval-Strausz 2007).

By the 1870s, increased travel linked the hotel network, and travelers expected standardized experiences (Sandoval-Strausz 2007). Standardized experiences included architecture, room layout, amenities, and food. Hotel architecture provided public gathering areas, such as lobbies, drawing rooms, and parlors to accommodate social interaction between guests (Sandoval-Strausz 2007). As one tourist wrote, "The more colonels the better. The more pretty ladies the gayer. Half the pleasure is in the excitement which proceeds from the great number of persons collected together" (Sutton 1980:33).

One of the principal ways of standardizing a hotel experience was through the food, since the majority of guests ate at the hotel (Sandoval-Strausz 2007). The standard hotel rate in the United States included both room and board with no discounts for meals taken elsewhere (Sutton 1990; Pevsner 1976; Sandoval-Strausz 2007). The European plan of charging rates for rooms and meals separately was not common in American hotels until the mid-twentieth century (Sandoval-Strausz 2007).

Hotels typically served three meals: breakfast, dinner, and supper (American Hotels and American Food 1861). Breakfast occurred at seven, eight, or nine o'clock (American Hotels and American Food 1861: 352). American breakfasts were a substantial meal, compared to French and English breakfasts, which were informal (Henderson 1877:33). Dishes consisted of a protein, such as fish or beefsteaks, along with a starch, such as flapjacks or cornbread (American Hotels and American Food 1861: 352; Maass 1982). Coffee was one of the most important parts of the American breakfast. "More coffee is consumed in this country than in any other under the sun" (Whitehead 1893:14). Regardless of time, dinner was the largest meal of the day (Carroll 2013). In the 19th century, dinner started no later than two and lasted until four at most American hotels (American Hotels and American Food 1861: 348; Whitehead 1883). It was not until the late 19th century that dinner became an evening meal to accommodate factory workdays and urban business trends (Carroll 2013). Hotel dinners consisted of several courses, usually beginning with soup, then fish, followed by boiled or roasted meats, then entrées, followed by a vegetable course, and lastly pastries and desserts (American Hotels and American Food 1861:348; Carroll 2013; Whitehead 1883, 1893:23). Supper was the last meal of the day, served around 10 pm. Known as a "fragmentary meal," dishes were similar to breakfast, such as fried trout, oyster soup, tenderloin steaks, and leftover meats from previous meals of the day (Whitehead 1893:37; 1901). In hotels where the heavy dinner meal occurred at night, a lighter lunch meal was served mid-day (Carroll 2013). The lunch menu was very similar to supper in content (Whitehead 1883).

4.3: CHEYENNE–BLACK HILLS STAGECOACH HOTEL EXPERIENCE

During the summer of 1874, Lt. Col. George Armstrong Custer led a military intelligence expedition through the Black Hills, and discovered the presence of gold, triggering a cascade of events ultimately leading to homesteading of the region (Hedren 1988). The events leading to the illegal Euroamerican homesteading of the Black Hills in 1875 and 1876 is further developed in Chapter 2. In the fall of 1875, the city of Cheyenne fronted money to improve a roadway from Cheyenne to the Black Hills, and a private stage line quickly followed the announcement (Spring 1949). People flooded to the Black Hills in 1876. Captain James Gillis, Quartermaster of the U.S. Army at Cheyenne Depot, stated in January that, "miners are leaving here every week by the hundreds for the gold regions of the Black Hills" (Griske 2005:70). On February 3, 1876, the first Cheyenne and Black Hills Stage, Mail and Express coach left Cheyenne (Spring 1949), marking the opening of the Cheyenne–Black Hills stage line.

While stagecoach lines maintained a symbiotic relationship with hotels, similar to railroads, stagecoach companies did not invest in buying hotels. While railroads dictated city locations and constructed hotels, stagecoaches, a much smaller enterprise, stopped at places of convenience, as was the case along the Cheyenne–Black Hills stage line. Stagecoaches stopped at already established family ranches that opened hotels (Spring 1949). As a Cheyenne newspaper stated, "Good ranches are found on every stream where the traveler can always procure food and shelter for himself and beast at reasonable prices" (CDS, 6 May 1877). From Cheyenne to Fort Laramie, the hotel stops included: Nine Mile Ranch; Schwartze Ranch at Pole Creek;

Fagan's Ranch at Horse Creek; Bard's Ranch; Armiji's Ranch at Bear Springs; John (Portugee) Phillips Ranch; Hunton's Ranch / Bordeaux; "Hi" Kelly's Ranch also called Chug Springs; Eagle's Nest; and Ecoffey and Cuny's Ranch three miles outside Fort Laramie (*Cheyenne Weekly Sentinel* [CWS], 19 Feb 1877*;* Spring 1949). After leaving Fort Laramie, ranch-hotels were much sparser. These included Brackenridge's Ranch, six miles north of Fort Laramie, and Jack Bowman's Ranch at Hat Creek, which was the busiest stage stop on the road because of the remote location (CWS, 19 February 1877). The Rustic Hotel was the only hotel located at Fort Laramie, and it was the only hotel built independent of a previously established family ranch.

Stagecoaches stopped at an assortment of these establishments throughout the trip to change horses and drivers, and to provide passengers with a meal or lodging. Horses were changed approximately every ten to sixteen miles, which was the usual distance between the ranches (CWS, 19 February 1877). Most of the ranches built separate buildings to act as their hotel, and did not lodge people in their residence. As the newspaper discussed, "Mr. Kelley's hotel is the finest along the route, and would do credit to any city. His home residence is situated about half a mile above the hotel and store" (*Cheyenne Weekly Leader* [CWL], 6 April 1882). Independent travelers, those not riding the Cheyenne–Black Hills Stage, would also stop at these hotels to spend the night and let their horses rest in the barn (*Cheyenne Daily Leader* [CDL], 26 Jan 1876).

Hotels along the Cheyenne–Black Hills stage line, like other settlement hotels, were ephemeral and quickly constructed out of wooden materials. This was in contrast to urban hotels or military buildings at Fort Laramie, which were built out of stone and other hardier materials. For example, at Fort Laramie, the post trader's store was built of stone and mortar, and the post trader's hotel was made out of wood (Talbott 2010). Most of the hotels were only one story tall, but the occasional hotel was two (Griske 2005). These accommodations were usually small, and had only a few rooms. For example, Michael Fagan's ranch hotel was composed of only nine rooms. However, the number of rooms did not dictate how many people stayed at the hotel. Frequently, travelers laid a bedroll on the floor of the common living room in the hotel (CWS, 19 February 1877). During a blizzard in 1876, 250 travelers stayed at Fagan's hotel seeking shelter (Griske 2005). Independent travelers often stayed in barns or camped on ranch lands near the hotel. Jack Bowman built large barns for people and animals to stay in at Hat Creek (CWS, 19 Feb 1877). A newspaper article remarked that Ecoffey and Cuney's Ranch, three-miles outside Fort Laramie, had "the best camping ground on the Laramie and provide accommodations for all that may call at their place" (CDL, 10 July 1875).

Stagecoach hotels served a variety of functions to the area besides lodging and board for travelers. Many of these hotels, including the Rustic Hotel, had an associated stable, livery, and store for local ranchers, stagecoach drivers, and soldiers (CDL, 31 March 1876; 1881-1884 Ledger for Cheyenne–Black Hills Stage Co. Rawhide Buttes Store, Stage Station, Headquarters, Telegraph Office, Post Office, Wyoming State Archives, Cheyenne [WSA]). In addition, the Rustic Hotel, and many other stagecoach hotels, acted as voting places and locations for political debates (CDL, 18 June 1889; WW, 30 October 1896).

Food played an important role in establishing a hotel, and proprietors hired full-time chefs to prepare meals for guests. Male chefs were most commonly hired at hotels throughout the country (Sandoval-Strausz 2007), including ranch hotels. Women were hired as household servants, household cooks, and occasionally ranch cooks, but there was never a record of a woman chef at a ranch hotel (Adams 2009; Grierson 1989; Griske 2005). Immigrants were preferentially hired as chefs, because it was believed they were better cooks (Sandoval-Strausz 2007). American cooking was not well established in the 19th century, and many of the hotels were expected to serve French dishes (American Hotels and American Food 1861: 349; Whitehead 1883). Even in Cheyenne, the "French Restaurant" at Dyer's Hotel was highlighted in newspaper advertisements (CDL, 21 Nov 1876, pg.1). The Rustic Hotel was no exception. The Rustic Hotel hired a "first-class" chef to serve meals to travelers (CDL, 30 Oct 1881). In 1880, Joseph Stroub, the Rustic Hotel's chef, was from the country of Baden, located in the western part of modern Germany (United States Census 1880).

While every stagecoach trip was slightly different, below is an example of a typical journey from Cheyenne to Custer, Dakota Territory, in January 1877 (CWS, 19 Feb 1877). First class tickets were purchased in Cheyenne at the stage office for thirty-five dollars. Twenty-five pounds of baggage was free, but additional weight was twenty cents per pound. Stagecoaches left at various times throughout the day, and during the peak season, coaches ran 24 hours. "It was a first class coach, of the old overland style, than which [sic] there is none other more comfortable or easy to ride in; and I will here say that the coaches on the whole line are of the same kind; the teams are good; and most of the distance they run six horses to each coach" (CWS, 19 Feb 1877). A heavy dinner meal was typically served mid-day, and hotels provided a lighter supper when the coach stopped for the night around 5 pm. The same hotel served breakfast in the morning, sometimes as early as 4 am. A typical supper, night's lodging, and breakfast cost $1.50 to $2, about the same price of a toothbrush sold at the hotel store (1881-1884 Ledger for Cheyenne–Black Hills Stage Co. Rawhide Buttes Store, WSA). As one passenger wrote:

> The table was not lacking for plenty to eat. Some were furnished with beds, but the most of us, having blankets with us, made our bed on the sitting room floor, and as pipes and cigars were soon laid aside, the smoky atmosphere settled down, and slumber made us oblivious to the surroundings until 4 o'clock in the morning, when we were aroused for breakfast. Having partaken of this meal, and paid our bill (one dollar and a half), we again got aboard the coach, and at peep of day were on the road (CWS, 19 Feb 1877).

As travelers got closer to Dakota Territory, the number of soldiers camped at the ranches increased. The trip consisted of four days of travel, and three nights sleeping in hotels. On the fourth night, the stagecoach pushed through the most dangerous territory to arrive in the Black Hills, sometimes in the middle of night.

The Cheyenne–Black Hills stage ran between 1876 and 1887. By 1887, the demand for the stagecoach had greatly diminished because of railroad lines connecting the Black Hills to the rest of the country (Spring 1949). These railroads did not follow the stagecoach route, and the ranch hotels lost much of their purpose.

4.4: THE RUSTIC HOTEL

John S. Collins, the Fort Laramie post trader, built and opened the Rustic Hotel March 15, 1876 on the military reserve behind his store (CDL, 9 March 1876) (Figure 4.1). Various Wyoming newspapers articles advertised the hotel under several names, including: “The Rustic,” “Rustic House,” and “Collins Hotel” (CDL 31 March 1876; *Wyoming Weekly Leader* [WWL] 26 Feb 1876 Feb 26, pg. 1). The Cheyenne *Daily Leader* newspaper article read:

> Mr. J.S. Collins has just opened to the public under the management of Mr. J. H. C. Brown, the “Rustic Hotel,” at Fort Laramie. The house is entirely newly constructed, and furnished from cellar to garret new throughout. The manager will accommodate all with clean beds and first-class meals. A large corral and ample stabling room are attached to the Hotel. Corn, oats and hay for sale. The “Rustic” is the headquarters of the GREAT BLACK HILLS STAGE LINE. Red Cloud, Camp Robinson and Spotted Tail mail stages also leave this point, crossing the Platte river over the new iron bridge built by the government. The well-sustained reputation of Mr. Collins for enterprise and thoroughness in all he undertakes, and the popularity of the manager, Mr. Brown, are a guarantee to all travelers who will patronize the “Rustic,” that they will meet with the best of treatment at the new hotel (CDL, 31 March 1876).

Presidentially appointed post traders were the only civilians who could own buildings on an active military reserve. The U.S. government owned the nine-by-six-mile military reservation that formed Fort Laramie (Delo 1998). During the hotel’s lifetime, only four individuals owned the Rustic Hotel, John S. Collins, his brother Guilbur “Gil” H. Collins (1876–1880), John London (1880–1888), and John Hunton (1888–1890). In addition to being the post trader, all these men owned and ran successful businesses in different cities and states. The Collins brothers were famous saddle makers, and owned extremely successful livery shops in Omaha and Cheyenne (Collins 1970; Laird 1983). On the plains, a Collins saddle was as good as cash, and could be exchanged for equal or more its value (Collins 1970:109). John London was a lawyer from Denver (*The Cheyenne Sun* [CS], 6 Feb 1881), and John Hunton was a very successful cattle rancher, having several military supply contracts. These contracts included supplying Fort Laramie, Fort Fetterman, and Camp McKinney with wood, hay, beef, charcoal, lime, and freight hauling between forts (Griske 2005).

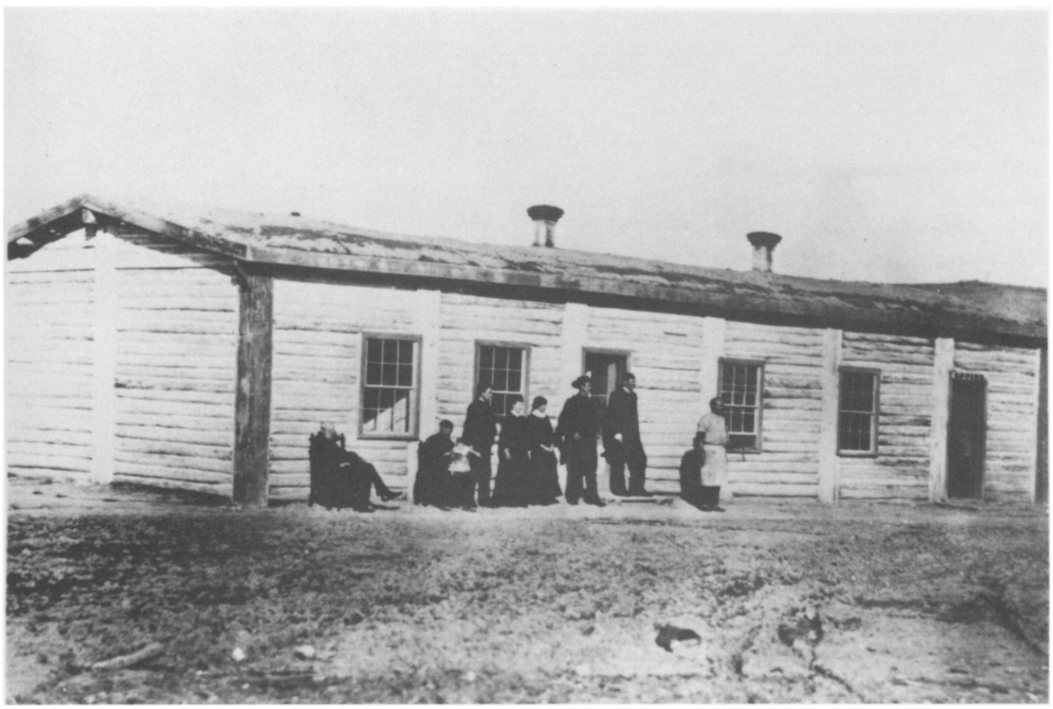


Figure 4.1: East facing photograph of Rustic Hotel taken around 1883. (Property of Fort Laramie NHS.)

As a result, the traders did not run the hotel; rather, proprietors leased the Rustic Hotel from them. These proprietors made all of the daily decisions. Some of the proprietors included: J. H. C. Brown (1876), Ed M. Bloomer (1877–1878), Jacob E. Markel (Bloomer's partner), P.W. Carroll (1879), G. C. Charston (1880), James L. Hogle (unknown time prior to 1881), and Tom Hawk (1881–unknown date). Many of the proprietors were married, and their wives often acted as hostesses (Pender 1978[1888]; United States Census). Many of the proprietors and their families moved to other states or cities after their time at the Rustic Hotel (United States Census Bureau 1880, 1890, 1900, 1910). Some of them stayed in the hotel business. P. W. Carroll moved to Cheyenne with his family where he became the proprietor of the Opera House Restaurant in 1883 (*Cheyenne Directory 1883*). James L. Hogle moved to Running Water (near Lusk), Wyoming, and opened a hotel and bar in an unrelated Collins Hotel (*The Democratic Leader* [DL], 10 June 1884). Consistent with national trends, the proprietors of the Rustic Hotel were mostly American or Canadian (Sandoval-Strausz 2007; United States Census Bureau 1880, 1890, 1900, 1910). Only two were immigrants, one from Hanover, Germany, and the other from Ireland. The rest of the proprietors hailed from New York, Missouri, Illinois, and two from "English speaking" Canada (United States Census Bureau 1880, 1890, 1900, 1910).

The Rustic Hotel was a single-story wooden structure located just below Fort Laramie's hospital in a floodplain (Figure 4.2). There were three areas in the hotel, including the kitchen, main room, and a wing of bedrooms. Attached to the hotel was a large stable. The Rustic Hotel kept several unattached cellars and pigpens in the vicinity. The close proximity of the hotel to the Fort Laramie drinking water created public health concerns for the Post Surgeon. In 1886, the Post Adjutant Charles Warden wrote the Post Trader John London saying:

> [T]he Commanding Officer directs the removal of all corrals, stables, pig pens, etc. from the vicinity of the Hotel and that the grounds adjacent to the Hotel, including prairies, be thoroughly cleaned up and disinfected and kept so in the future. All offal from the vicinity will be taken to the dumping ground used by the Post (Ehrenhard 1972).

Figure 4.2**:** North facing photograph of Rustic Hotel taken in 1883, Tom Hawk and wife proprietor. Stables are on the left, the main room is in the center, and the private bedrooms are on the right extension of the building. The flood plain is clearly visible in this photograph during high water. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

The Rustic Hotel attracted a wide variety of guests, from European aristocrats to transient gold miners. The hotel was known for housing "distinguished wayfarers" (Mattes 1988:228), such as Count Kissmyasski and Hans Van Dunderblinken of Berlin on November 9, 1876 (1876, Rustic Hotel Guest Registry, Fort Laramie NHS Library). In addition, several miners stayed at the hotel. As one writer stated, "The hotel is filled with miners and mining speculators, not to speak of a number of stock men who are going to and from their ranches" (CWL, 6 April 1882).

The few historical descriptions from visitors reported that the hotel had more flash than substance. In one traveler's report, they stated that at the Rustic hotel " we got more style than grub, all for one dollar each" (CWS, 19 February 1877). In 1883, an English aristocrat touring the American West, Rose Pender, related her uncomfortable experience at the Rustic Hotel.

> We halted at a neat little road ranche at Fort Laramie, where we got good supper and bed rooms for ourselves . . . I did not quite like the look of the bed the good woman had provided for our night's repose, with its dingy sheets; and as it was quite chilly, I wrapped myself in my fur cloak, and lay down outside the bed clothes. I had not slept an hour before a disagreeable sensation aroused me, and I knew my tormentors were about. Springing up, I lighted my candle. Ugh! the [sic] whole place swarmed with horrid little bugs; they were running about, and getting back into the chinks of the wooden walls as fast they could, alarmed by the light. Of course, sleep was out of the question for me . . . I went into the sitting room and tried the little horsehair sofa; but this was no better than my bed, as the horrid creatures lived in the wooden walls, and came out as soon as I was quiet. Eventually I carried out the least uncomfortable seat I could find, and, wrapped in my cloak, spent the remainder of the night *al fresco*. And a long and weary time it seemed till day broke, when I ventured in again and had an hour's blessed sleep on the sofa, only disturbed at last by the good woman of the house, who came to light her stove, and was greatly surprised at finding me dressed and asleep on the sofa, and none the less so when I explained why, as somehow the people who live in these wooden houses either get used to the infliction or escape it altogether. Anyway, whenever we halted for the night at a road ranche I always made my bed up outside, preferring mosquitos or even snakes, to the odious inhabitant of the red wood huts (Pender 1978 [1888]:67).

The bugs that disturbed her sleep were most likely bed bugs, which were a "prominent feature of Fort Laramie" (Boos 1860:8).

The Rustic Hotel remained active until it was accidentally burned down on Saturday April 19, 1890. "There were some twenty guests in the house who escaped, but some lost a part of their clothing. Its [the fire's] origin is unknown" (*Cheyenne Weekly Sun* [CWS], 26 April 1890, pg. 5). At the time of the fire, the Rustic Hotel belonged to the last post trader, John Hunton, who had purchased the hotel from John London in 1888 (CDL, 12 June 1888; Talbott 2010). John Hunton purchased the majority of Fort Laramie buildings at auction in 1890 with the intention of preserving them for future generations (Mattes 1978; Talbott 2010). While Hunton owned the building, he primarily lived on his ranch between Cheyenne and Fort Laramie (Griske 2009). Joseph and Mary Wilde rented the Rustic Hotel at the time of the fire. In an interview with Mary Wilde, she stated that, "They had been there only two weeks when the hotel burned to the ground" (Ehrenhard 1972:8).

After the Rustic Hotel burned down, Joseph Wilde opened a 20-room hotel in the former cavalry barracks called the Wilde Hotel. In contrast to the Rustic Hotel, the Wilde Hotel provided public spaces including a saloon, dance hall, shoe-shine shop, and store (Talbott 2010). They also hosted well-known July 4th and Christmas masque balls (WW, 6 December 1895; WW, 10 October 1896; WW, 30 October 1896).

4.5: FOOD AT THE RUSTIC HOTEL

While food played an important role in creating a standardized experience in urban hotels, little is known about the dishes served at stagecoach hotels in the late 19th century. These hotels did not print menus and did not leave many historical documents directly describing the dishes served to guests. In the absence of a complete historical record, zooarchaeological analysis was used to fill the gaps. Zooarchaeological analyses targeted research questions pertaining to the role of wild game in the diet and the meat cuts served to travelers. These variables were chosen because previous archaeological studies have demonstrated their importance (Rockman 1995; Schulz and Gust 1983). Previous archaeological analysis of late-19th-century faunal remains at South Pass City, Wyoming, demonstrated that wild game played a significant role in the diet of miners (Rockman 1995). In contrast, urban hotels served their guests the finest quality of meat cuts, and relied upon domestic animals for most dishes, introducing wild game only as a novelty (Schulz and Gust 1983; Whitehead 1884). Analysis of faunal diversity and meat cuts from the Rustic Hotel allowed researchers to investigate whether the Rustic Hotel served standardized Victorian hotel dishes or dishes constant with mining towns in the Wyoming region.

Table 4.1 presents the data for NISP, MNI, and biomass for the different taxonomic categories. Out of the 823 identified specimens (NISP), domestic animals make up the majority of the collection (403 NISP); while wild animals represent a relatively small portion (50 NISP; Figure 4.3). Elements that could not be identified as wild or domestic, such as sheep/pronghorn or cattle/bison specimens (61 NISP), were excluded from the following discussion. Unidentifiable bones due to fragmentary nature represent 38% of the remains (310 NISP). Fifty-percent of the assemblage has human modification, which is all all butchery related except for one polished bone (Figure 4.4). Elements associated with offal are missing, and were most likely discarded into the Laramie River (Ehrenhard 1972, 1973). Most of the faunal remains came from a cellar that acted a dumping ground for the kitchen (Ehrenhard 1972). While a few burned faunal remains originated from the kitchen, the majority of faunal remains from the cellar where unburned (21% lightly burned, 73% unburned). Bones were protected in the cellar area as evidenced by the relatively few animal modifications to the bone (3% modified) and low amount of sun-bleaching (6% sun-bleached). The most common natural modifications are related to building collapse (10% iron stained) and burial (38% root etched).

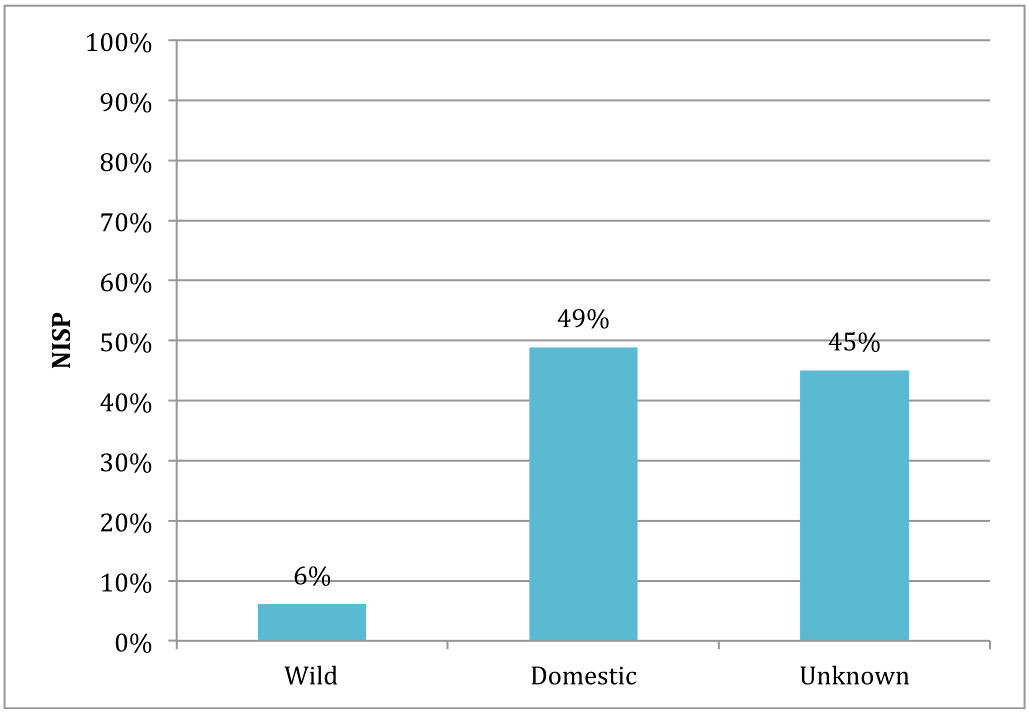


Figure 4.3: The Rustic Hotel collection categorized into wild animals, domestic animals, or undeterminable groups (NISP = 823).

Table 4.1: Results from Rustic Hotel faunal analysis including taxonomic list, NISP, MNI, and biomass.

Rustic Hotel: Species List

			MNI			
Taxa	Common Name	**NISP**	**#**	**%**	**Weight, g**	**Biomass, kg.**
Osteichthyes	Indeterminate bony fish	1	1	2.6	0.22	0.009
Anatidae	Swans, geese and ducks	1	1	2.6	0.93	0.019
Anas platyrhynchos	Mallard Duck	2	1	2.6	1.76	0.034
Meleagris gallopavo	Turkey	2	2	5.1	28.91	0.436
Gallus gallus	Chicken	11	2	5.1	22.15	0.342
Mammalia	Indeterminate mammal	13			33.21	0.615
Mammalia	Small mammal	1			0.33	0.010
Mammalia	Medium mammal	41			102.43	1.696
Mammalia	Medium / large mammal	116			309.26	4.585
Mammalia	Large mammal	138			1188.05	15.394
Lepus sp.	Jackrabbits	4	2	5.1	17.66	0.349
Thomomys sp.	Pocket gophers	8	1	2.6	0.55	0.015
Canidae	Canine	1	1	2.6	0.35	0.010
Carnivora	Carnivore	1	1	2.6	0.70	0.019
Odocoileus hemionus	Mule deer	1	1	2.6	10.90	0.226
Antilocapra americana	Pronghorn	23	3	7.7	680.01	9.317
Ovis/Capra/Antilocapridae americana	Sheep/Goat/Pronghorn	11	2	5.1	175.63	2.755
Ovis/Capra/Antilocapridae americana/ Odocoileus	Sheep/Goat/Pronghorn /Deer	11	2	5.1	141.55	2.269
Bison / Bos	Cattle / Bison	41	5	12.8	2295.62	27.850
Bison bison	Bison	4	2	5.1	522.16	7.346
Bos taurus	Cattle	314	5	12.8	13009.86	132.697
Ovis / Capra	Domesticated sheep / goat	22	2	5.1	387.66	5.618
Sus scrofa	Pig	44	2	5.1	483.40	6.853
Equus caballus	Horse	12	1	2.6	2218.19	27.003
Total		823	37	94.9	21631.49	245.468

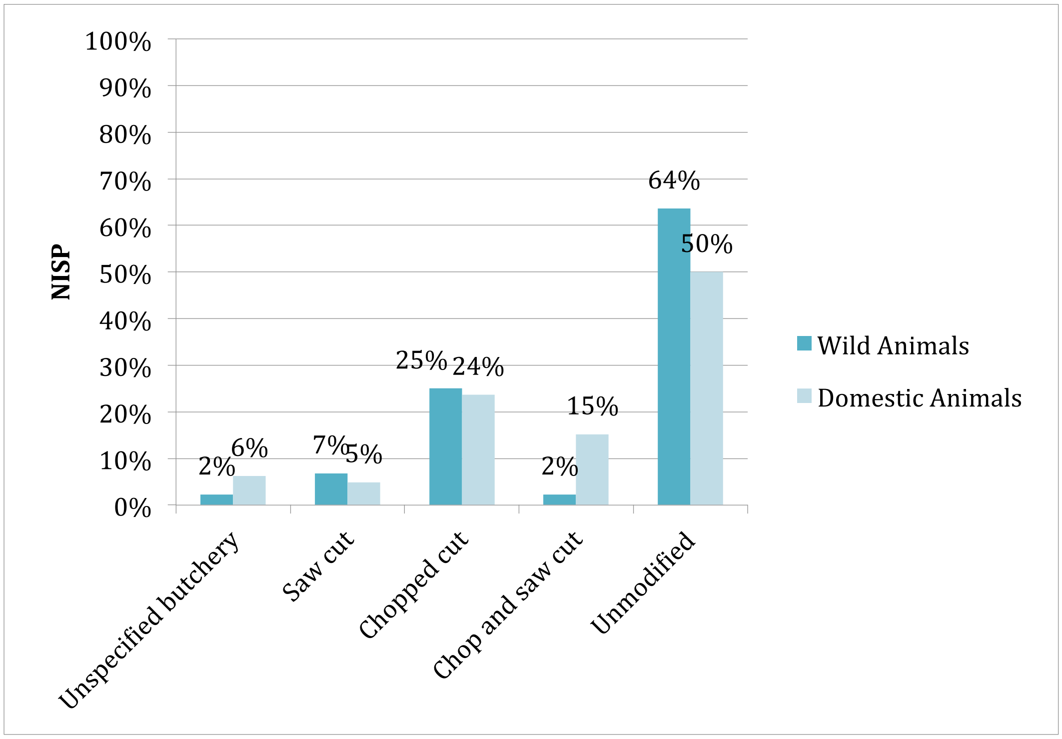


Figure 4.4: Butchery for Rustic Hotel collection (Domestic Animal NISP=224; Wild Animal NISP=44).

Cattle (*Bos taurus*) represent the most abundant animal in the assemblage, approximately 38% (Figure 4.5). In addition, many of the unidentified large mammals (NISP 138) are most likely cattle, but could not be positively identified. The heavy use of cattle in the diet is understandable given Victorian tastes and the regional availability. The Rustic Hotel was in the heart of cattle country in the 19th century (Larson 1978), and beef was the best-tasting meat according to travelers (Burton 1990[1862]). Hotels were popularly known for serving steaks throughout the country. One guest in an eastern hotel remarked at the opening of a new hotel restaurant, “Ha! Now we shall be able to get a good, *thick* steak, a steak that is a steak, and that is what I have been wanting a long time” (Whitehead 1884:267).

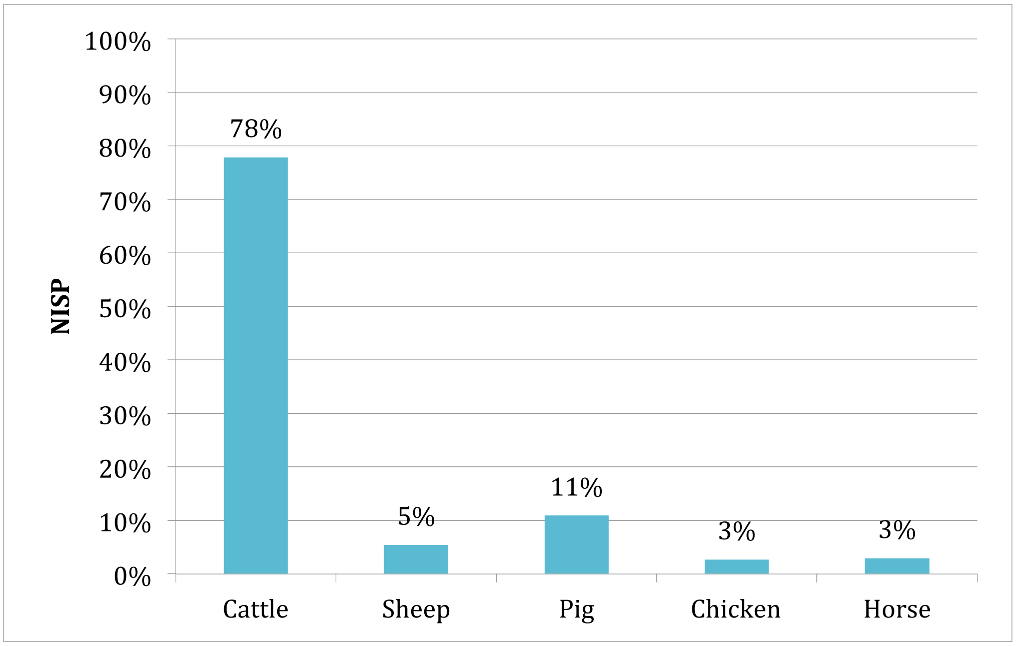


Figure 4.5: Domestic animal species in the Rustic Hotel assemblage (NISP = 403).

In keeping with national trends, thick loin beefsteaks were one of the foundational dishes served at the Rustic Hotel, accounting for 77% of steak cuts in the assemblage (Figure 4.6). The average loin steak thickness in the collection is 1.021 inches, which was a generous slice. Serving loin cuts made economical sense because the majority of travelers would enjoy it for any meal of the day. As Whitehead advised hotel proprietors, "The largest tray is for beef, for with all its faults, they love it still . . . and of the whole number one half take beefsteak. In other words if you have one hundred persons it is safe and expedient to prepare fifty individual beefsteaks" (1884:282). In addition, beefsteaks could be cooked and served in a variety of ways, so it could be prepared differently for each meal (Whitehead 1884). "The beefsteaks should be varied, for instance, one morning with a tomato sauce, another *a la maî tre d'hôtel*, or with a brown sauce, or garnished with water-cresses, green pease, fried potatoes, potato-balls, etc." (Henderson 1877:34). Chefs often trimmed the fat and bones from the steak before serving (Whitehead 1884). The cook at the Rustic Hotel most likely did the same, which explains the concentration of steak cuts in the kitchen refuse. The Rustic Hotel served its guests the highest quality of beef cuts, just like contemporaneous urban hotels in cities like San Francisco (Schulz and Gust 1983).

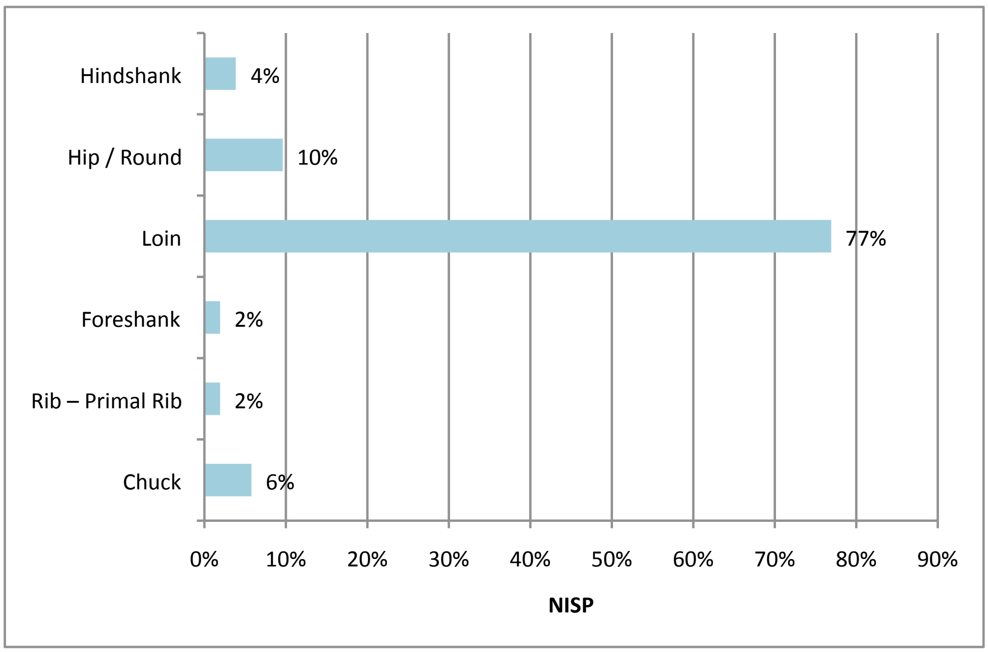


Table 4.6: Steak cuts on *Bos taurus* bones from Rustic Hotel (NISP = 52).

Both beef rib ends and short ribs were popular dishes throughout the country, including the Rustic Hotel. Beef ribs accounted for 33% of the cattle meat cuts there (Figure 4.7). The short rib was the "choicest roast" (Whitehead 1884:284), and rib ends were "in demand fully equal to the supply of that cut" (Whitehead 1884:283). Chefs cooked ribs for a long time in a pan, and then served them with gravy (Whitehead 1884:283). Rib steaks, while done, were not as well liked as other cuts. "The poorest eating, unless the beef itself be fat, of what are called first-class steaks are cut from or close to the ribs . . . but these, cut thick and not beaten, form the staple 'loin steaks' at many restaurants" (Whitehead 1884:270).

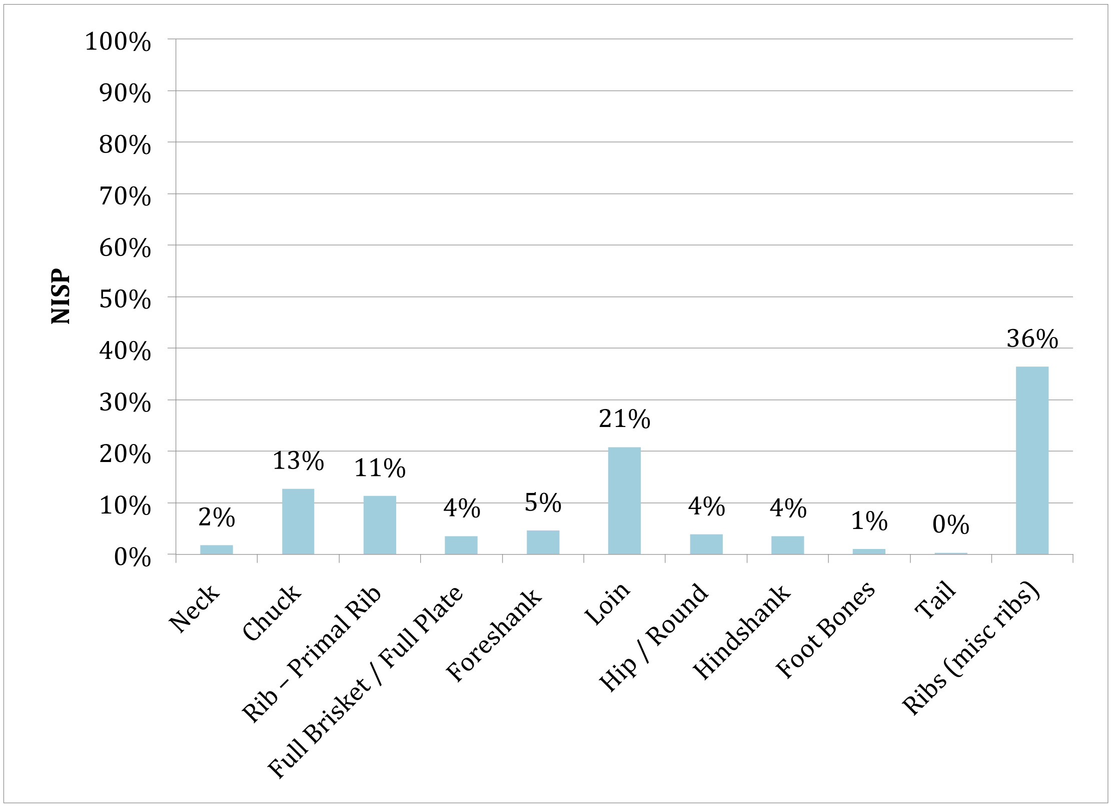


Figure 4.7: Cattle meat cuts from Rustic Hotel (NISP = 283).

In addition to being the preferred meat at time, cattle were locally abundant. Cattle was king in Wyoming in the 1880s, and many herds were concentrated in the southeast corner of the state, near Fort Laramie (Larson 1978). Ecologically, the seemingly endless grasslands of Wyoming made ideal grazing country. Cattle born in Texas were driven up to Wyoming to fatten up on the rich grasslands (Rollins 1979). The close proximity of the Union Pacific Railroad in Cheyenne made shipping the fatted cattle to Chicago for slaughter easy (Griske 2005). Cattle herds stretched across the plains of Wyoming. As Rose Pender left Fort Laramie, she wrote, "Such rich pasture, and herds of cattle grazing . . . The cattle were wild, and fled as we came near" (Pender 1978[1888]:68).

Pigs (*Sus scofa*) are the second most abundant mammal in the collection, and reflect local availability rather than traveler's preferences (Figure 4.5). The Rustic Hotel kept pigs for food (Ehrenhard 1972, 1973), but as a national trend, pork was out of fashion. "As 'times change and men change with them,' fresh pork has gone out of fashion, being no longer the favorite kind of meat it was twenty years ago, unless it may be in a few remote localities" (Whitehead 1884:178). Pork was comparatively "wasteful," and did not provide as much meat to feed travelers as the tastier alternative beef. A "fat bacon hog, which will hardily yield five pounds of meat for the plates out of the twenty-five, even after the butcher has made a show of taking off the thickest of the lard from the outside" (Whitehead 1884:178). Approximately 47% of the bones are unfused or fusing, suggesting primarily juvenile pigs were slaughtered for consumption. The determination of age for the pigs is discussed in Chapter 3.

Sheep (*Ovis ares*) are the sparest domesticated animal in the collection despite the nationwide popularity of mutton, which was "next in demand" after beef (Whitehead 1884:282). While sheep (caprine) and goat are difficult to differentiate skeletally, sheep were far more abundant in historical records (Larson 1978). The relatively few caprine remains are most likely a product of the relatively weak sheep rancher presence in the area (Larson 1978). Cattle dominated the Wyoming landscape until the devastating winter of 1886–1887, which decimated the cattle industry and allowed sheepherders to gain a foothold in the state (Larson 1978).

Cooks prepared mutton similarly to beef, and it was usually served with a sauce, such as mint sauce (Whitehead 1884:284).

Chickens (*Gallus gallus*), and their eggs, were considered a luxury treat on the plains, and the remains are fairly rare in the collection (Figure 4.5). "The one greater favorite than beef is chicken . . . and eggs at the first incoming in spring" (Whitehead 1884:282). Chicken was versatile, and could be boiled, roasted, or even turned into chicken salad (Whitehead 1884). Capon, a young castrated male chicken, was also popular (Whitehead 1884:280). Eggs were a core component to many hotel breakfast dishes (Whitehead 1884). Eggs could be fried, poached, boiled, scrambled, "shirred" (baked without its shell), or cooked into an omelet (Whitehead 1884). Eggs, however, were a rarity in the West, and a dozen would sometimes cost $1.50, which was the same price as supper, breakfast, and a night's lodging at a hotel (Roe 1981 [1909]). Chickens were hard to keep on the plains because of the extremely cold winters, the relatively short egg-laying season, and nearby predatory carnivores (Roe 1981 [1909]). As one officer's wife wrote, "It is so cold here that chicken roosts have to be covered with strips of blanket and made flat and broad, so the feathers will cover the chickens' feet, otherwise they will be frozen" (Roe 1981 [1909]:232). It is doubtful that the Rustic Hotel kept chickens. Historical documents described pigpens and horse stables at the hotel; however, there was no mention of a chicken coop (Ehrenhard 1972, 1973). Obtaining eggs and chickens at the Rustic Hotel was most likely difficult, but not impossible. At Fort Laramie, the post surgeon's wife raised chickens and sold the eggs (FLNHSL 1881: McDermott File [MF] February, Medical History, Carolos Carvallo, Assistant Surgeon).

Similar to urban hotels, the Rustic Hotel introduced occasional wild meat into the diet, but it was not a staple. Wild game was thought to be a novelty for travelers, but was not equal in taste to domestic animals (Whitehead 1884:277). While domestic animals were usually covered with sides and sauces, wild game was served plain (Whitehead 1883). In resorts and large hotels, proprietors introduced an occasional pronghorn, bison, venison, alligator, bighorn sheep, elk, or bear into the menu for a sense of regional cuisine and to provide travelers a unique experience (American Hotels and American Food 1861; Whitehead 1884). For an example, Whitehead (1884:277) writes, "Who buys a bear buys a curiosity, something for the guests to talk about and be pleased with . . . It is ordered very generally in addition to the usual meats, to be tasted and ventured upon carefully rather than to be actually eaten." Wild game was also sparse in the Fort Laramie region. As one soldier stationed there said, "Game is not very abundant in the immediate vicinity of the post; there are antelope and deer a few miles out but buffalo are scarce in this vicinity" (Giddens 1978:311).

In terms of butchery patterns, there was a slight difference between wild and domestic animals (Figure 4.4). Wild animals were primarily chopped, while domestic animals were mostly sawed. However, the difference in butchery could be more related to element distribution differences. Hindlimb (64%) and forelimb (28%) elements primarily represented the wild animals, while axial elements (71%), mostly ribs, vertebrae, and innominates, represented the domestic animals, primarily cattle (Figure 4.8).

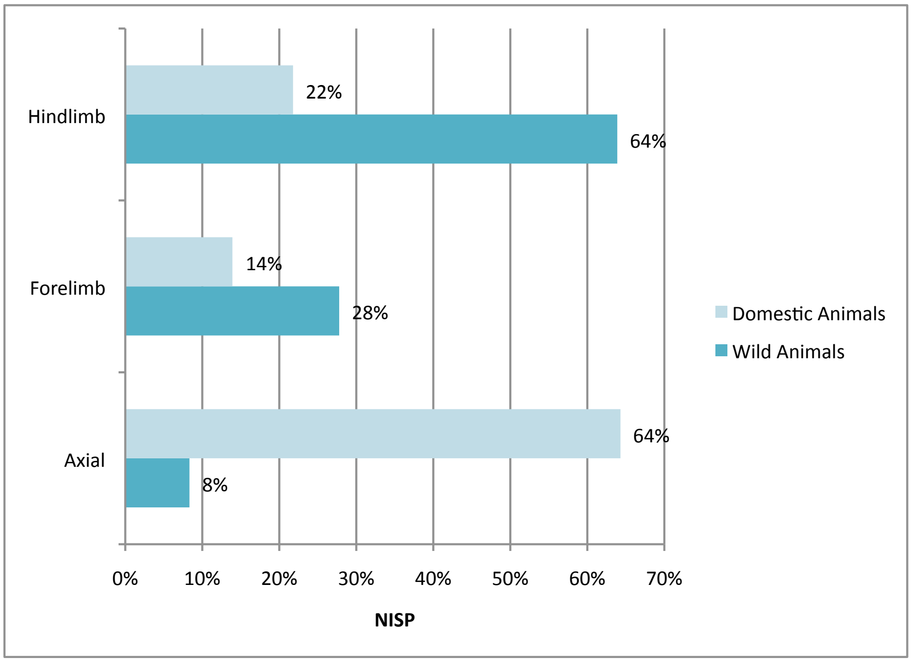


Figure 4.8: Identified elements distribution in wild and domestic animals in the Rustic Hotel collection (Domestic Animals n=381; Wild Animals n=36).

As reflected in the remains, pronghorn (*Antilocapra americana*) were the most abundant native fauna in the region, and it was regarded the best tasting wild game by travelers (Table 4.1).

> Those who think the highest pitch of excellence in meat is excessive tenderness should be happy with antelope, which is tender even to softness. However, the meat has a peculiar musky flavor and little or no fatness, and is but little called for after the first day or two of novelty. Only the hind quarters are used. Cut it into steaks to broil or fry, or roast and serve with jelly or game sauces (Whitehead 1884:277).

Consistent with Whitehead's recommendation in his book *American Meat Cooking* (1884), the majority of remains from the Rustic Hotel were from the hindquarter (70%).

Bison (*Bison bison*) were reportedly nonexistent in the region (Boos 1860; Hafen and Young 1984[1938]), but two bison are represented in the Rustic Hotel collection. Bison and cattle are skeletally similar, and the two animals were butchered likewise, complicating differentiation between the two. "[Bison should be] cut up the same as beef, into tenderloin, loin, round and rib roasts" (Whitehead 1884:277). The diagnostic bison elements came from metapodials. Bison meat resembles beef, but was considered inferior in taste. "Buffalo more nearly resembles beef than anything else, but is not so good. It is ordered by most people while still a novelty, but not sought after" (Whitehead 1884:277). One traveler wrote that bison was "the worst and driest meat, save elk, that I have ever tasted; indeed, without the assistance of pork fat, we found it hard to swallow . . . The voyageurs and travelers who cry up the buffalo as so delicious, have been living for weeks on rusty bacon and lean antelope" (Burton 1990[1862]:49). Indeed, only mountain men wrote about enjoying the taste, "their flesh is much superior to beef, in flavor, and is remarkably easy of digestion" (Farrow 2000[1881]:199).

While not common in the assemblage, visitors consumed jackrabbits (*Lepus* sp.). People enjoyed hunting jackrabbits for sport, usually while on horseback with the aid of dogs (Roe 1981[1909]:16). Rabbits could be broiled, boiled, baked in a pan, and stewed. When served, a sauce or butter was paired with the jackrabbit (Whitehead 1884).

Travelers dined on occasional wild birds, including mallard duck (*Anas platyrhynchos*) and turkey (*Meleagris gallopavo*). In the Fort Laramie region, hunting wild geese and ducks was a common activity (Boos 1860). Mallard ducks often visited cultivated fields, which made them easy to hunt, and sold for $2 to $3 per dozen in cities (Whitehead 1884:292). Mallard duck, "being naturally tender," was roasted for less time than common wild ducks (Whitehead 1884:293). Ducks were often stuffed and served with brown gravy (Whitehead 1884:293). Wild turkeys were favorite game in the West, and was "something rare and valuable" due to the overhunting of the bird (Roe 1981[1909]:85). Wild turkey was superior in taste to domestic turkey, and cooked in an oven to highlight the natural flavors (Whitehead 1884). "Wild turkeys sometimes weigh as high as 25 pounds each, and even more . . . Wild turkeys should not be stuffed as long as they are a rarity in any place and there is a curiosity to taste the natural flavor unalloyed with herbs and seasonings" (Whitehead 1884:289).

Fish was most likely served to travelers, but was underrepresented in skeletal remains. Only one unidentified fish vertebra was found in the faunal remains, but the region was full of local fishing opportunities. The Rustic Hotel was on the Laramie River, which had pike, catfish, pickerel, sturgeon, suckers, and red horse (Boos 1860). A soldier stationed at Fort Laramie wrote, "Fish are plenty and easily caught both in the Laramie and Platte rivers, they are mostly catfish and pike" (Giddens 1978:311). Fishing was a popular sport for local residents (Farrow 1855), and was a common part of the American hotel diet (American Hotels and American Food 1861; Whitehead 1883). In a luxury hotel dinner, fish was one of the typical six courses served at every meal (American Hotels and American Food 1861; Whitehead 1883). The charred nature of the vertebra was most likely a product of the kitchen fire, and not preparation (Ehrenhard 1973). The preferred fish cooking method was steaming.

"I cannot say I think the Americans cook fish very well, for it is always sodden and insipid, —at least at hotels, where they use steamranges" (American Hotels and American Food 1861:349).

Interestingly, despite a local abundance of rattlesnakes (*Crotalus viridis*), no skeletal remains were found at the Rustic Hotel. As John Hunton said about walking around Fort Laramie, "it paid a man to keep his eyes and ears open" (Griske 2005:49). In 1872, the Wyoming territorial Governor killed four rattlesnakes on the road to Fort Laramie from Cheyenne (Larson 1978:197). Absence of snake remains could be a result of excavation technique, or that rattlesnakes were not consumed. Rattlesnakes were not considered appropriate for Euroamerican consumption and thought only to be desperation food for Native Americans (Farrow 2000[1881]:224).

In addition to the above faunal remains, a horse, intrusive pocket gopher, and a canid (member of the dog family) were found in the collection. The Rustic Hotel acted as a changing station for horses along the stage line, and horses were kept in the attached stable (Ehernhard 1972; Spring 1949). Finding part of a horse (*Equus caballus*) skeleton is unsurprising, as is the intrusive pocket gopher (*Thomomys* sp.). The canid species was most likely coyote or dog. Coyotes were common in areas of human habitation because they were "attracted by the carcasses of cattle" (Burton 1990[1862]). At a ranch hotel outside Fort Bridger, Wyoming, "the sleep of the party was disturbed by the coyotes, close to the door, whose dismal howls poured into our ears all through the night" (Mattes 1988:68). Dogs were also common around forts, as elaborated in a later chapter, this specimen could be from a pet dog.

4.6: CONCLUSION

Investigations at the Rustic Hotel reveal that frontier hotels along stage lines during the late 19th century conformed to national Victorian hotel food expectations. The hotels along the Cheyenne–Black Hills stage were often small, quickly built, and lacked many of the material culture comforts of urban Victorian hotels. However, food created a sense of comfort for travelers. The Rustic Hotel heavily relied upon domestic animals, primarily cattle, and introduced this occasional wild game animal. Wild game was a novelty provided to travelers, and was not a substitute for domestic animals in hotels. One British traveler wrote, “wild flesh was never known to be equal to tame” (Burton 1990[1862]:49). Travelers expected hotels to introduce occasional wild animals to a menu for atmosphere, but never a substitute for domesticated animals (American Hotels and American Food 1861; Whitehead 1884). Pronghorn was the most frequently consumed wild animal, partly because it was the most abundant wild game in the area (Griske 2005). Pronghorn was also the least offensive wild game to travelers. As one traveler wrote, “Like other wild meats, bear, deer, elk, and even buffalo, antelope will disagree with a stranger; it is, however, juicy, fat, and well-flavored” (Burton 1990[1862]:67). Those who permanently lived on the High Plains grew to like wild game, mainly as a way to diversify their diet. As an officer’s wife wrote, “Their [pronghorn] meat is tender and most delicious after one has learned to like the ‘gamey’ flavor” (Roe 1981[1909]:39).This is in contrast to contemporary settlement towns, such as South Pass City, Wyoming, where miners heavily relied on wild game (Rockman 1995).

Meals were an important part of a stagecoach trip. Travelers had supper and breakfast at the same establishment where they spent the night (CWS, 19 February 1877). Adhering to Victorian dining expectations, a large dinner was preferably served in the early afternoon while the stagecoach changed horses (CWS, 19 February 1877). On the road north of Fort Laramie, there were fewer hotels that could accommodate travelers for a mid-day dinner (Spring 1948), and people often had a packed lunch from the previous stage establishment to eat on the go (CWS, 19 February 1877). Travelers voiced displeasure of having a packed lunch, but it was a necessity in remote regions (CWS, 19 February 1877). In such cases, the hotel where the stagecoach stopped for the night served a larger dinner (CWS, 19 February 1877).

The impact of Victorian standardization in hotels could be felt in frontier regions, and travelers remarked on the improved state of accommodations in just over forty years. In the 1830s, Frances Trollope traveled America in a stagecoach and complained that,

> The stages do not appear to have any regular stations at which to stop for breakfast, dinner and supper. The necessary interludes, therefore, being generally impromptu, were abdominally bad. We were amused by the patient manners in which our American fellow travelers ate whatever was set before them, without uttering a word of complaint or making any effort to improve it, but no sooner reseated in the stage than they began their complaints – ' 'twas a shame' – ' ' twas a robbery' – ' 'twas poisoning folks' – and the like. I, at last, asked the reason of this and why they did not remonstrate? 'Because, madam, no American gentlemen or lady that keeps an inn won't be bear to be found fault with' (1832:314–315).

The advancement and standardization in hotels within forty years created a comparatively enjoyable traveling experience for those on the Cheyenne–Black Hills stage. “[W]hen we came to the supper table, the grumblers had no more to say, as we sat down to a feast – such a repast as travelers rarely see. Among the passengers one spoke of the excellent bread, another of the coffee, another of the tea, another of the roast, etc.” (CWS, 19 February 1877). In contrast to the unpleasant travel conditions on stagecoaches in the 1830s, by the 1870s, the hotels were equivalent with those associated with the railroads. As one Cheyenne–Black Hills stagecoach traveler remarked, “Having been well fed and well rested on the route, I did not feel any more tired than to have ridden the same length of time in a Pullman car” (CWS, 19 February 1877).

CHAPTER 5: CREATURE COMFORTS: HUMAN–DOG RELATIONSHIPS ON FRONTIER FORTS

5.1: INTRODUCTION

Dogs provided companionship and a sense of family on isolated military forts on the western frontier. While a large social divide separated officers from enlisted men, pet dogs were a commonality to everyone on the fort. Pet dogs were one of the few pleasures for those living on the frontier. As one enlisted man wrote, "The liking of man for dumb brutes is intensified in a faraway, remote garrison" (*Buffalo Gap Republican* [BGR], 21 March 1891:4). Dogs thrived at forts, and often became synonymous with the establishment. "The fondness of soldiers for dogs is proverbial; and many frontier military posts might well, from the number and variety of the canine species, be mistaken for dog-breeding establishments" (Dodge 1877:97). The high grass of the plains covering the fort area was sometimes a blessing because it "hid the numerous deposits left by dozens of dogs" (Grierson 1989:72). Despite dogs' ubiquitous presence in 19th-century fort life, little research has been published on the subject. This study provides researchers with a cultural and historical understanding of dogs at military forts, and how Victorian cultural ideas of pet ownership spread to remote regions of the frontier.

Pet dogs provide a unique window into human relationships and social status. While material culture was limited on the frontier due to the few supply shipments of luxury goods, dogs were abundant at forts, and could be obtained by both officers and enlisted men. Since both groups could physically obtain a dog, differences or similarities of pet ownership can reveal information about status differences in the frontier military.

The modern idea of pets arose in the Victorian Era (Grier 2006), and studying the treatment of pets on the frontier provides a unique opportunity to study Victorian culture on the frontier. While the keeping of pets has a long history, many of the characteristics attributed to the modern idea of pets arose in the Victorian Era. In the 19th century, the word "pet" became commonly used to describe an animal that was treated differently than other animals (Grier 2006). With such a broad definition, several different kinds of animals were categorized as a pet at the time. Pets included cats, fish, squirrels, and birds, but the most popular was the dog. Many pets took on human attributes, and were often photographed as members of the family (Grier 2006). As Euroamericans settled in the West, they brought Victorian notions of pet ownership with them.

Dogs at forts were mentally divided into two categories: curs and pets. Curs, the stray dogs, were often met with mistrust, and mentally segregated from pets. As one author wrote, "Every strange and unattended canine found wandering on the Range was prejudged to have had murderous intent, and was sentenced and executed at sight. This, however, does not imply that the puncher might not have had his own pet dog wagging its tail at the ranch-house" (Rollins 1997[1922]:42). These dogs often multiplied until they became a pest and were exterminated. "At the sound of the bugle every dog would set up a howl, until at times the nuisance would become epidemic, as it were, and a special order be issued to exterminate all those running loose on the parade ground" (McConnell 1996[1889]:132). In contrast, pet dogs were spared execution, given regular meals, and engendered a sense of family. While there were differences in the treatment of the pet dogs of officers and enlisted men, dogs brought a sense of stability and comforts of home to everyone. As cavalryman H. H. McConnell wrote, “The amount of property . . . in a military camp in time of peace is something wonderful . . . every soldier accumulates a complete domestic establishment, including household pets, such as cats, prairie dogs, squirrels, and the inevitable dog” (McConnell 1996 [1889]:136).

In addition, dogs occupied the liminal space between the masculine frontier and feminine civilization. While officers used hunting dogs to engage in masculine activities in the wilderness, at home, dogs were members of a family and part of a civilized home life. The ability of dogs to move between masculine and feminine spheres make them interesting subjects because they reveal lifestyle differences between men and women at forts. While both men and women interacted with dogs, their perceptions and writings about the pet dogs were drastically different. Men wrote about dogs in the masculine context of hunting, while women wrote about dogs as beloved family pets and being part of the family. Thus, dogs demonstrate that, even on the plains, men focused their attention on masculine activities outside of the home, and women concentrated on creating a household and family.

The following paper addresses similarities and differences in pet ownership depending on social status at military forts. Dogs played different roles in the lives of officers, officer’s wives, and enlisted men, but also created a type of equality amongst those living at forts. Individuals of different social status also related to dogs differently. While officers used dogs for hunting, enlisted men did not engage in sport hunting and did not require a well-bred hunting dog. They instead would bond as a collective to adopt a mongrel dog and would take communal responsibility for the animal. For enlisted men, a pet dog served as a constant companion for a company, and usually traveled with that company through campaigns and relocations.

5.2: OFFICERS: DOGS ON THE HUNT

Officers owned well-bred hunting dogs, and took great pride and joy in their dog's hunting ability. Military regulations restricted hunting to officers, and only occasionally did enlisted men get permission to hunt (Adams 2009). Owning a hunting dog was a subtle signal of the social divide between the upper-class officers and the lower-class enlisted men. Officers often became avid hunters once stationed in Western forts, and frequently wrote about their hunting expeditions (Custer 1961; Custer 1962; Grierson 1989; Mattes 1988; Merington 1950; Roe 1981[1909]). "Hunting was my only pleasure" (Maury 1894:96). Hunting provided a recreational retreat from the fort, and it created much needed dietary diversity. As an officers' wife wrote, "[A] change in meat we certainly do need here, for unless we can have buffalo or antelope now and then, it is beef every day in the month – not only one month, but every month" (Roe 1981[1909]:39).

Officers and enlisted men engaged in separate class appropriate displays of masculinity, and while dogs were not directly an expression of masculinity, many middle-class masculine activities included dogs, such as hunting. While remote forts had several disadvantages, many officers felt hunting with a fine greyhound was the best part of being stationed in the west. In addition, hunting was a class-restricted activity, and officers engaged in private hunts. George Armstrong Custer would steal away ahead of campaigns to take in a pronghorn chase (Custer 1962). Since officers hunted individually or in a small group, dogs greatly aided in the hunt, and brought great joy to their hunting partners. The military never extended the luxury of individual hunting to enlisted men, who would hunt in groups, and usually supervised by an officer. Hence, well-bred hunting dogs played a large role in officers' activities, but enlisted men never had a use for hunting dogs.

Dogs were the constant hunting companions of officers, and used to hunt every type of prey, including pronghorn, jackrabbits, wolves, coyotes, bison, bears, mountain lions, wild cats, and birds (Custer 1961; Custer 1962; Grierson 1989; Maury 1894; Merington 1950; Parker 1929; Roe 1981[1909]). Hunting large carnivores, such as wolves and wild cats, necessitated a dog, and many hounds became proficient hunters of these animals. As Officer Dabney Maury wrote about his dog, Toots, "a wonderful dog, occasionally too zealous, as when one day he killed a polecat in our kitchen, and we had to vacate the premises for a week" (Maury 1894:126). He wrote of another dog,

> Three times a week in the season we would have the pack [of dogs] to kill a wolf . . . Possum [a greyhound], invariably in the lead, would thrust his long snout between the wolf's hind legs as he closed on him, and toss him over his back, where he would hold him until the rest of the pack came up, when he was soon killed. Sometimes the riders would be up in time to beat the dogs off and tie up the wolf, taking him home for another day's run (Maury 1894:125).

Dogs often accompanied their owners on bison hunts even though they were not instrumental to the kill. Most of the time, the dogs chased bison, but were not able to take one down (Custer 1962). Only rarely did dogs catch a bison. Dabney Maury wrote, “Toots was the only setter that ever lived to take of a buffalo . . . Toots sprang from the carriage where he was having a ride besides the driver, dashed past me, and swung to the [bison] calf while it was yet struggling upon the ground” (Maury 1894:127). In another story, “King,” an English bulldog, attacked a weakened bull. “He sprang at his throat with great courage, fastened upon, and the battle commenced with the column of spectators . . . ‘King’ had been taught never to let go,” and he did not until the bison was shot dead (Carter 1887:93).

Pronghorn was the favorite prey of officers because of the exciting to chase and favorable flavor of the meat. “Those who think the highest pitch of excellence in meat is excessive tenderness should be happy with antelope, which is tender even to softness” (Whitehead 1884:277). Pronghorn also provided great sport because of the speed of the animal. “I had several fine English greyhounds, whose speed I was anxious to test with that of the antelope, said to be – which I believe – the fleetest of animals” (Custer 1962:49).

The favorite dog breed of officers on the plains was the greyhound because it was one of the few breeds that could course pronghorn. Greyhounds are sight hounds, and were at home hunting on the open plains. Hunting with greyhounds brought a great deal of joy to the lives of officers on the frontier, as expressed in numerous writings. “The thing I enjoyed most was hunting with greyhounds” (Parker 1929:24). As another officer wrote, the “sport that gave me great enjoyment was coursing the jack rabbits with my greyhounds” (Clemmer 2004:205). A western traveler observed that, “with a good pack of greyhounds, and in a good running country, where antelope are not too numerous, splendid sport may be had in coursing them" (Dodge 1877:203). Frances Roe wrote that her dog, Hal,

> . . . started after them like a streak, pulling one down . . . and then, not being satisfied, he had raced on again after the band that had disappeared over a hill farther on . . . I ran out to pet him, but drew back in horror when I saw the condition he was in. His long nose and all of his white chest was covered with a thick coating of coarse antelope hair plastered in with dried blood (Roe 1981(1909):128).

Frances Roe loved the fort greyhounds, and wrote several letters to her family about hunting with the hounds. "The tail of the greyhound is his rudder and his brake, and the sight is most laughable when a whole pack of them are trying to stop, each tail whirling around like a Dutch windmill" (1981[1909]:41). Perhaps the most famous greyhound enthusiasts were George Armstrong Custer and his wife, Elizabeth, who owned several (E.Custer 1961; G. Custer 1962).

Officers and their wives always discussed their dogs in terms of hunting breeds, but the breeds of the 19th century were very different than those today. Dog breeds in the Victorian Era were on the verge of being standardized through organizations, such as the American Kennel Club, established in 1884 (Grier 2006). However, these 19th-century standardized dog breeds were very general compared to the specific types seen in the AKC today. Popular types included hounds, setters, pointers, terriers, mastiffs, spaniels, greyhounds, and bulldogs (Grier 2006). While officers and their wives discussed their dogs by breed, such as pointer and setter, a "pure-bred" dog originated from an established hunting line with specific traits, and not a paper registration of the breed through an organization, such as AKC (Mattes 1988; Roe 1981[1909]:49). A "pure-bred" dog was rare, and primarily people in the upper and middle class, such as officers, purchased dogs from maintained bloodlines (Grier 2006). The working-class cowboys cared less about breed, and more about training a dog (Rollins 1997[1936]:42). As one cowboy wrote, if a "dog were small, curly, yellow, thoroughly mongrel in looks, but treated with profound consideration, it would sell, on the instant" (Rollins 1997[1936]:42).

Officers frequently obtained puppies from neighboring ranchers or from fellow officers' hunting lines. Elizabeth Burt's, an officer's wife, experience of obtaining a puppy was a common one:

> One day my husband asked my sister and myself to join him and the baby in a walk to see something pretty. We were taken to a wagon where there were pups and pups. Little white pointers with lemon-colored spots, just old enough to open their eyes. One was picked out for us and carried away in triumph by our baby boy. It was named 'Beauty' and was a great pet with us and became a well-trained hunting dog and faithful companion for her master on his hunting trips, which proved a source of happiness to him for years (Mattes 1988:51).

Frances Roe related a similar story, when she went behind her husband's back, and had their household servant secretly pick up a puppy from a fellow officer's greyhound litter. Or as she put it, "I simply took matters in my own hands and got him!" (Roe 1981[1909]:48). "The next morning when he [the puppy] was brought to me, Faye's face was funny, and after one look of astonishment at the puppy he hurried out of the tent – so I could not see him laugh, I think. He is quite as pleased as I am, now, to have the dog" (Roe 1981[1909]:49).

Only in a few cases were bloodlines officially maintained and documented. The most renowned dog bloodline on the plains belonged to Sir George Gore's hunting dogs. Sir George Gore, Eighth Baronet of Sligo, Ireland, came to the United

States in 1854 on a grand hunting expedition. He traveled with a full complement of four wagons, two three-yoke ox conveyances, 21 French carts, more than a hundred horses, three milk cows, and 14 hunting dogs (Clemmer 2004:220). The party wintered at Fort Laramie, where Gore befriended officers and legendary mountain men, such as Jim Bridger. He and Major Ned Johnson:

> passed the winter month at Ft. Laramie amid this carnival of characters by indulging an interest in dogs. Faithful and loyal, his hounds soon had the run of the post and welcomed all visitors with enthusiastic barks and wags of their tails. The arrival of Sir George proved fortuitous. Natural collaboration with the hunting stock of the Eighth Baronet of Sligo went far to improving Ned Johnson's breed (Clemmer 2004:221).

Dogs from this bloodline were well respected throughout the West. At Fort Union many years later, there was still praise for this bloodline. "Possum was a cross of a breed left with our regiment by Sir George Gore, some years before. He was the tallest and longest dog I have ever seen, and of great fleetness and power. He always led the pack of ten greyhounds" (Maury 1985:125). Similarly, Lieutenant Baldwin's dog Magic was a celebrated greyhound, and produced a well-known bloodline. Frances Roe (1981[1909]:151) said that they were the "greyhounds that have been known at many of the frontier posts as fearless and tireless hunters, and plucky fighters when forced to fight."

For practical reasons, officers preferred dogs from hunting bloodlines because hunting instinct was bred into the dog, and they required very little training. Dog-training manuals were in their infancy, only gaining popularity in the late 19th century (Grier 2006). Little dog training occurred at forts, which resulted in dogs heavily relying on instinct to hunt, and undisciplined dogs usually running amok. "The pack of beautiful greyhounds owned by the cavalry officers . . . unless the dogs were taken on frequent hunts, they would steal off on their own account and often be away a whole day, perhaps until after dark" (Roe 1981[1909]:151). There were many instances of dogs getting into trouble. At Fort Laramie, a dog tore up the payroll, "a rather bad joke" (Hull 1938). Frances Roe recounted tales of misbehavior from her dog, Hal.

> The odor of a broiling beefsteak the other day was more than he could resist, so he managed to get his freedom by slipping his collar over his head, and rushing into the kitchen, snatched the sizzling steak and was out again before Findlay [the cook] could collect his few wits, and get across the room to stop him. The meat was so hot it burned his mouth, and he howled from the pain, but drop it he did not until he was far from the cook. This I consider very plucky in so young a dog! . . . Of course we did not have beefsteak that day, but, as I told Faye, it was entirely Findlay's fault. He should have kept watch on things, and not made it possible for Hal to kill himself by eating a whole big steak! [1981[1909]:62-63].

5.3: OFFICERS' WIVES: DOGS AT HOME

While pet dogs hunted with the husband in the masculine frontier, at home, wives welcomed pet dogs into the feminine sphere of domesticity and household creation. The dualism between masculinity and femininity is played out in Victorian ideas of frontier and civilization. The wild and masculine frontier was juxtaposed with Victorian civilization, defined as orderly, religiously moral, and feminine. Women and families became intertwined with civilization (Plante 1997). Women civilized men by giving them moral guidance, the structure of a family, and by creating a domestic sanctuary in the home (Plante 1997). Wives were thought to be the keepers and transmitters of cultural knowledge, primarily through lessons in religious morality (Cott 1977; Dorre 2006; Hogg 2012; Howe 1976; Plante 1997; Wilkie 2006). As such, women held a sacred position as the moral core of the family, and society held them in very high esteem (Plante 1997). A wife's role became canonized in the Victorian "cult of domesticity" that established the ideal behaviors for upper- and middle-class women (Cott 1977; Dorre 2006; Hogg 2012; Howe 1976; Plante 1997). The wife was responsible for the daily household activities, such as caring for children, supervising household servants, home decoration, and planning social activities (Plante 1997). The husband interacted with the political and economic world, and the wife's responsibility was to create a sanctuary for the husband in a comfortable home (Gay 1998; Plante 1997). The cult of domesticity gave women an important cultural role as the female head of the household in Victorian society.

As the keepers of the household, officers' wives held an important role at military forts, and took their domestic responsibilities very seriously. Women brought a sense of civilization to the frontier. As one Mormon migrant wrote about Fort Laramie, Wyoming, "There is an air of quietness and contentment, of neatness, and taste, which . . . made us feel as if we had found an oasis in the desert" (Hoagland 2004:13). Travelers frequently remarked on the "civilized" appearance of Fort Laramie (Burton 1990[1862]:90). As Sir Richard F. Burton wrote upon staying at Fort Laramie with Colonel B. Alexander and his wife, "We rested and dined in the cool comfortable quarters, with only one qualm at heart – we were so soon to leave them" (Burton 1990[1862]:90). The amount of hosting required of wives was sometimes exhausting, as was the case with Alice Grierson. She wrote her husband saying, “I am social by nature, and believe hospitality to be a sacred duty, and enjoy company, and entertaining guests, to the best of my ability, but I am unwilling to make a martyr of myself for any individual, or any garrison” (Grierson 1989:67).

While dogs contributed to reinforcing masculinity for officers on the hunt, in the home, dogs reinforced a woman’s ability to keep a family and domestic establishment. In the cult of domesticity, a woman was charged with caring for the family and home, including pets. During the 19th century, pet dogs became part of the idealized family, particularly in the upper- and middle-classes (Flegel 2015). Pets were “subsumed within the family as almost human,” and the “Victorian cult of the pet was established” (Flegel 2015:4-5). Within Victorian literature, household pets took on child-like attributes, created a sense of household stability, and completed the “natural family” (Flegel 2015; Grier 2006). As one officer wrote about his setter, “For more than ten years, he was one of my family” (Maury 1894:94). As a result, dogs and pets became integrated into the larger cultural understanding of creating a domestic home life.

Women authors were more likely to mention pet dogs in writings compared to men. While it is hard to quantify this difference, an example of historical bias comes from the writings of Elizabeth and George Armstrong Custer. The Custers kept a sizable group of pet dogs, four to eight at most times (Connell 1985; Custer 1962; Merington 1950:175). While some historians have suggested that the Custers kept more than 200 dogs at one time, they were not all treated as beloved family pets (Associated Press 1987). Most officers usually kept only one or two pet dogs.

Regardless of the exact number, the Custers were definitely dog people. Both Elizabeth and George were prolific authors, but the discussions of their dogs were very different. Elizabeth Custer mentioned their dogs considerably more than George, even though she implied that he liked them more than he liked her (Custer 1961). As she wrote, “Sometimes, when it had rained and all of them were wet, I rebelled. The steam from their shaggy coats was stifling; but the general begged so hard for them that I taught myself to endure the air at last. I never questioned the right of the half-grown puppies to everything” (Custer 1961:42). In fact, her favorite staghound, Cardigan, joined George during his 1874 Black Hills expedition (Custer 1961:262). In instances where the dog was clearly the woman’s pet, such as Frances Roe’s dog, Hal, there would not have been a question that the dog would stay with the woman (Roe 1981[1909]). In this case, the fact that Cardigan joined George on campaign implies that he was the primary bonded individual. Interestingly though, George did not express his feelings of fondness for the dogs in his published writings.

Elizabeth described the dogs in terms of emotions and love, while George wrote about dogs in a very stoic manner in his publications. He also wrote about them in the masculine domain of the wilderness and hunting. Here is a typical discussion of dogs from George’s perspective in *My Life on the Plains*:

> I had several fine English greyhounds, whose speed I was anxious to test with that of the antelope . . . A stirring gallop of a few minutes brought me near enough to the antelope . . . to enable the dogs to catch sight of them. Then the chase began . . . I was able to keep well in view of the exciting chase, until it was evident that the antelope were in no danger of being caught by the dogs, which latter had become blown for want of proper exercise (Custer 1962:49–50).

The only glimpse of George's feelings toward the dogs came from personal letters sent to Elizabeth Custer that she published in Boots and Saddles after his death.

> Regarding the dogs, I find myself more warmly attached to Tuck than to any other I have ever owned. Did I tell you of her catching a full-grown antelope-buck, and pulling him down after a run of over a mile, in which she left the other dogs far behind? She comes to me almost every evening when I am sitting in my large camp-chair, listening to the band or joining with the officers in conversation. First she lays her head on my knee, as if to ask if I am too much engaged to notice her. A pat of encouragement and her fore-feet are thrown lightly across my lap; a few moments in this posture and she lifts her hind-feet from the ground, and, great, overgrown dog that she is, quietly and gently disposes of herself on my lap, and at times with cuddle down and sleep there for an hour at a time, until I become so tired of my charge that I am compelled to transfer her to mother earth; and even then she resembles a well-cared for and half-spoiled child, who can never be induced to retire until it has been fondled to sleep in its mother's arms. Tuck will sleep so soundly in my lap that I can transfer her gently to the ground and she will continue her slumber, like a little baby carefully deposited in its crib. As I write she is lying at my feet. She makes up with no other person (Custer 1961:234).

Female authors often wrote about their dogs with great love and affection, similar to other family members. George Custer wrote about his wife, "Libbie's love for dogs is second only to her affection for horses, those ranking next to her nearest relatives" (Merington 1950:175). As Elizabeth Custer wrote,

> My favorite, a great cream-colored staghound, was named "Cardigan." He never gave up trying to be my lap dog. He was enormous, and yet seemingly unconscious of his size. He kept up a perpetual struggle and scramble on his hind legs to get his whole body up on my lap: If I pieced myself out with a capstool to support him, he closed his eyes in a beatific state and sighed in content while I held him, until my foot went to sleep and I was cramped with his weight (Custer 1961:43).

When Frances Roe was reunited with her beloved dog, Hal, at a train station after a yearlong separation, she was overtaken with emotions as she hugged him.

> [R]aising up full length of the slender body on his back legs, and putting a forefoot on each of my shoulders as far over as he could reach, he gripped me tight, fairly digging his toe nails into me, and with his head pressed close to my neck he held on and on, giving little low whines that were more like human sobs than the cry of a dog. Of course, I had my arms around him, and of course I cried, too (Roe 1981[1909]:163).

Children were closely associated with pet dogs, and women usually wrote about the family dog as an occasional baby sitter. Ellen McGowan Biddle, wife of Colonel James Biddle, wrote about her son Nick and his beloved setter, "Tip."

> [T]he Colonel arranged for the dog to sleep in the adjoining room to mine. I had no nurse and when we went to the sutler's for dinner, after the little ones were asleep, the Colonel would say: 'Come, Tip, and take care of the children.' He would lie down by their little beds and at a sound he would be up and bark. They needed no better caretaker. I remember once at Fort Whipple I missed Nick, and opened the nursery door to look out for him. A funny sight met my eye. We used to make hash for the two dogs, Beauty and Tip. Each had his and her own tin pan that it was cooked in. What I saw then was Nick lying flat on his little stomach (he was not two years old), and he and Tip were eating out of the same pan. Another time I found them both playing in the dog's house. They were devoted to each other. Tip was worthless in every other respect, but we always kept him and were fond of him on account of his great love for the children (Biddle 1907:202–203).

As was customary at the time, children at forts received a pet dog to teach responsibility (Grier 2006). Alice Grierson, wife of Colonel Ben Grierson, wrote about their son receiving a gift puppy. "A soldier gave George a pretty little brown puppy for Christmas. George says it is a pointer and thinks a great deal of it" (Grierson 1989:81).

Dogs most commonly appeared in photographs alongside women and children, and in a fairly standard posed position (Talbott 2010; Figure 5.1). This posed position usually consisted of the dog being placed toward the front, frequently near the center of the frame. While an occasional dog moved, during the photograph, most dogs were laying down, even sleeping. Rarely were people interacting with the dog. Usually only one dog was present in a photograph. However, occasionally there were two dogs placed on opposite sides of the picture (Figure 5.2). These composition elements most likely eliminated distractions, and reduced the likelihood of the dog moving during the photograph. Although less common, a group of officers occasionally appeared with a dog. Interestingly, photographs composed of only enlisted men with dogs were extremely rare. Photographs of dogs with enlisted men did not become popular until the military integrated canine units into the service during World War II (Hamer 2001).

Figure 5.1: A group of officers, wives, children, civilians, and a dog in front of the sutler's store at Fort Laramie in 1886. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

Figure 5.2: A group of officers, children, civilians, and two dogs at Fort Laramie in 1864. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

Authors anthropomorphized dogs, and described them with human-like emotions and thoughts. Elizabeth Custer related the following story in her book *Boots and Saddles* (1961).

> In our large pack of hounds there were many that had marked individuality of character. Not many days could be passed in their company before we were noting new peculiarities not previously observed. The general had a droll fashion, as we rode along, of putting words into their mouth when they got into trouble, fought among themselves, or tried to lord it over one another. One of them had been given us, and had been called by her former owner "Lucy Stone". . . I can see her now, sitting deliberately down in the road directly in front of us, and holding up a paw full of cactus thorns. The general would say, "There sits Lucy Stone, and she is saying, 'If you please, sir, since you chose to bring me into a land of bristling earth like this, will you please get down immediately and attend to my foot?" Her howls and upturned eyes meant an appeal, certainly, and her master would leap to the ground, sit down in the road, and taking the old creature in his arms, begin with surgery (Custer 1961:41–42).

Another example came from Frances Roe, who wrote about Lieutenant Baldwin's fine greyhound Magic.

> [Magic] is a sly rascal, too. He loves to sleep on Lieutenant Baldwin's bed above all things, and he sneaks up on it whenever he can, but the instant he hears Lieutenant Baldwin's step on the walk outside, down he jumps, and stretching himself out full length in front of the fire, he shuts his eyes tight, pretends to be fast asleep, and the personification of an innocent, well-behaved dog! But Lieutenant Baldwin knows his tricks now, and sometimes, going to the bed, he can feel the warmth from his body that is still there, and if he says, "Magic, you old villain," Magic will wag his tail a little, which in dog language means, "You are pretty smart, but I'm smart, too" (Roe 1981[1909]:42).

Naming pets was a common practice at the time, and names varied from the human-like to imaginative. Some dogs were simply called "Dog," while Samuel

Clemens gave his dogs unique names, such as “Hash,” “I Know,” “You Know,” and “Don’t Know” (Grier 2006:69). While some officers’ dogs’ names were unusual, such as “Magic,” “Cardigan,” “Blue,” “Tip,” “Deacon,” “Toots,” and “Turk,” many of the dog names were human, such as “Harold (Hal),” “Lucy,” “Jeff,” “Dixie,” and “Peg” (Biddle1907; Custer 1961; Mattes 1988; Maury 1894; Roe 1981[1909]; Steele 1883). One of the most common names for dogs was “Beauty” (Biddle1907; Mattes 1988). Other dogs received names in honor of a famous person at the time. Captain Jesse Gove of the 10th Infantry, stationed at Fort Laramie, was delighted when Major Ned Johnson gave him a pup from his well-bred hunting line, and Grove named the pup “Ned” (Clemmer 2004:220–221).

Pet dogs often spent a portion of their time inside, and occasionally slept with their owners. George Custer wrote to his wife saying, “As I write, the dogs surround me: ‘Cardigan’ is sleeping on the edge of my bed, ‘Tuck’ at the head, and ‘Blucher’ near by” (Custer 1961:262–263). On a separate trip, Elizabeth Custer wrote,

> While we were all getting accustomed to the new climate, it was of no use to try to keep the dogs out of my tent. They stood around and eyed me with such reproachful looks if I attempted to tie up the entrance to the tent and leave them out. If it were very cold when I returned from the dining tent, I found dogs under and on the camp bed, and so thickly scattered over the floor that I had to step carefully over them to avoid hurting feet or tails. If I secured a place in the bed, I was fortunate (Custer 1961:42).

In some cases, having a dog share the bed was practical. A plains’ winter night could be twenty-below, and “the dog gave more protection than hot bricks or a warming-pan” (Ostrander 1924:184). Throughout the country at the time, dogs would occasionally spend nights in bed with their owners, prompting dog training books to advise people to create a separate dog bed (Grier 2006:64). Hal, Frances Roe's dog, had his own dog bed.

> Many a cold night have I been up two and three times to straighten his bed and cover him up. His bed was the skin of a young buffalo, and he knew just when it was smooth and nice, and then he would almost throw himself down, with a sigh of perfect content. If I did not cover him at once, he would get up and drop down again, and there he would stay hours at a time with the fur underneath and over him, with just his nose sticking out (Roe 1981[1909]:197).

Officers and their wives usually hired a servant to take care of the household chores, such as cooking, tending to the family horses, supervising children, and caring for dogs (Roe 1981[1909]; Talbott 2010). While officer's wives preferred female servants, they were highly unreliable since they often married an enlisted man and quit work (Adams 2009; Agnew 2008). As Alice Grierson, an officer's wife, warned, "There is not much safety in bringing servants a long distance, they are pretty sure to be dissatisfied, or to marry . . ." (Grierson 1989:96). Many of the more reliable servants came from marginalized ethnic groups, including freed slaves and Chinese immigrants (Adams 2009; Roe 1981[1909]). However, most officers hired an enlisted man as a household servant for additional pay of "$2.00 to $5.00 per month over the regular pay of enlisted man, of $13.00 per month. These were designated by others of the company as "dog robbers" (Collins 1970:105). Another common term for these men was "strikers" (Adams 2009; Agnew 2008).

"Dog Robbers" and household servants became very attached to the officers' dogs since they physically cared for the animal. Frances Roe relied heavily upon their household servants to care for Hal. When she first got the puppy, she feared not being able to care for it. But she had confidence in her household servant, "for I knew that . . . he would take care of him, even if I could not . . . He [Hal] is fed condensed milk, and I take care of him during the day and Burt [the servant] has him at night" (Roe 1981[1909]:49). Household servants frequently changed, and Frances Roe often judged her servant based on his ability to interact with Hal. When Hal came home after killing an antelope, their servant West, " almost danced from joy when he saw him, and lost no time in giving him a bath and putting him in his warm bed" (Roe 1981[1909]:129). While traveling cross-country on the train, their new household servant Cagey "almost killed himself at every stopping place running up and down with the dog to give him a little exercise" (Roe 1981[1909]:165). When Hal died, Cagey "sobbed and moaned so loud and long" (Roe 1981[1909]:196). In some cases, the officers' dogs would follow their enlisted man servant as he attended other tasks around the fort. Colonel Knight's hounds would follow their caretaker, Cressy, around the fort (Roe 1981[1909]:125).

Upon the death of a beloved family pet, officers ordered details to dig proper burials away from the fort, which could explain the rarity of dog skeletons in archaeological sites (Walker 1995). During the Victorian Era, pet cemeteries became very popular, and pets received burials similar to humans, including a tombstone, special burial spot, and dog memorials (Hobgood-Oster 2014; McHugh 2004). When Hal died on a hunting trip, "Faye had ordered a detail out to bury him, with instructions to cover the grave with pieces of glass to keep the wolves away" (Roe 1981[1909]:196). Independent of Faye's orders, a company of enlisted men "put up a board at Hal's grave with his name cut in it. We knew that they loved him and were proud of him, but never dreamed that any one of them would show so much sentiment" (Roe 1981[1909]:202). Taxidermy of animals was also a fitting tribute for a beloved pet. In memory of Custer's recent death at the Battle of Little Bighorn, when Cardigan, George and Elizabeth Custer's dog, died of old age at Fort Lincoln, he was:

> set up by a taxidermist, and a place was given him in one of the public buildings in Minneapolis. I cannot help thinking that he was worthy of the tribute, not only because of the testimony thus given to the friendship of the people for his master, but because he was the bravest and most faithful of animals (Custer 1961:44).

Besides dogs, a variety of animals became officers' wives' pets including cats, squirrels, elk, pronghorn, hawks, and chickens. Cats were never prominently mentioned as beloved household pets at forts, but strays were often encouraged to control rats and mice. As Elizabeth Custer wrote about Fort Abraham Lincoln in the Dakota Territory, "So many cats about the garrison keep the rats away" (Merington 1950:299). At Fort Laramie, the Post Surgeon requested dismissal of the hospital nurse because he was "drunk and disorderly, and is shooting cats for pastime around this post" (FLNHSL 1866: McDermott File [MF] January 22, Letters, John G. Riddler, Letters). Wild squirrels were one of the most common pets for officers' families. Frances Roe had two pet squirrels that she acquired after her beloved Hal had died. "The first time I let him out after we got home he was frantic, and jumped on the mantel, tables, and chairs, scattering things right and left" (Roe 1981[1909]:231). Alice Grierson, an officer's wife, and her family also adopted a pet squirrel (Grierson 1989:84). Young wild animals, such as elk, pronghorn, and hawks, were also popular pets for officers and military dependents. Elizabeth and Major Andrew Burt acquired a pet elk named "Monte," short for Montana. Soldiers had captured the elk while it was young, and it was "hitched to the back of a wagon" when the Burts changed locations (Mattes 1988:168). At Fort Laramie, the Post Trader, John S. Collins kept a pet elk. He was later censured in a letter stating, "The Commanding Officer desires you to have the Elk, (which he understands you own) tied up, or secured in such a way, as to prevent his running at large about the parade and quarters" (FLNHSL 1874: MF October 10, Head Quarters Letter Fort Laramie). The Burts adopted pronghorn and hawk babies as pets for a short period of time, but neither matured to adulthood under their care. Officer's wives frequently kept chickens, and they sometimes crossed the line into pet-hood. As Elizabeth Burt wrote, "Each hen had her name and her own little characteristics that were remembered by us with fondness" (Mattes 1988:175). Frances Roe felt great affection for her chickens and said that they "are my pride and delight. They are twenty, and every one snow white; some have heavy round topknots" (Roe 1981 [1909]:232). Elizabeth Custer at one point had 43 chickens at Fort Abraham Lincoln, Dakota Territory (Merington 1950:299).

5.4: MARRIED ENLISTED MEN AND LAUNDRESSES

Enlisted men were preferentially single when they enlisted, since their wives were not allowed to travel and live with their husbands at forts (Agnew 2008). Hence, most enlisted men were single during their service, but there were always a few exceptions. On forts, enlisted men could marry with the permission of their commanding officer (Agnew 2008). Complications arose when an enlisted man married a woman who was not affiliated with military because she was not able to live in military supplied housing. Only when an enlisted man married a laundress were they able to live at the fort because "laundress" was an official military position, and the only military position given to women.

Laundresses frequently owned dogs at forts (Stallard 1978:63). They often lived in a row of tents or shacks along the river, commonly called "suds row" (Agnew 2008:114; Stallard 1978:57). A laundress received $1 a month for an enlisted man's laundry and $5 for an officer's (Stallard 1978). The company laundresses were a "rough lot living together in barely habitable quarters, and existing in a general atmosphere of squalor amid hordes of shock-headed and raucous children of dubious parentage, scavenging chickens, and prowling dogs" (Stallard 1978:63). One colonel complained that when they moved and needed to take the company laundresses the "transportation of all the laundresses' paraphernalia, children, dogs, beds, cribs, tables, tubs, buckets, boards, and Lord knows what not, amounts to a tremendous item of care and expense" (Stallard 1978:64).

The association of dogs with families and women appears to transcend class, and married enlisted men as well as laundresses owned pet dogs. Frances Roe said that Ryan, an enlisted man, was an "old soldier" who owned a greyhound, who quickly became friends with Hal on the train trip (Roe 1981[1909]:163). "Ryan was in a critical condition. It seems that he buried his wife quite recently, and has left his only child in New Orleans in a convent, and the greyhound, a pet of both wife and little girl, is all he has left to comfort him" (Roe 1981[1909]:165).

This is particularly interesting because it implies that married enlisted men possibly had different lifestyles than bachelor enlisted men. Often times, enlisted men are lumped together in current historical cultural analyses (Adams 2009; Willey and Scott 2015). If pet dogs are a sign of family institutions and Victorian cultural behavior, it is possible that married enlisted men had more in common with family lifestyles of officers than unmarried enlisted men. Married enlisted men possibly ate better diets, participated in less intercompany violence, and possibly were in better health. The association between married enlisted men and dogs could also be related to enlisted men marrying company laundresses, some of the few class appropriate single women available at a fort (McChristian 2008).

5.5: BACHELOR ENLISTED MEN: A COMPANY'S DOG

In contrast to the individually oriented officers, enlisted men lived and worked communally. While officers individually hunted game, enlisted men usually hunted only when joined by officers and in a group (Adams 2009). "A week or so ago it was decided that a party of enlisted men should be sent out to get buffalo meat for Thanksgiving dinner for everybody – officers and enlisted men – and that Lieutenant Baldwin, who is an experienced hunter, should command the detail" (Roe 1981[1909]:16). They killed four bison to feed the entire fort. Financially, enlisted men did not have the disposable income to keep a household or family. Officers usually received a salary of approximately $100 a month, while enlisted men usually got approximately $13 a month (Agnew 2008). In addition, bachelor enlisted men lived in company barracks. Barracks included a communal sleeping area lined by beds, and a cast-iron wood stove in the middle of the room for heat. While each man was given a personal sleeping-bunk, there was little privacy or individual ownership. The military supplied utensils, clothing, and rations, but not much else. Men were expected to buy necessities from the sutler's store, and to pay the company laundress from their monthly pay (Agnew 2008). Enlisted men often pooled extra money to buy items for the entire company (Adams 2009). Frequent moving during campaigns and between forts further decreased incentive for accumulating personal items.

A company or group of enlisted men would occasionally adopt a mongrel dog as a pet. This pet did not belong to one soldier, but a collective group. King, an English bulldog, "belonging to the regimental band," followed the company as they relocated to a new fort. Along the journey, the troop came across a herd of bison, and King was able to takedown a bull bison by grabbing the beast's throat and not letting go until it was dead. "So great had been the courage of this favorite dog in his fearful struggle, that month after when an order had been issued for all cur dogs – always an accumulative nuisance at a frontier post – to be exterminated, 'King,' the white bulldog belonging to the Fourth Cavalry band, was exempted by a special order" (Carter 1887:93). Collective ownership of dogs by enlisted men persisted throughout many garrisons in the West, as one record describes.

> Every outfit has a dog. But the dog had no master. And God help the man that abused the dog – for you know there are some men who do not like dogs nor cats. That reminds me of when I was at Fort Walla Walla. There was a dog in our outfit. We called him Old Bum, and he was that in every respect. He attached himself to the prisoners, and made the guardhouse his headquarters. He would follow the prisoners all day, but when the bugle sounded retreat, and the big cannon was fired, Old Bum would make a bee-line for town as would many of the officers and enlisted men. He would slip under the winging doors of

> the saloons that line the street; and would lap up the stale beer that dripped from side to side, [and] would toddle back to the guardhouse (Interview of Maurice O'Leary in "Rounder's Club Dance at Fort Custer Cost Soldiers $500 on $13 Month Pay," unidentified newspaper, n. d., Montana Scrapbook, Vol. 1, p. 61, Billings, Montana, Public Library).

These collective pets were not easily distinguished from other dogs, but the favorite pets often escaped execution. When George Armstrong Custer ordered all of the regiment's dogs executed while on campaign, the favorite mongrel dog, Bob, narrowly survived.

> One of these condemned creatures was a mongrel named Bob, which Sgt. Ryan called harmless as a kitten . . . [S]omebody drove a picket pin into Bob's head. Several days afterward Bob rejoined the regiment, which sounds incredible, but Ryan says it was so. Bob lived another two years, probably suffering terrible headaches (Connell 1985:182).

Bob even traveled on an express train with the Seventh Cavalry from Fort Hays to Kansas City, and it was during this trip that a "solider known as 'Telegraph Smith' got drunk and became so abusive that little Bob jumped out the window" (Connell 1985:182). Communal pet dogs often traveled with the company. Cavalryman H. H. McConnell related a story about a pet guard dog.

> Our company had a big, hairy, nondescript dog that "joined" at Jacksboro in 1868, and attached himself to the guard-house, and nothing could induce him to visit other parts of the garrison, except when he sometimes accompanied the guard on its rounds. The guards and prisoners shared their food with him; he tramped along with the guard to Kansas when the regiment was moved there in 1871, and I saw him at Fort Hays in the fall of that year, growing old "in the service" (McConnell 1996[1889]:132).

Due to the fragmentary nature of the historical record, little is known about the selection process of pet dogs or the housing arrangements. However, one story suggested that pet dogs were chosen based on a heroic and loyal nature. A cavalry troop adopted a dog after he saved a boy from drowning in a river. They named the dog after the cavalry Major, T.T. Thornburgh. Thornburgh, the dog, belonged to the entire company, and became the unofficial mascot of Fort Bridger, Wyoming (Anderson 1981). He was honored with a collar to distinguish his status as a pet. No enlisted man individually bonded with Thornburgh, and he slept in the stables with the horses. He later bonded with a civilian teamster, and took to sleeping on his bunk. The teamster took Thornburgh on his freight trips, and the two became close friends. Upon Thornburgh's death, a tombstone was erected reading:

THORNBURGH
DIED
Sept. 27, 1888
Man never had a truer, braver friend. Sleep on, old fellow we'll meet across the range (Anderson 1981:38).

5.6: THE UN-OWNED: STRAYS, MONGRELS, AND CURS

While only a few dogs achieved pet status, several stray dogs, called curs, followed military campaigns and thrived at forts. Enlisted men were fond of dogs, and often encouraged dogs to follow them as they moved across the plains.

> One of the soldier's predilections is his love for dogs, and his propensity for them was such that every detail returning from the settlements was accompanied by a new lot of curs that they had induced to come with them. Our regiment was always overrun with dogs— "Mongrel, puppy, whelp, and hound, and curs of the low degree," some valuable greyhounds among them, but mostly of the "yaller dog" species (McConnell 1996 [1889]:132).

Another enlisted man remarked, "As was the case on nearly all marches of troops changing station on the frontier, many dogs of all ages, sizes and degrees, had, under protest, accompanied the column to the Colorado River; here many of the worthless curs were left or drowned while fording; but there were several remaining” (Carter 1887:93). Enlisted men often enticed or “stole” these dogs to join them on campaigns. These dogs often came from towns or settlements the troops passed through.

> There was a new acquisition to the column – a fine Newfoundland dog, which attached itself to the command, or was reported to have done so, although I have always had doubts upon the subject. Soldiers will steal dogs, and ‘Jack,’ as he was known to our men, may have been an unwilling captive, for all I know to the contrary (Bourke 1962[1891]:336).

Most documents do not discuss the exact number of stray dog following campaigns. One hint comes from Custer’s 1876 Yellowstone Campaign. When the campaign left Fort Abraham, they had over forty dogs in the expedition, and only two to four of were his pets (Connell 1985:254). This sounds like a sizeable number, however, there were over 1,100 soldiers, civilians, and others on the campaign (Clark 2014). This is approximately one dog for every twenty-eight people.

These campaign dogs had several uses while in the field in addition to companionship, including acting as messengers and finding water. In Edward Farrow’s *Mountain Scouting*, he discussed the usefulness of dogs and advised soldiers to always keep a few on hand. “[D]ogs exhibit a wonderful instinct in finding pools of water where it would scarcely be expected to exist” (2000[1881]:173). He continues saying:

> I have found, by experiment, that it is a splendid plan, when going into the mountains, or over very rough trails, and there is a probability of messengers being needed, to collect a few dogs on leaving the last settlement. They may be picked up or purchased for almost nothing, and the guard may lead them along with the command without any great trouble. Whenever it is necessary to send back a message, advantage may be taken of the dog's restlessness. Having made the message fast to his neck, let him go with a kick; it will be but a short time before he finds his way back to the settlement, having served as messenger (2000[1881]:107).

There was much peril for the dogs that followed campaigns, primarily from the soldiers. In times of fighting, barking dogs often gave away the position of a force. For this reason, Native American groups would leave their dogs at camp, and not take them on warring parties (Brennan 2012:181). General George Armstrong Custer often listened for dogs to find Native American villages (Custer 1962). On one of his own campaigns, Custer had all the campaign dogs killed for fear of their barking giving away his position.

> An assortment of dogs had followed the men from camp and about half an hour before the attack he [Custer] ordered them killed because they might howl or bark, thereby alerting the Indians . . . Most of the dogs were muzzled with ropes and then strangled or stabbed (Connell 1985:182).

Archaeological evidence from the Powder River Supply Depot, Montana, further supported historical accounts of killing dogs on campaign. A faunal analysis of a partial dog skeleton revealed chopping cuts on the cervical vertebrae (Walker 1995). Absence of other butchery marks suggested that the intention of these chops was to kill the dog.

At forts, stray dogs often enjoyed being fair-weather friends of enlisted men until the number of dogs became a nuisance, and the commanding officer would order the stray dogs exterminated. “At the sound of the bugle every dog would set up a howl, until at times the nuisance would become epidemic, as it were, and a special order be issued to exterminate all those running loose on the parade ground” (McConnell 1996[1889]:132). Similar orders were given at Fort Laramie. General Order 51 from June 30, 1868, directed, “Hereafter all loose dogs will be taken up by a patrol of the guard sent out for that purpose. The corporal in charge will report to the Officer of the Day when any dogs have been taken up and receive his instructions in regard to them. He will direct all worthless curs to be shot” (FLNHSL 1868: MF April 2, General orders 51). The commanding officer suspended this order during a visit from an Indian Commission to Fort Laramie to accommodate the loose Indian dogs running around the Fort, and he reinstated it after the Commission left (FLNHSL 1868: MF April 19, General orders 28).

Enlisted men often played with and teased the stray dogs for a welcome distraction from fort life. At Fort Apache, the telegraph operator would decorate the tails of stray Indian dogs with tin cans. A stray dog had found its way into the telegraph office one day, and to teach the dog a lesson, the operator attached:

> a good-sized tin can to his tail and then turning him loose with his head toward the Apache camp . . . His passage through the garrison attracted considerable attention, what with the racket caused by the rattling tin can and his loud howls of terror (and probably some pain) as he raced past the guardhouse and on down the road toward the Indian camps. The scheme worked so well that, after several affairs with tin cans, the Indian boys as well as Indians of larger growth began capturing and bringing to the telegraph office stray dogs and turning them over to the operator at the end of a rope to be handled in like manner. It proved to be a famous way to stir things up when times were quiet. Thus it was that, two or three times a week, stray Indian

> dogs were brought to us to be decorated with tin cans in order to furnish a little excitement to the garrison. The curs were tied up inside the little battery yard until the operator or his repairman had time to decorate them with the proper amount of tinware. Incidentally, we soon learned that the Apaches, both male and female, got quite as much amusement out of these canning affairs as did the soldiers, perhaps even more (Barnes 1982[1941]:98-99).

This practice came to an end after an incident during a formal dress-parade attended by several commanding officers and a general. As the Sixth Cavalry band was marching on the parade ground, a dog with a tin can:

> flew down that line of soldiers like a thunderbolt. The can rattled over the gravelly parade-ground and the wild yelps of the dog added to the racket; all of which was unseen and unheard by the solemn drum-major. The animal dashed straight at the band, passing between the legs of the drum-major, upsetting him in all his official and musical dignity, and plowing a groove through the massed musicians that completely broke up the formation and stopped all further musical efforts. The shrieks of laughter that rose from the onlookers woke the very echoes. A good time was had by all. Once was plenty. The old General dropped a very clear hint the next day(,) which convinced the young telegraph operator who engineered the stunt that once was sufficient for such an affair. It took me full three months to get back on speaking terms with the drum-major, whose official dignity had been so terribly insulted (Barnes 1982[1941]:101).

Despite the abundance of stray dogs at forts, few faunal remains exist in the archaeological record. No historical documents clearly discussed the fate of the deceased stray dogs. However, there are several possibilities explaining the absence of the dog remains from archaeological contexts. The first possibility is that Native American groups living outside the fort ate the slaughtered dogs. Native Americans consumed dogs for ceremony, but also in times of starvation when nothing else was available (Dodge 1877:xxx; ii; Farrow 2000[1881]:225). Native Americans living by forts were often mal-nourished, as discussed by Robert B. Mitchell, Brigadier-General at Fort Kearny. “A large number of friendly Indians at Fort Laramie are in a starving condition. What shall I do with them? They say they dare not leave their camps to hunt or provide for themselves in consequence of the threats of hostile Indians” (Davis et. al 1896:1104). In such starvation times, the Native American groups could have scavenged the remains. There was at least one documented case of an officers’ dog, Cy, being consumed by starving Native Americans living near a fort.

> Our camp was near Fort Atkinson, about which we found some two thousand Indians assembled. They were Arapahoes and Cheyennes, who were awaiting the annual distribution by the Indian agents of presents, etc. About ten minutes after old Cy’s death, I observed a number of Indians gathered about his body, and finally an old squaw emerged from the crowd, exultingly holding aloft one of old Cy’s hind quarters, as she went to her tepee shouting in wild Indian fashion. As the group dispersed I went down to the river. They had left nothing of the dog save a little blood upon the grass. They had had no fresh meat for some time, and dog is an Indian’s dainty dish (Maury 1894:138).

The second possibility is that, along with the offal, the dogs were discarded into rivers. Forts, such as Fort Laramie, typically dumped their offal into the neighboring river to control the “stench that is unbearable to the citizens living in the vicinity” (Hill 1888:421). No orders exist discussing the disposal of dogs into the river though. A third possibly is that they were buried away from the fort, and separate from normal trash. This is typical of modern ranch practices. The fourth possibility, while unlikely, is that they were turned into products at the fort. Within cities at the time, many exterminated stray dogs and cats found their way into sausages, as discussed in local newspapers.

While not blatantly advertised, many Cheyenne, Wyoming, newspapers discussed the relationship between stray dogs disappearing and sausage prices decreasing. As one article stated, "Dogs will not eat sausages, because they are not cannibals" (CDL, 21 December 1876:6). A short story printed in the paper about a butcher reinforced this relationship. The story begins that a young boy stopped by the butcher and inquired about the ingredients of the sausage, since it did not taste like his mother's. "To this the butcher impatiently responded that it was made of dead cats and dogs found around the streets" (*Cheyenne Daily News* [CDN], 22 January 1876:2). Another reference from the newspaper stated, "improvements increase as the world goes on, and it won't be long before somebody will invent a method for grinding up brass dog collars so fine that the particles won't be noticed in bologna sausage" (CDS, 26 April 1876:3). Another article advised, "Now that the sausage season has fairly opened it behooves every dog-owner to keep close and constant watch over his canine or canines, as the remorseless man of meat never looks to see whether his four-footed victims are licensed or not" (CDL, 24 October 1876:4). This was most likely not the case at forts, since sausage was not a common component in the military diet, and no dog bones have been found in zooarchaeological analyses.

Part of the mistrust of stray dogs arose from the threats of viruses, such as distemper and rabies. As Elizabeth Custer (1962:42) wrote, "Our struggles to raise them, and to avoid the distemper which goes so much harder with blooded than with cur dogs, endeared them to us." While not common on the plains, rabies was a threat to humans and was a perpetual fear on people's minds. "In many years of frontier life I have never personally known of a single case of rabies in any animal except man . . . Rabies is not a plains malady" (Dodge 1877:97-99). However, Wyoming newspapers documented at least some presence of the disease in cities. “Several mad dogs have been seen on the streets lately, and some persons have been bitten. The ordinance requiring the destruction of all dogs running at large unmuzzled is to be enforced” (*Laramie Daily Sentinel* [LDS], 8 July 1870:3).

5.7: CONCLUSION

Pet dogs on the frontier both enhanced social status distinctions and were an equalizer amongst people. Officers and enlisted men had different relationships to dogs, as dictated by social status, but both groups did keep dogs and cared for them. Many of the Victorian sentimentalities towards pets were present on the frontier, supporting the omnipresence of Victorian culture at the time (Howe 1976). Pet dogs were a universal occurrence at fort life, but are rarely addressed in historical discussions. Despite the absence from historical record, dogs played an important part in establishing family, reinforcing social status, providing a home life on the frontier, and distinguishing masculine and feminine spheres on the frontier.

Social status did impact the breed of dog adopted, and the function of the dog. Officers adhered to Victorian cultural standards and sought well-breed hunting dogs. Similarly, officers kept dogs primarily for sport hunting, which was a masculine hobby for the upper-class. Enlisted men did not participate in sport hunt, and had no need for a well-bred hunting dog. The purpose of an enlisted men’s dog was to be a companion, and not breeding was required for that. Mongrel dogs were adopted based on personality and loyalty.

Dogs were an extension of officers’ individual displays of identity. An officer own a dog as an individual, and that dog reflected upon that officer. In contrast, the lower-class enlisted men did not have the societal pressures for individual displays. The military encouraged a group identity, and often fostered company bonding by pitting companies again each other in games (Adams 2009). Enlisted men would pool extra resources to purchase items for the entire company to share, such as prunes, and rarely purchased personal items from the sutler (FLNHSL 1888: Sutler's Report 17, April–June). The group identity of enlisted men is also reflected in their pet ownership of a dog. No one person owned the dog, but instead the dog was communally adopted by a group of enlisted men.

Dogs present a unique subject in the study of 19th century masculinity formation on the frontier because they transcend the masculine and feminine worlds. The frontier environment was largely homosocial, and women were a comparative rarity. Little is currently known about segregated gender spheres on the frontier. While military men engaged with the masculine frontier environment, their wives created a feminine household and a domestic establishment consistent with Victorian expectations. On a military fort, wives held no official position and were often at the whims of the men controlling the establishment. A household was one environment in which women could exert power. The creation of homes and families at military forts informs historians on the everyday life of Victorian women on the frontier.

Previous discussions on frontier masculinity have focused solely on the males, and specifically cowboys. For example, Jacqueline Moore (2010) investigates the formation of masculinity in cowboys (working class) compared to ranch owners (upper class). East Coast middle-class and upper-class men, like Theodore Roosevelt, saw the cowboy, and those that interacted first hand with the frontier, as masculine icons and knights of the prairie (Moore 2010). The cowboy image had little to do with the actual lifestyle, which was quite rough (Moore 2010), but instead was the epitomized ideal of masculinity. Victorian males believed that if the United States became too civilized, also known as too feminine, it would be a great loss for the country, and it would create an appearance of a soft and unhealthy country (Moore 2010). That is why Theodore Roosevelt civilization and become physically fit in the natural environment (Bayers 2003; Moore 2010). The wilderness encouraged masculine activities, such as hunting and fishing, both popular amongst the upper-class military officers in the 19th century (Adams 2009; Durie 2008). In reality, cowboys, like many working-class men at the time, contrived their masculinity through their competency at work (Moore 2011). "They defined masculinity as their ability to perform their work, to control their own lives, and to respect other who did the same. Like workers elsewhere in the country, they usually expressed their masculinity through public rituals of drinking, gambling and fighting" (Moore 2011:350).

Dogs present an avenue of understanding masculinity and femininity at frontier military forts, since dogs transcended spheres. Masculinity on frontier forts largely hinged on recreational activities, such as hunting (Adams 2009). Dogs played an important role as the hunting companion for upper-class officers. Competency bolstered one's masculinity (Moore 2010), and dogs enhanced an officer's ability to masterfully hunt. Hence, a good hunting dog reinforced upper-class masculinity. Enlisted men did not have an opportunity for individual hunting for recreation, and dogs played a marginal role in supporting an enlisted man's masculinity. Dogs, however, were an important part of establishing a household, an intrinsically feminine sphere of life. The adoption of a family dog revealed that women often had a great deal of control over the household, and even the individuals within it. Daily care of the dog fell under the wife's responsibilities, and the treatment of dogs largely reflected on the household she kept. Pet dogs became strongly associated with domestic establishments, and contribute to a broader understanding of women and household creation.

This research highlights an aspect of everyday life that has previously been overlooked. Dogs and pets were an extension of Victorian culture on the frontier that few historical or archaeological studies have targeted. Hopefully, this research will inspire others to further investigate hidden aspects of military life.

CHAPTER 6: SOCIAL STATUS DIFFERENCES REFLECTED IN DIET AT FORT LARAMIE, WYOMING

6.1: INTRODUCTION

The following analysis addresses the faunal differences between the officers and enlisted men at Fort Laramie, primarily drawing upon the 1998 excavations of Old Bedlam and 2010 excavations at the enlisted men's infantry barracks. A third excavation of the Quartermaster's Dump, a civilian dump excavation in 1994, was also analyzed in this chapter. The methods and description of these sites can be found in Chapter 3. The results from the following faunal analysis imply that status did play a significant role in dietary differences between officers and enlisted men.

Most discussions of dietary differences between officers and enlisted men rely upon the historical record (Adams 2009), and there are few archaeological studies on the subject. Archaeology of the frontier military can provide a new means of investigating class differences between enlisted men and officers. The historical record is largely biased towards the literate and upper-class officers. Archaeological investigations allow researchers to describe the daily lives of enlisted men, who are often silent voices in the historical record. This research establishes how archaeological investigations contribute to understanding class differences between officers and enlisted men on the frontier. While historical descriptions indicate officers and enlisted men had different diets, few archaeological investigations have successfully addressed this topic (Crass and Wallsmith 1992; Rogers et al. 1998; Scott 1977; Walker et al. 2004). In addition to demonstrating dietary differences in the archaeological record, this research contributes to developing a paradigm for understanding the influence of Victorian culture on the frontier military.

Excavations from Fort Laramie, Wyoming, provide an opportunity to examine the dietary differences between officers and enlisted men in the frontier army. The significant salary differences between officers and enlisted men meant that the two groups did not have the same access to many luxury goods, but food rations, fish, and some wild game were available to all soldiers. Since both officers and enlisted men had access to domestic and wild animals, any differences in diet would reflect institutionalized inequalities. The social distinctions between officers and enlisted men in the frontier army are tested through a faunal analysis from several officers' cellars and an enlisted men's barracks at Fort Laramie, Wyoming.

6.2: ENLISTED MEN'S INFANTRY BARRACKS (1866–1890)

The infantry barracks was the most faunal abundant archaeological unit (Table 6.1). Mammals dominated the assemblage, and fish were the second most numerous category of animal (Figure 6.1). Domestic animals were more common than wild (Figure 6.2). Cattle were the staple of the diet, very similar to other military sites because beef was the foundation of the rationed diet for solders (Adams 2009; Agnew 2008; Crass and Wallsmith 1992; Rogers et al. 1998; Scott 1977; Utley 1973; Walker et al. 2004). A menu from Fort Robinson, Nebraska, shows that beef was served at almost every meal during fort life (Caperton and Fry 1974) (Table 6.2). Also represented in the assemblage were pig, sheep, and chicken (Table 6.3; Figure 6.3). Additional dietary diversity came from a variety of wild resources including sauger/walleye, catfish, suckers, shovelnose sturgeon, frogs, turtles, ducks, turkeys, prairie dog, jackrabbit, cottontail rabbit, deer, and pronghorn. The diversity of food consumed is surprising, since historical documents do not regularly talk about the types of food enlisted men supplemented their diets with outside of rations (Adams 2009). This is considerably more diverse than what is portrayed in historical documents.

Table 6.1: Comparison of NISP, number of fragments, MNI, and weight for the three units of analysis.

	Enlisted Men's Infantry Barracks	Old Bedlam Officers' Cellars	Quartermaster's Dump Blocks One and Two
NISP	1,029	571	570
MNI #	40	36	30
Weight in grams	14,697.46	3,821.75	6,093.3

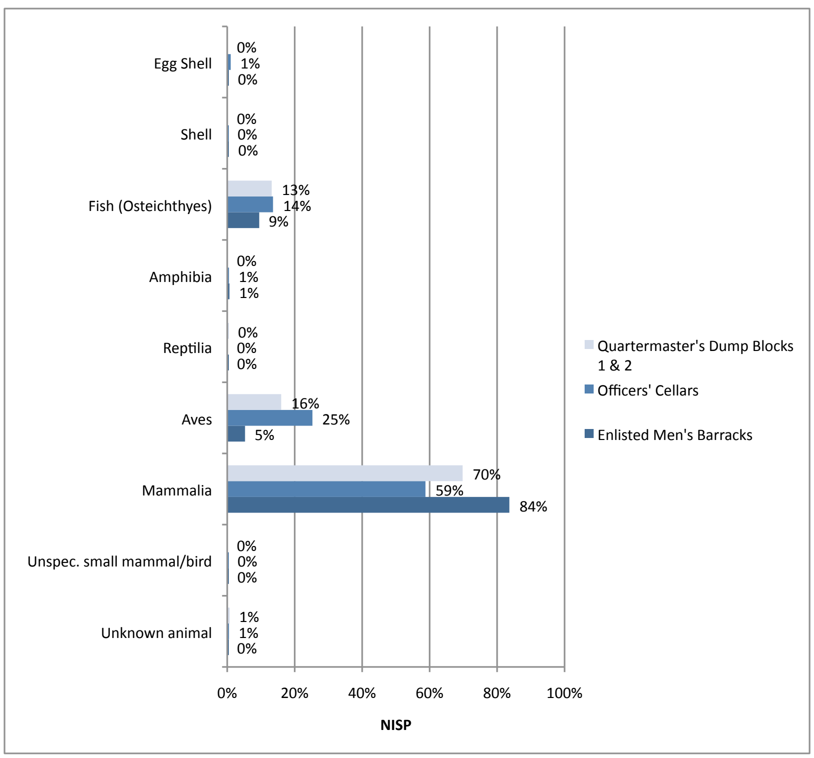


Figure 6.1: Overall faunal distribution (Enlisted Men's Barracks n = 1,495; Officers' Cellars n = 582; Quartermaster's Dump Blocks 1 & 2 n = 569).

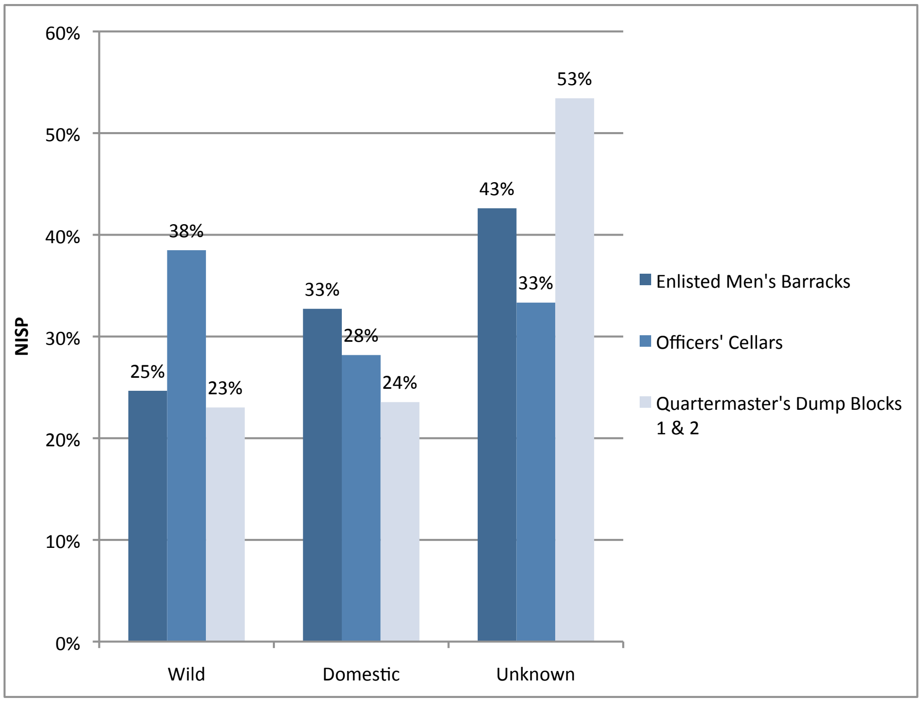


Figure 6.2: Distribution of wild, domestic, and unknown vertebrates across the three cultural units (Enlisted Men's Barracks n=1042; Officers' Cellars n=582; Quartermaster's Dump Blocks 1 & 2 n=569).

Table 6.2: A menu from Fort Robinson, Nebraska, for week of February 4–10, 1893. (Adapted from Caperton and Fry 1974:32; Courtesy of Fort Robinson Museum, Nebraska State Historical Society.)

DATE		BREAKFAST	DINNER	SUPPER
2/4		Roast Beef-Gravy Potatoes – Bread Coffee	Turnips – Bacon Roast Beef-Gravy Bread	Gravy-Bread Tea
2/5		Beefsteak-Gravy Potatoes – Bread Coffee-Milk	Beef Stew – Potatoes Gravy-Bread	Duff-Bread Tea
2/6		Beefsteak-Gravy Potatoes-Bread Coffee-Milk	Cabbage-Bacon Roast Beef-Gravy Potatoes-Bread	Beef Stew-Gravy Bread-Coffee Milk
2/7		Hash-Bread Coffee-Milk	Roast Beef-Gravy Bread-Potatoes	Beef Stew-Bread Tea
2/8		Roast Beef-Gravy Potatoes-Bread Coffee	Soup-Roast Beef Gravy-Potatoes Rice-Bread	Pancakes-Syrup Tea
2/9		Hash-Bread Tea	Beans-Bacon- Roast Beef-Gravy-Bread	Gravy-Bread Coffee
2/10		Roast Beef-Gravy Bread-Coffee-Milk	Saurkraut-Bacon Roast Beef-Gravy Bread	Pancakes-Syrup Tea

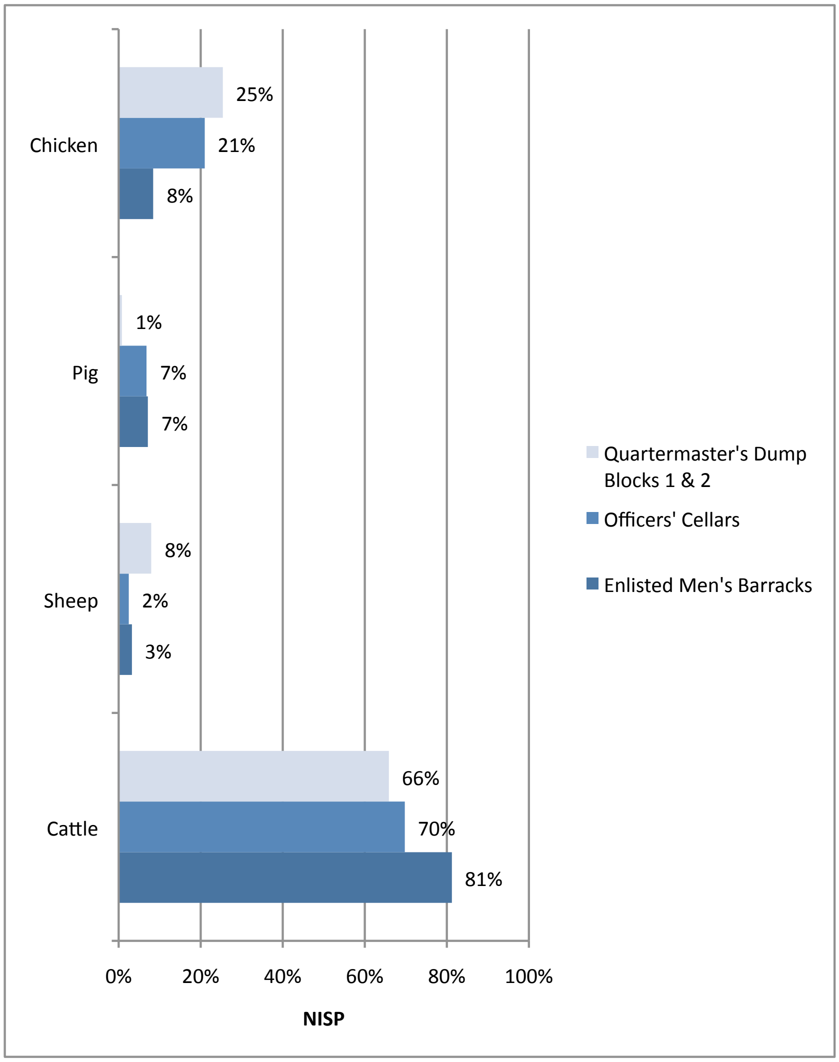


Figure 6.3: Domestic animal distribution (Enlisted Men's Barracks n=309; Officers' Cellars n=162; Quartermaster's Dump Blocks 1 & 2 n=126).

While beef was the dominant meat of the military diet, the cuts of beef distributed to enlisted men was of poorer quality than the cuts provided to officers (Figure 6.4). Enlisted men primarily consumed ribs, brisket, and chuck. All of these cuts of meat would usually be turned into beef stew, which was a very common component in the weekly diet (Table 6.2).

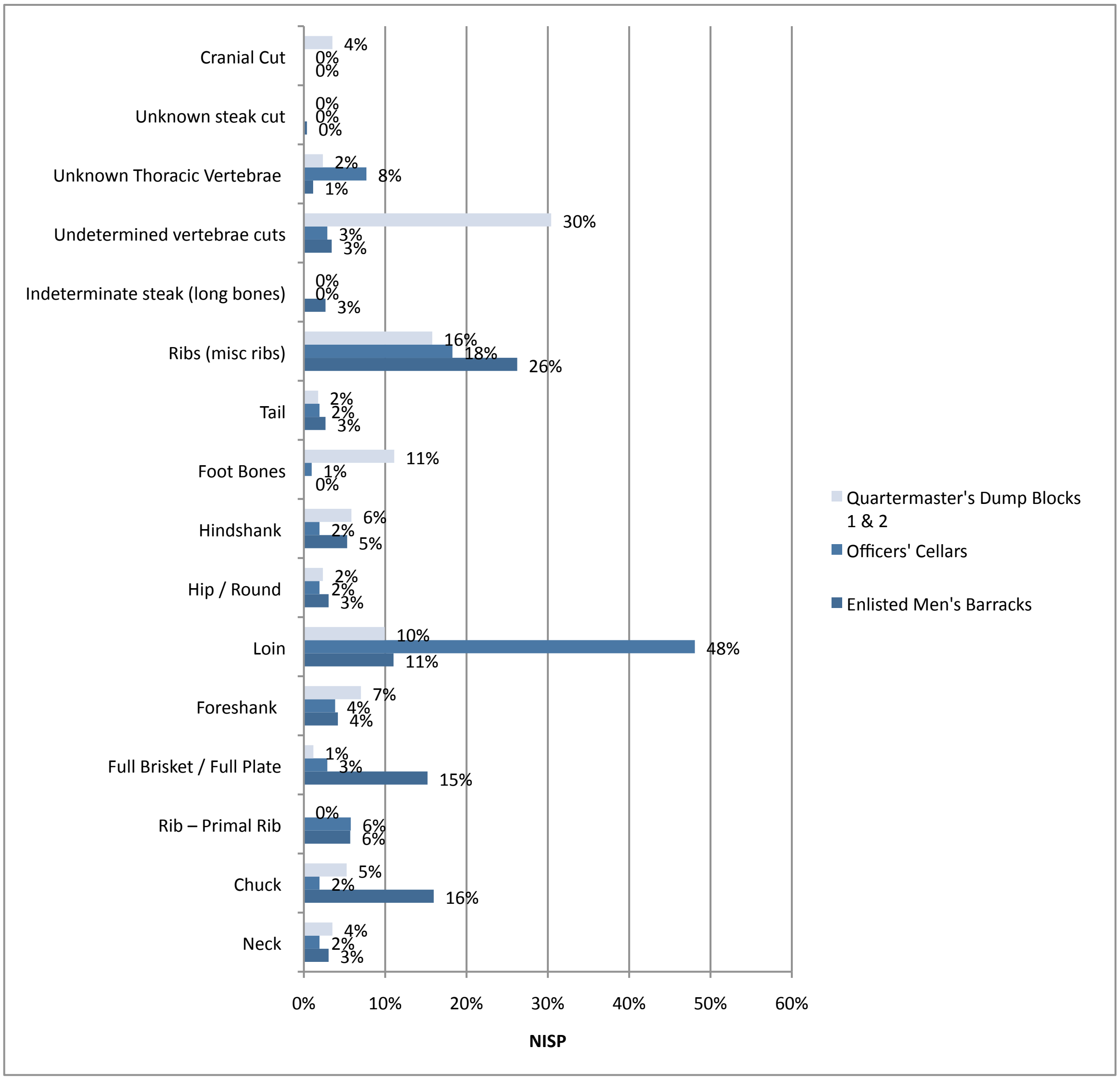


Figure 6.4: Cattle meat cut distribution (Enlisted Men’s Barracks n = 251; Officers’ Cellars n = 113; Quartermaster’s Dump Blocks 1 & 2 n = 83).

Table 6.3: Zoological Species List

Taxa	Common Name	Officer's Cellars NISP	MNI	Weight, g	Biomass, kg.	Enlisted Men's Barracks NISP	MNI	Weight, g	Biomass, kg.
Osteichthyes	Indeterminate bony fish	22		3.51	0.082	10	1	1.51	0.041
Sander sp.	Sauger/Walleye	44	3	16.40	0.284	17	1	3.25	0.077
Ictaluridae	Catfish	3	1	0.55	0.018	26	1	7.95	0.158
Ictalurus punctatus	Channel Catfish					14	1	15.54	0.272
Ameiurus melas	Black Bullhead	5	2	1.08	0.031				
Catostomus commersonii	White Sucker	5	1	3.56	0.083	2	1	0.18	0.007
Catostomus sp.	Sucker					2	1	0.18	0.007
Scaphirhynchus platorynchus	Shovelnose Sturgeon					7	1	19.82	0.332
Anura	Frog/Toad	3	2	0.77	na	8	3	1.17	na
Testudinata	Turtles					1	1	1.98	0.050
Aves	Small Sized Bird	2		0.26	0.032				
Aves	Small/Medium Sized Bird	6		1.87	0.036				
Aves	Medium Sized Bird	28		13.53	0.219	9		1.65	0.032
Aves	Large Sized Bird	2	1	1.80	0.035				
Galliformes	Chicken, Turkey, Hen, Grouse					2	1	0.49	0.011
Anas sp.	Duck	1	1	0.24	0.006	1	1	1.15	0.023
Anas platyrhynchos	Mallard Duck	15	2	15.67	0.250	24	2	14.61	0.234
Meleagris gallopavo	Turkey	12	3	39.72	0.582	1	1	1.06	0.022

Table 6.3: Zoological Species List (continued)

		Quartermaster's Dump Block 1				Quartermaster's Dump Block 2			
Taxa	**Common Name**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**
Osteichthyes	Indeterminate Bony Fish	17	1	0.91	0.027	6		1.18	0.034
Sander sp.	Sauger/Walleye	34	2	7.15	0.145	13	1	2.09	0.054
Ictaluridae	Catfish	2	1	0.10	0.005				
Ictalurus punctatus	Channel Catfish	1	1	0.27	0.010				
Ameiurus melas	Black Bullhead								
Catostomus commersonii	White Sucker								
Catostomus sp.	Sucker	1	1	0.21	0.008	1	1	0.23	0.009
Scaphirhynchus platorynchus	Shovelnose Sturgeon								
Anura	Frog/Toad								
Testudinata	Turtles	2	1	0.79	0.027				
Aves	Small Sized Bird								
Aves	Small/Medium Sized Bird								
Aves	Medium Sized Bird	8		2.49	0.047	35		8.93	0.150
Aves	Large Sized Bird								
Galliformes	Chicken, Turkey, Hen, Grouse								
Anas sp.	Duck	3	1	2.01	0.039	2	1	2.07	0.040
Anas platyrhynchos	Mallard Duck								
Meleagris gallopavo	Turkey	4	2	1.40	0.028	6	1	3.85	0.070

Table 6.3: Zoological Species List (continued)

		Officer's Cellars				Enlisted Men's Barracks			
Taxa	**Common Name**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**
Centrocercus sp.	Sage hen/Grouse					9	1	4.57	0.081
Centrocercus urophasianus	Sage Grouse					1	1	0.53	0.011
Columbidae	Pigeon/Dove	32	3	10.46	0.173				
Corvus sp.	Raven	1	1	0.13	0.003				
Agelaius phoeniceus	Red-winged Blackbird	1	1	0.14	0.003				
Circus sp.	Harrier	1	1	0.70	0.015				
Gallus gallus	Chicken	46	3	55.91	0.795	26	2	24.79	0.379
Mammalia	Unknown Size	14		3.95	0.091	9		13.90	0.281
Mammalia	Small Sized Mammal	3		0.48	0.014	6		0.97	0.026
Mammalia	Medium/Small Sized Mammal	20		16.14	0.321	29		75.69	1.292
Mammalia	Medium Sized Mammal	67		201.08	3.112	115		299.52	4.454
Mammalia	Medium/Large Sized Mammal	15		198.56	3.077	85		314.92	4.660
Mammalia	Large Sized Mammal	38		424.15	6.092	199		1956.79	24.121
Vulpes velox	Swift Fox					39	1	42.18	0.763
Rodentia	Rodent	1	1	0.07	0.002				
Geomyidae	Pocket Gopher								
Cynomys ludoviciancus	Black Tailed Prairie Dog					6	2	2.58	0.062
Callospermophilus lateralis	Golden Mantled Ground Squirrel					1	1	0.12	0.004

Table 6.3: Zoological Species List (continued)

Taxa	Common Name	Quartermaster's Dump Block 1 NISP	MNI	Weight, g	Biomass, kg.	Quartermaster's Dump Block 2 NISP	MNI	Weight, g	Biomass, kg.
Centrocercus sp.	Sage hen/Grouse								
Centrocercus urophasianus	Sage Grouse								
Columbidae	Pigeon/Dove								
Corvus sp.	Raven								
Agelaius phoeniceus	Red-winged Blackbird								
Circus sp.	Harrier								
Gallus gallus	Chicken	7	1	3.08	0.057	25	1	16.01	0.255
Mammalia	Unknown Size								
Mammalia	Small Sized Mammal	8		0.97	1.960	9		9.01	1.960
Mammalia	Medium/Small Sized Mammal	1		75.69	1.040	4		2.53	1.040
Mammalia	Medium Sized Mammal	15		32.59	0.605	28		79.13	1.344
Mammalia	Medium/Large Sized Mammal	25		110.77	1.820	53		193.51	3.006
Mammalia	Large Sized Mammal	76		766.38	10.376	45		455.96	6.502
Vulpes velox	Swift Fox								
Rodentia	Rodent								
Geomyidae	Pocket Gopher	22	1	2.60	0.062				
Cynomys ludoviciancus	Black Tailed Prairie Dog								
Callospermophilus lateralis	Golden Mantled Ground Squirrel								

Table 6.3: Zoological Species List (continued)

Taxa	Common Name	Officer's Cellars NISP	Officer's Cellars MNI	Officer's Cellars Weight, g	Officer's Cellars Biomass, kg.	Enlisted Men's Barracks NISP	Enlisted Men's Barracks MNI	Enlisted Men's Barracks Weight, g	Enlisted Men's Barracks Biomass, kg.
Leporidae	Rabbit								
Lepus sp.	Jackrabbit					47	2	20.99	0.407
Sylvilagus sp.	Cottontail Rabbit	11	1	5.20	0.116	13	1	4.63	0.104
Sus scrofa	Pig	10	2	66.78	1.154	22	3	397.92	5.752
Artiodactyla	Medium Artiodactyl	16		55.08	0.970	1		0.86	0.023
Odocoileus sp.	Deer					1	1	1.31	0.034
Cervus canadensis	Elk	1	1	124.99	2.029				
Antilocapra americana	Pronghorn	4	1	11.14	0.230	22	1	201.97	3.124
Bos taurus	Cattle	137	3	2424.83	29.257	263	7	11231.73	116.256
Bison bison	Most likely Bison	1	1	86.78	1.461				
Ovis aries	Domesticated Sheep	4	1	36.22	0.665	10	1	30.06	0.563
Vertebrata	Indeterminate vertebrate	4		6.50		3		0.15	
Total		571	36	3821.75	51.238	1031	40	14696.72	163.665

Table 6.3: Zoological Species List (continued)

		Quartermaster's Dump Block 1				Quartermaster's Dump Block 2			
Taxa	**Common Name**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**	**NISP**	**MNI**	**Weight, g**	**Biomass, kg.**
Leproidae	Rabbit					2	1	2.66	0.063
Lepus sp.	Jackrabbit								
Sylvilagus sp.	Cottontail Rabbit								
Sus scrofa	Pig	1	1	3.60	0.083				
Artiodactyla	Medium Artiodactyl	1		22.80	0.439	1		26.91	0.509
Odocoileus sp.	Deer	8	1	191.77	2.982	7	1	47.62	0.851
Cervus canadensis	Elk								
Antilocapra americana	Pronghorn								
Bos taurus	Cattle	59	3	3013.67	35.580	24	2	840.36	11.273
Bison bison	Most likely Bison								
Ovis ares	Domesticated Sheep	3	2	98.50	1.637	7	2	61.40	1.070
Vertebrata	Indeterminate vertebrate	3		2.00		1		0.10	0.003
Total		301	19	4339.75	56.976	269	11	1753.55	28.233

Enlisted men most frequently supplemented their diets with wild animals caught in the Laramie or Platte Rivers, including turtles, frogs, mallard ducks, and fish (Figure 6.5). A single turtle specimen was found in the assemblage, and most likely originated from the Laramie River, which borders the barracks. Turtle soup was a popular way to prepare turtles caught from the local rivers at forts (Grierson 1989). In addition, frogs were favorite dishes at the time, particularly at Fort Laramie (Adams 2009). One enlisted man wrote about his experiences eating frogs' legs.

> [L]ast evening we had a mess of frogs for supper. they [sic] were splendid, real 'proper good' as grand father used to say. We have had several messes of them this summer. I told you once how to cook bear, now I might as well tell how to cook frogs, and I think you will go right off to the branch or blinco or some good pond and get a mess. The first thing to do is the same as you do when you go to cook anything – that is to get the frogs, which is very easily done after they are killed. I generally take a club and hit them a rap over the 'mug'. Some hit them two raps, and some three, every one has his own way; either of the three ways I have mentioned is very effective. You can take your choice, or use all three. After the frog is dead take something sharp and cut off both hind legs about three quarters of an inch above where they grow together. I would reccommend [sic] a knife for that purpose. I always put the legs in a bucket or something brought along for that purpose – and the other part I throw away, *it's* not much account, through that's my opinion. I dont [sic] know how other may do. I'll leave it to your judgment. I'm just telling how to cook them. The next thing is to take the peeling off, which is done by a simple twist of the wrist and sleight of muscle. this [sic] being done they are ready for use after being washed and fried. The frying of them is a very simple process. it is done like you would do any other squirrel or chicken. I dont [sic] think it necessary to give my direction about eating them nature is the best guide, though it might be necessary to say that the bones are unhealthy, we dont [sic] eat them here (Unrau 1979:161–162).

Mallard ducks were commonly hunted in the region (Boos 1860), and were considered to be a delicious dish, "being naturally tender" (Whitehead 1884:293).

Both officers and enlisted men consumed the similar percentages of mallard duck, which implies it was a widely abundant local resource.

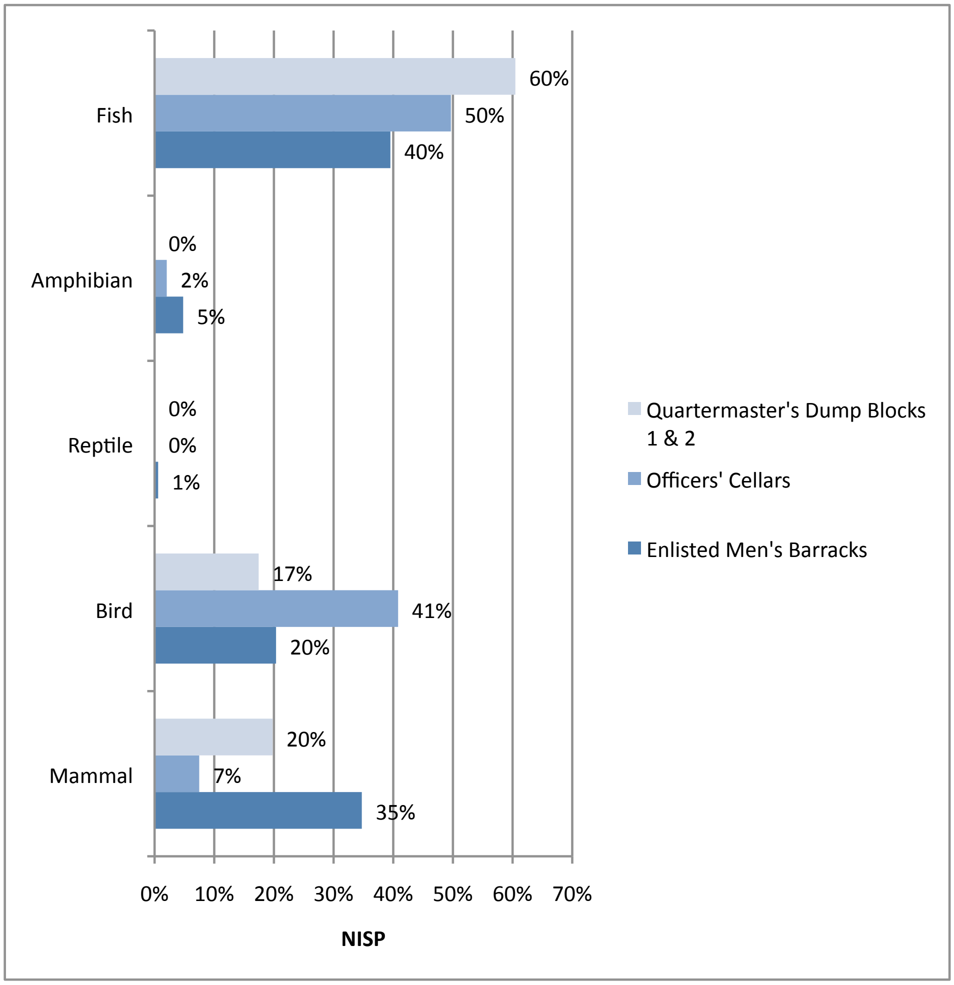


Figure 6.5: Wild animal distribution (Enlisted Men's Barracks n = 167; Officers' Cellars n = 147; Quartermaster's Dump Blocks 1 & 2 n = 86).

Fishing was a common activity for enlisted men, and could easily be done in the Laramie and Platte Rivers. Enlisted men primarily consumed bottom-feeding fish, such as catfish, shovelnose sturgeon, and suckers (Figure 6.6). These fish required little effort or skill on the part of the fisherman. "One of the boys has just now come in with three big catfish that he caught on a trot-line. They are catching them every night and morning If [sic] we had a seine [net] we might catch bushels of them every day" (Unrau 1979:178). Suckers are not usually considered a game fish, but they do respond to the same bait as catfish. Game fish is a culturally derived categorization. "[F]ishes that had been 'honored' with the title of *game* ere, by definition, warier, faster, stronger, and generally more difficult to catch—more 'sporting'—than other species" (Reiger 2001:75). The relatively low numbers of suckers implies that they were not the target of fishing attempts, but most likely convenient catches. The same can be said for the occasional occurrence of shovelnose sturgeon remains. A soldier tells of his first encounter with a shovelnose sturgeon at Fort Laramie.

> I went fishing one day with another boy we had caught three or four, I believe they were pickerel, I was walking along on the bank carrying the fish and the other boy's overcoat, while he waded in and killed the fish with his sabre. I saw something laying on the bottom that I took to be a fish. I showed it to him, he waded in and struck it a blow across the back of the head, then run his sabre through it and carried it to the bank, he was afraid to take hold of it with his hands, he uttered several exclamations of surprise and told me to take it off. I got the thing off his sabre and looked at it, we did not know what it was, so we called it a shovel-head. Their heads are more like one of these round pointed shovels than any thing else. their [sic] mouth is a round hole in the middle of the under side of the head, there were hundreds of these fish in places along the river; we killed three and might have killed fifty more but we did not know that they were fit to eat. The largest one of these fish that we killed was two feet long, its head was four inches long and three inches wide. The body of the fish was nearly round and about two inches through so that if the fins were taken off, the fish would look like a spade (Unrau 1979:60–61).

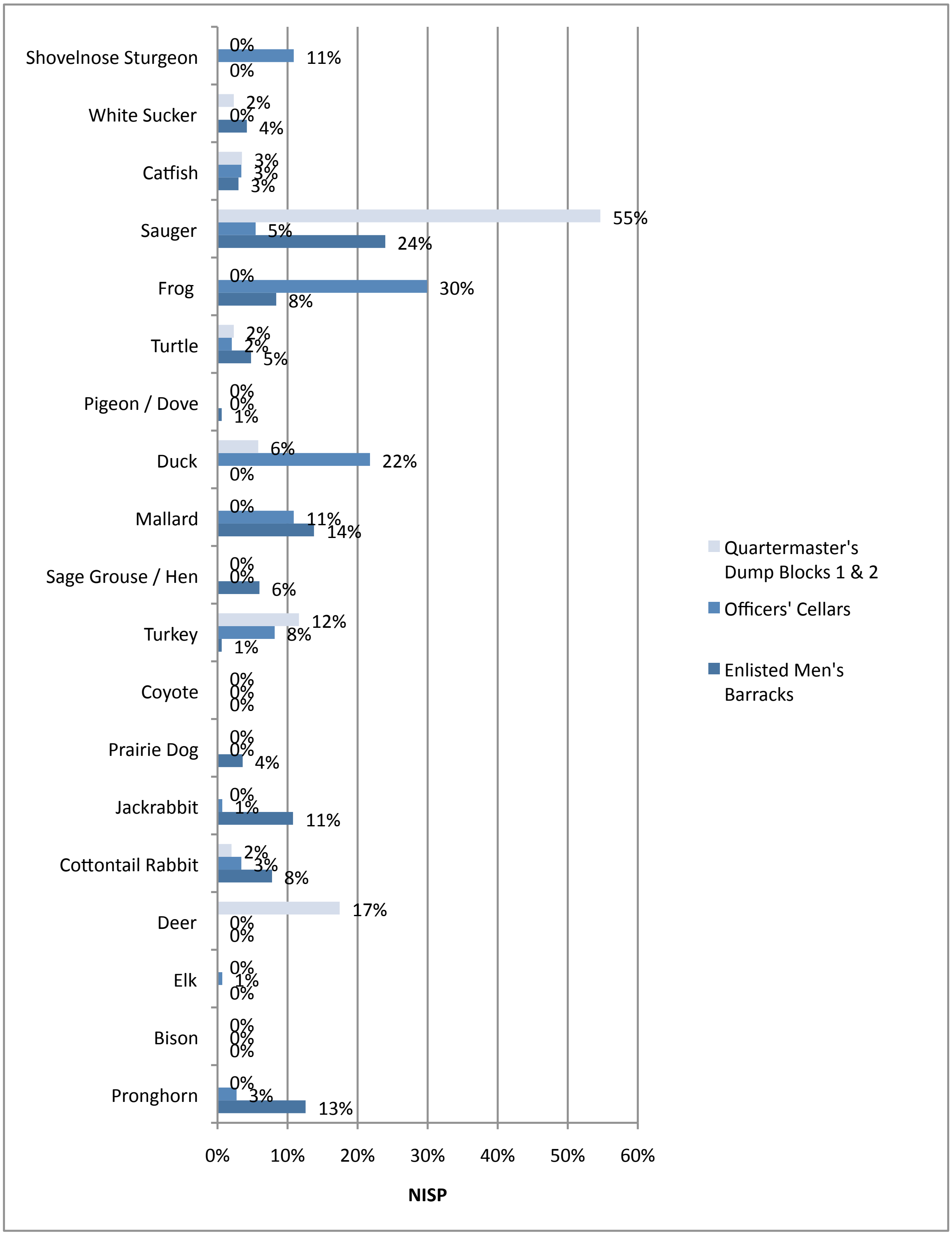


Figure 6.6: Distribution of wild animals by species (Enlisted Men's Dump n = 167; Officers' Cellars n = 147; Quartermaster's Dump Blocks 1 & 2 = 86).

Enlisted men ate more wild mammals than officers (Figure 6.2), but the wild mammals were usually small, like jackrabbits, cottontails, and prairie dogs (Figure 6.6). Only occasionally did enlisted men consume large mammals, such as pronghorn. Pronghorn were locally abundant, and soldiers did not need to travel far distances to shoot one (Griske 2005). Enlisted men were usually not allowed to hunt, except to occasionally procure large game for the entire fort to add variety to the diet (Adams 2009). During a fort-led hunting expedition, one or two officers would lead a group of enlisted men to kill several large mammals for consumption (Roe 1981[1909]). An individual enlisted man could sometimes obtain permission from their commanding officer to leave the fort to go hunting, such as the following example of Private James S. Annadell.

> Private James S. Annadell, Co. H. 7th Infy, obtained permission on Dec. 17th, 1884, to go hunting with a comrade now states that they visited a saloon outside of the [military] reservation where they had some drinks and procured a bottle of whiskey. On their return to the post Private Annadell, insisted on revisiting the saloon and left his comrade for that purpose. He must have frozen to death that night, as his dead body was discovered and brought in to the Hospital [sic] December 20th 1884, by a searching party (FLNHSL 1884: McDermott File [MF] December, Medical History, D.G. Caldwell Post Surgeon).

6.3: OFFICERS' CELLARS (1850s–1880s)

Officers ate considerably more game birds than enlisted men because sport hunting wild game was an officer's privilege (Adams 2009) (Figure 6.5; 6.6). The wild animals found within the cellars were most likely hunted and consumed by those officers living in Old Bedlam. Officers found great pleasure in hunting. As one officer wrote about his life in the army, "Hunting was my only pleasure" (Maury

1894:96). Officers often stole away for hours, days, or even months on personal hunting expeditions (Adams 2009; Custer 1961; Custer 1962; Grierson 1989; Maury 1894; Merington 1950; Parker 1929; Roe 1981[1909]). Once returned, many would boast about their hunting success, even publishing their kill counts (Adams 2009). Sometimes wives and children would accompany officers on these hunts (Talbott 2010). For example, in Texas, Colonel Grierson's son wrote, "Several officers and ladies have just started out for a buffalo hunt, to be gone several days. They wanted us to go along, but as we saw so many buffalo in coming here last fall, and saw several hunts, we did not care to go" (Grierson 1989:86). While there is an elk bone in the officers' cellars, it may not be related to traveling a great distance to hunt. Elk occasionally migrated through the area. On April 4, 1868, "a drove of 200 elk was seen near Fort Laramie" (CDL, 4 April 1868).

At Fort Laramie, officers primarily hunted birds, and not large mammals (Figure 6.5). While officers consumed mallard duck, similar to enlisted men, they uniquely hunted pigeons/doves and turkeys (Figure 6.6). Turkey was a special treat on frontier, and was "something rare and valuable" due to the over hunting of the bird (Roe 1981[1909]:85). It is therefore unsurprising that wild turkey would be associated with the higher status officers. Approximately 23% of the wild game consumed by officers were wild pigeons/doves, possibly Passenger Pigeons (*Ectopistes migratorius*) or Mourning Doves (*Zenaida macroura*). The broken nature of the bones and lack of comparative Passenger Pigeon material made positive identification impossible. Further research into positive identification of these pigeons/dove could revolutionize the understanding of biogeographic distribution of Passenger Pigeons in the 19th century. The preferred habitat of the extinct Passenger Pigeon was the forested areas of eastern North America (Hargrave and Emslie 1980). They "bred formerly from middle western Mackenzie, central Keewatin, central Ontario, central Quebec and Nova Scotia south to Kansas, Mississippi, Kentucky, Pennsylvania, and New York. Wintered principally from Arkansas and North Carolina south to central Texas, Louisiana, and Florida" (Schorger 1955:256). Passenger Pigeons were one of the most abundant birds in North American in the 19th century. Two brothers living in Wayne County, New York, in the 1840s and 1850s wrote,

> I was going to say that a thousand million could have been seen in the air all at once. There would be days and days when the air was alive with them, hardly a break occurring in a flock for half a day at a time. Flocks stretched as far as a person could see, one tier above another. I think it would be safe to say that millions could have been seen at the same time (Schorger 1955:203).

With increased urbanization on the east coast during the 19th century, Passenger Pigeons were forced further west from their preferred habitat. Passenger Pigeons appeared in Idaho, Montana, and Wyoming along the North Platte (Schorger 1955:257). Charles S. McCarty shot a Passenger Pigeon 40 miles west of Fort Laramie in 1859 (Schorger 1955:259). Passenger Pigeons followed the North Platte through Nebraska and into the Fort Laramie region (Schorger 1955:258). There is also a chance the remains belong to the very common Mourning Dove, which is still the dominant dove in Wyoming (Sterry and Small 2009).

Frogs' legs, some with butchery marks, appear in the officers' faunal assemblage. At Fort Laramie, the officers were well-known for their fondness of frogs' legs (Adams 2009), and they were a popular dish among the upper class. As one wealthy English traveler wrote, "The frog, with its white flesh and soft bones, is as much eaten in America as in France. Its flesh is as savoury as that of a rabbit" (American Hotels and American Food 1861:350). Frogs were also locally abundant resource. During the excavation of the Fort Laramie parade ground well, several frogs were found (NISP 63; MNI 7). The similar distribution of frogs' legs in officers' and enlisted men's assemblages suggests the two groups did eat somewhat similar diets.

Fishing played an important role in the lives of officers living at forts. Fifty percent of the wild animal assemblage came from fish caught in the Platte and Laramie Rivers (Figure 6.5). Officers primarily fished for sauger, a type of native Wyoming walleye (Figure 6.6). While more common in the enlisted men's assemblage, catfish also appeared in the officers' cellars.

It is important to note that in the historical record, several of the fish species went by slightly different names, and zooarchaeology has helped to figure out the biogeographic distribution of native game fish. While zooarchaeological remains show that the majority of fish caught were sauger/walleye, there is no historical reference to this fish species. In addition, no pike or pickerel fish bones were found in the faunal assemblage despite historical references to these fish. It is very likely that sauger/walleye was called "pike" or "pickerel." A soldier stationed at Fort Laramie wrote, "Fish are plenty and easily caught both in the Laramie and Platte rivers, they are mostly catfish and pike" (Giddens 1978:311). Additional evidence for "pike" referring to sauger/walleye comes from the Fort Laramie Post Trader, John S. Collins. In the 1870s, he wrote, "A few miles above the post on the Platte River . . . was a cataract in the river which was a great fishing place. In season I made frequent trips to this point, usually meeting with great success, taking from twenty-five to one hundred pounds of wall-eyed pike weighing from one to five pounds each" (Collins 1970: 108). A more elaborate discussion of fish species comes from Corporal Hervey Johnson at Fort Laramie in 1865. He writes,

> The Platte river [sic] is falling very fast, The [sic] boys have a seine here, some of them are out every day with it fishing. I have been twice. we [sic] have a fish along near the shore, the water is too deep and swift out of the stream There are several kinds of fish in the streams out here, we catch pickerel, catfish, buffalo salmon, suckers, shovelheads, hickory-shad, and several small fry. we [sic] caught one shovel head two and a half feet in length (Unrau 1979:263 – 264).

Interestingly, the modern game fish in the Laramie and Platte Rivers does not reflect any of the archaeological assemblages or historical descriptions. As observed above, a survey of current fish in the rivers surrounding Fort Laramie revealed that no native game fish are currently in the rivers. Instead, introduced game fish, including small mouth bass (*Micropterus dolomieu*) and white crappie (*Pomoxis annularis*), are found there (White et al. 2002). The disappearance of native fish populations could, in part, be due to human damming and overfishing of the Laramie and North Platte Rivers. The North Platte River was dammed several times in the early 1900s creating Seminoe, Kortes, Alcova, Glendo, and Guernsey reservoirs (Ostlind 2011).

Domestic animals from the officers' cellars appear to be the exact same species as those found in the enlisted men's barracks. Cattle comprised 70% of the domestic animals in the assemblage. The primary beef cuts came from the most tender slices of meat, including loin steak cuts (48% of all meat cuts) (Figure 6.4). The officers primarily dined on beefsteaks, while the enlisted men ate stews. Some dietary diversity came from the addition of pig, sheep and chicken. There was substantially more chicken in the officers' cellars than in the enlisted men's barracks (Figure 6.3). Chicken was highly desirable at the time, and it was expensive on the High Plains (Roe 1981 [1909]). The increased presence of chicken with officers could be a reflection of their ability to buy more chickens compared to enlisted men. While officers' wives frequently raised chickens at forts, Old Bedlam represents a primarily bachelor quarters. Hence, the high frequency of chickens most likely originates from increased income and not gender differences.

6.4: QUARTERMASTER'S DUMP BLOCKS ONE AND TWO

The quartermaster's dump was seven different dumping episodes along the Laramie River, and the identification of human occupation group was not positively identified. Material culture suggested that Blocks One and Two belonged to an upper-class household, such as officers. "Ceramics and bottles recovered . . . were more of a 'higher' class than that recovered from block areas felt to be enlisted men's trash. There were also several children's artifacts of a type of suggestive of a higher quality than expected for children of enlisted men or non-commissioned officers" (Walker 1998:159). The faunal analysis helps to identify the cultural group who deposited the remains by comparing them to the officers' cellars and enlisted men's barracks.

The faunal remains from Block One and Two are unlike the faunal remains from the officers' cellar and enlisted men's areas, partly due to differences in taphonomy. The officers' cellars and enlisted men's barracks were both unmodified by humans once interred in the ground, and most of the assemblage was root-etched

(56% for both) or unmodified by the environment (≈31% for both) (Figure 6.7). In contrast, the assemblage from Blocks One and Two exhibited sun-bleaching (21%), suggesting a period of being exposed to the elements before being buried (42% root etched). Comparatively few from Blocks One and Two were unmodified (13%). Natural modification of the bones made identification more difficult, which is why most of Blocks One and Two could not be determined to be wild or domestic animals (Figure 6.2). The taphonomic similarities between the officers' cellars and enlisted men's barracks makes comparison between those two units sound, and comparisons with Blocks One and Two less clear.

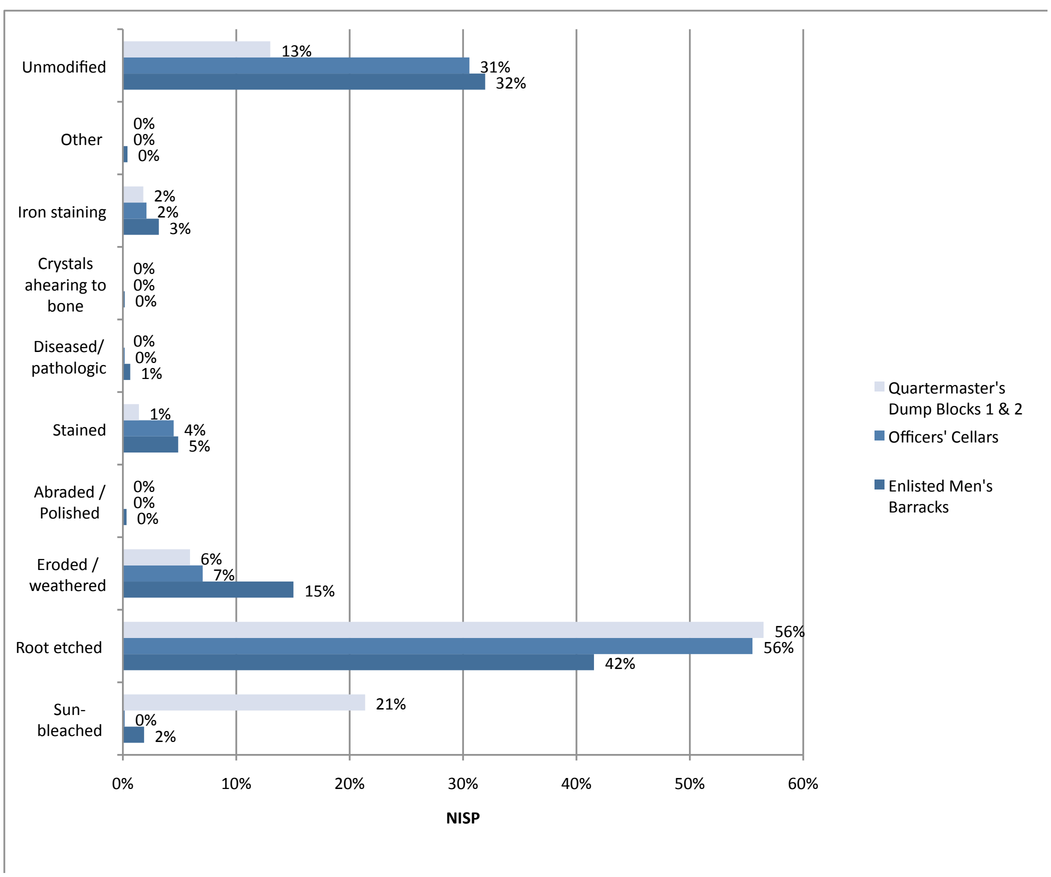


Figure 6.7: Natural modifications to the faunal assemblages (Enlisted Men's Barracks n = 1,230; Officers' Cellars n = 625; Quartermaster's Dump Blocks 1 & 2 n = 177).

Blocks One and Two are the only assemblages that show a decreased reliance on cattle, and an increased reliance on chicken and sheep (Figure 6.3). Sheep appeared in very low numbers for both officers (2%) and enlisted men (3%), which is why the increased sheep presence in Blocks One and Two (8%) is unusual. This could suggest that the faunal remains came from the civilians or homesteaders in the 1890s, after military abandonment. Cattle dominated southeastern Wyoming until the devastating winter of 1886–1887, which decimated the cattle industry and allowed sheepherders to gain a foothold in the state (Larson 1978). After 1887, sheep increased in prevalence throughout the state of Wyoming (Larson 1978). During the homesteader time period, cattle would have been harder for families to acquire, and they would have relied on other resources, such as chicken and sheep. In addition, the increased chicken bones also suggest possible homesteader era because the Sandercock family, one of the private owners of Fort Laramie, converted several fort buildings into large chicken coops, and let chickens free range on the parade grounds (Talbott 2010:88; Figure 6.8). An archaeological investigation tested the soil surrounding one chicken shed, and found evidence for a large quantity of chicken feces in the soil (Walker 2000, 2008). The absence of pig from Blocks One and Two is interesting because pork played a significant role in the military diet, but not in the homesteader diet. At Fort Laramie, pigs abounded during the military occupation. On April 1, 1870, the Brevet Brigadier General Flint ordered, "Owners of Hogs and Pigs are herby directed to take such measures as may be necessary to keep their Hogs penned up. The practice of allowing them to roam at large through the post must be discontinued at once" (FLNHSL 1870: McDermott File [MF] April 1, Circular No.

14). In contrast, there is no evidence for pigs roaming the fort during the homesteader time period (Talbott 2010).

Figure 6.8: Homesteader chicken coop built into old commissary, approximately 1916. (Property of Wyoming State Archives, Department of State Parks and Cultural Resources.)

The beef cuts from Blocks One and Two also do not fit within the military diet (Figure 6.4). In Blocks One and Two, there are relatively few loin cuts, the signature of officers, and relatively few chuck, rib, and prime rib cuts, the signature of enlisted men. Instead, Blocks One and Two include an increased presence of undetermined vertebrae, foot bones, neck, cranial cuts, and foreshank, all signatures of offal discard. Offal was discarded into the river (Danny Walker, personal communication 2016), and it is possible some elements comingled with Blocks One and Two.

Sauger/walleye and deer primarily compose the wild animals from Blocks One and Two (Figure 6.6). Since Blocks One and Two are located on the river, it is possible that the large quantity of sauger/walleye remains were intrusive to the site.

Deer accounts for 18% of the wild assemblage in Blocks One and Two, which is unusual since it is nearly absent from the officers' and enlisted men's assemblages. Pronghorn is much more common in both officers' and enlisted men's diets, but is surprisingly absent from Blocks One and Two. While there is no good explanation for the switch between pronghorn and deer, it does suggest that a different cultural group, other than military officers and enlisted men, created Blocks One and Two, such as homesteaders or civilians.

6.5: DISCUSSION

The overall pattern of animal exploitation at Fort Laramie contains some striking similarities, but also some differences in status elements, such as meat cut and game hunting. It appears that while social status did play a part in some dietary elements, there were also parts of the diet that exhibited a type of social equality.

One type of dietary equality was that officers and enlisted men ate approximately the same amount of cattle, sheep, and pig (Figure 6.3). Beef was the major component in every soldier's diet, and it became monotonous over time. As an officers' wife wrote, "[A] change in meat we certainly do need here, for unless we can have buffalo or antelope now and then, it is beef every day in the month – not only one month, but every month" (Roe 1981[1909]:39). If there was extreme dietary inequality, officers would be the only social group receiving dietary diversity, and enlisted men would be eating only cattle. Since there was similar diversity, there was some equality across the two groups in diet.

While cattle played a significant role in the diets of both enlisted men and officers, according to historical and archaeological data, individuals of different social status received different cuts of meat. Enlisted men primarily consumed beef for stew, such as chuck, ribs, and prime rib cuts, while officers primarily ate loin cuts and some ribs (Figure 6.4). While there is an overall pattern of the most tender meat going to officers, enlisted men did occasionally receive loin beef steaks, and officers did sometimes eat chuck cuts. When enlisted men did receive loin beefsteaks, the average thickness was 1.0318 inches. This was a good-sized steak considering cookbooks suggested that a loin steak should be an "inch thick sawn through the bone and fat, upper loin, tenderloin and everything" (Whitehead 1884:267). In contrast, the average thickness of an officer's steak from the Old Bedlam cellars was 1.2526 inches. This suggests that while the enlisted men did eat well, the officers ate better.

Previous archaeological discussions of chicken remains at military forts have suggested the officers ate preferential cuts, such as the breast, and undesirable parts, such as legs, went to enlisted men (Rogers et al. 1998). This argument would imply that chicken was part of the military rations. At Fort Laramie, however, officers ate considerably more chicken than enlisted men (Figure 6.3), and it appears that both groups ate whole chickens, not different cuts (Figure 6.9). This implies that chicken was not part of the distribution of rations, and individuals purchased whole chickens.

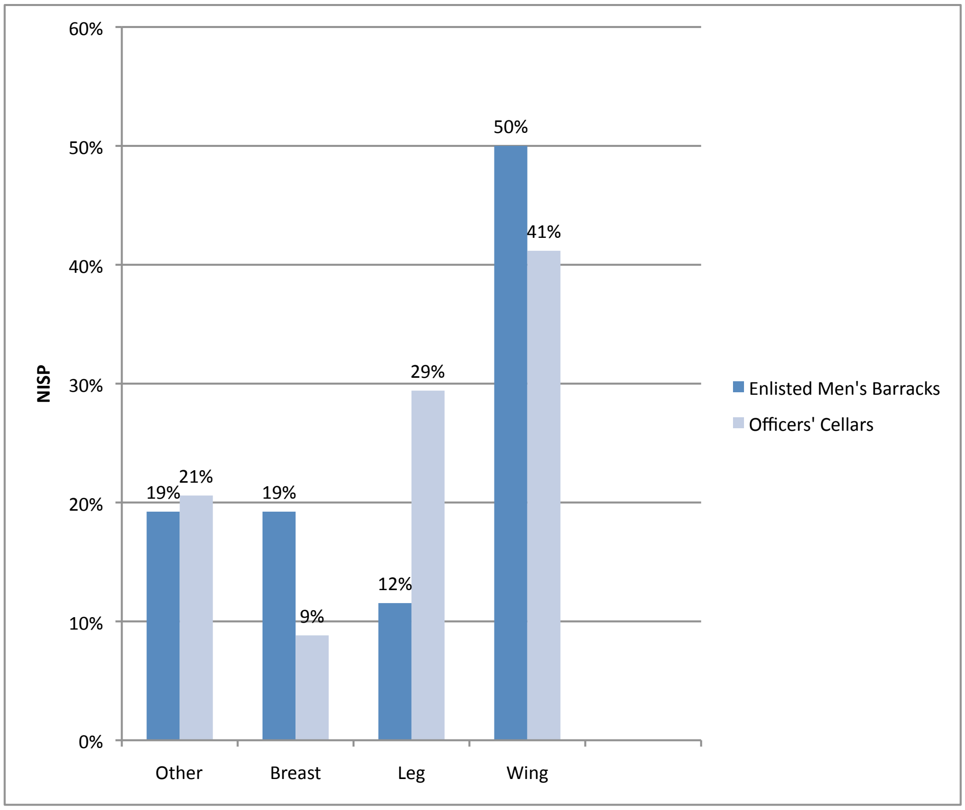


Figure 6.9: All cuts of the chicken are represented in both groups, which imply whole chickens were eaten, and specific meat cuts were not distributed to those with different social status (Enlisted Men's Barracks n = 26; Officers' Cellars n = 34).

While both enlisted men and officers consumed wild animals, the type of animals hunted relates back to social status. Pronghorn appeared in both officers and enlisted men's diets, and was more pronounced in the enlisted men's faunal remains. It is possible that pronghorn was a regular way to diversify the diet, since it was so numerous, and it did not have status qualities. This would explain why pronghorn is more abundant in enlisted men's diets instead of officers. In addition, enlisted men ate more small game, such as jackrabbits. Officers preferred to engage in sport hunting of wild birds, including turkey and wild pigeon/doves. These birds required a several day hunt from the fort, and were considered valuable game birds (Roe 1981[1909]). The common mallard duck, which was numerous in the area, appeared in both enlisted men’s and officers' assemblages, in almost equal percentages (≈12%) (Figure 6.6). Only officers acquired the prestige birds, such as turkey and wild pigeon/dove, while the common mallard lacked the prestige, and was hunted by both groups.

Fishing was an activity everyone enjoyed, including women, children, enlisted men, and officers, but the species of fish changed in accordance to social status (Figure 6.6). Officers had more leisure time (Adams 2009), and they could invest more time and energy into catching bait, such as grasshoppers, and walking to a good cataract to catch sauger/walleye (Collins 1970). Sauger/walleye preferred particular habitats not found directly at the fort, and sauger/walleye also favored live bait. In contrast, catfish were easy to catch because enlisted men could set up a “seine,” a net, or a line across the river. “We have trot lines set in the river, catch a good many fine catfish and pickerel, the boys found one this morning a cat fish of about 15 lbs weight” (Unrau 1979:171). Seines could be checked throughout the day by enlisted men patrolling the fort, and an operator was not needed to directly man these fishing methods. The low effort of catching a catfish made them excellent prey for enlisted men, whom were more often busy working around the fort (Adams 2009). Enlisted men were also more likely to try new types of fish, such as the shovelnose sturgeon, than officers, who ate primarily sauger/walleye and catfish (Unrau 1979).

6.6: CONCLUSION

Based on archaeological and historical data, the diet at Fort Laramie suggests that the frontier created a basic equality it diet, but upon closer investigation, the difference in wild game species and meat cut differentiates officers from enlisted men. Both officers and enlisted men relied heavily upon cattle, and diversified their diets with pig, chicken, sheep, wild game, and fish. It is only upon closer investigation of species that dietary disparities between the groups appear. Officers engaged in sport hunting of birds, such as pigeons/doves and turkeys, while enlisted men hunted easily acquired game, such as jackrabbits, pronghorn, and mallard ducks. A similar trend occurs in fishing behaviors. Officers had the leisure time to fish for the more difficult, and tastier, sauger/walleye, and enlisted men preferred the easily caught catfish.

Many of the dietary choices were not ideal, and the environment forced people to adapt. As one enlisted man wrote, "The boys killed a beef this morning and we had some heart and liver fried for dinner. they [sic] are articles that I never would touch at home, but I aint near so nice now as I was then" (Unrau 1979:161). Both officers and enlisted men experienced a shift from their normal activities back home to living on the frontier. Many officers had never hunted game before moving to the frontier, but they quickly learned to enjoy the sport of the chase (Grierson 1989). Hunting provided a recreational activity, and it increased their dietary diversity. Similarly, fishing was not necessarily an activity that everyone participated in before moving to the frontier. As many wives pointed out, recreational activities were sparse and fishing was a welcome distraction. Victorian etiquette dictated that on a fishing trip, gentlemen would "furnish the tackle, bait the hooks, row the boats, carry the fish, and furnish comfortable seats for the ladies" (Hill 1888:161). On the frontier, however, women were expected to find their own bait, bait their own hooks, and carry their own fish, despite the discomfort. Frances Roe described the discomforts of wading through a stream in a dress for a full day of fly-fishing in some Wyoming mountains. She “retired to some bushes to prepare for the water” by tucking and pinning her dress up between her legs to create a type of shorts. “When we came from the bushes, rods in hand, the soldier driver gave one bewildered stare, and then almost fell from his seat. He was too respectful to laugh outright and thus relieve his spasms” (Roe 1981[1909]:374).

The reason for the difference in hunting and fishing can be attributed to amount of leisure time awarded to officers compared to enlisted men. Officers led lives of leisure, while enlisted men maintained a much more rigorous work schedule (Adams 2009). It was believed that enlisted men would only get into trouble if they had free time, and as a result they rarely got time off. The military controlled when enlisted men got up in the morning, what they wore, and when they put the lights out (Agnew 2008). The only day that provided some rest for enlisted men was Sunday, in which they had fewer responsibilities. However, enlisted men were still required to stay at the fort, unless they received a special pass from the commanding officer (Agnew 2008). Only on rare occasions were enlisted men granted a couple of days to leave the fort (Agnew 2008). In contrast, officers had ample free time, and led a less structured lifestyle. Officers were free to leave the fort for extended periods of times, including for personal hunting trips. Officers also had more free time during their daily routine (Adams 2009). These moments of free time provided opportunities for officers to escape the fort to hunt and fish. For example, the wild game birds the officers hunted, such as dove/pigeon and turkey, required travel away from the fort for several days. While enlisted men could not take the time off from their schedules to partake in such adventures, an officer had plenty of time on his hands. Similarly, enlisted men primarily fished for catfish, which could be caught in the Laramie River at the fort. Enlisted men could string up a net and check it during their fatigues. The sauger fish was most likely obtained from the Platte River, which required traveling away from the fort area. Officers had the freedom and leisure time to leave to the fort to obtain the tastier fish. Sauger also requires more work to catch than a catfish. Since officers had more leisure time, they could expend more energy catching fish.

While officers and enlisted men led different lives in many regards (Adams 2009), archaeological analysis reveals that there were some fundamental similarities between these two groups. While there was no egalitarianism, as Fredrick Jackson Turner described, the two groups did share some basic dietary similarities. The monotone nature of military rations necessitated diversity, and both groups diversified in similar ways.

CHAPTER 7: CONCLUSION

7.1 CONCLUSION

This dissertation addresses three previously unstudied areas of Victorian culture persistence in frontier regions of the western United States: hotel standardization, the role of dogs, and differences in diet between officers and enlisted men. In all three areas, core Victorian cultural ideas appeared on the frontier at Fort Laramie, Wyoming. One possible reason for the durability of these Victorian ideas is that all three aspects were related to social status, which was a fundamental part of Victorian culture. As described in Chapter 3, and throughout this dissertation, Victorian culture was diverse, however, social status displays were a cornerstone of the lifestyle.

Social status displays increased in importance during the Victorian Era because of the increased ease with which lower-class individuals could mimic the tastes of the upper classes. As with many class distinctions, the upper class controlled the dialogue of taste, and the lower class mimicked those established tastes, naturalizing class distinctions (Bourdieu 1984). With industrialization and mechanization, average people could acquire capital, leading to greater social mobility. Mechanization also decreased the cost of material goods, making material displays of wealth possible for the lower classes.

With increased social mobility, upper class households sought to differentiate themselves by diversifying their status displays, partly in nonmaterial ways. For example, George Bird Grinnell and Charles Hallock, editors of *Forest and Stream* journal in the 1880s, established that upper-class sportsmen were not established by money, but through a sense of honor and preservation toward the natural world. Grinnell and Hallock drew upon the English concept of sportsmanship as equated with upper class, and used it to establish a sportsmanship code for the United States following the Civil War (Reiger 2001). "[T]he understanding and appreciation of field sports and their outdoor surroundings could not be bought—one almost had to be 'bred' to them. Perhaps Hallock and Grinnell were subconsciously attempting to keep at least one representative element of the older elite's world free from the encroachment of the *nouveaux riches*" (Reiger 2001:53).

Social status displays, using material culture and non-material culture, were integrated into many aspects of life, including hotel standardization, pet ownership, and diet. Even on the remote frontier, far removed from the cultural core, Victorian social status displays emerged in each of these three aspects of life, demonstrating the resilience of class distinctions despite environment.

Hotels are a product of the Victorian Era, and, as an institution, they were shaped by the larger Victorian culture. Prior to the Victorian Era, travelers stayed in generalized establishments, such as an inn. An inn would usually be small, have a bar, have meeting areas, and some sleeping accommodations in the upstairs portion of the building (Penvsner 1976; Sandoval-Strausz 2007). In contrast, the primary function of a hotel was to house a large number of travelers or transient populations (Penvsner 1976; Sandoval-Strausz 2007). Hotels first appeared in the United States because of the larger number of travelers that traversed greater distances than in Europe. The inn remained the primary lodging venue in Europe into the 1900s, compared to the United States in which hotels were the primary lodging venue by 1860 (Sandoval-

Strausz 2007). In the early 1800s, there was a wide variety in hotels, but increased travel following the Civil War standardized the hotel experience for guests. Hotels in the early 1800s were largely independent of each other, and each hotel offered different amenities and services.

There was no standardized hotel experience until a network of travelers on the railroad connected the previously disjointed hotels during the 1870s. Prior to the Civil War, stagecoaches were the only mass transportation system, which serviced a limited number of guests. Railroads mobilized large numbers of people, which increased the demand for the hotels. As discussed in Chapters 3 and 4, railroads drastically increased during and after the Civil War, allowing for average people to travel more easily. Hotels depended upon the expanding railroad network to deliver passengers, and railroads depended upon hotels to provide meals and lodging to attract riders. Resorts, such as Flagler in Florida, were located in remote wilderness areas, and would not have existed without the aid of railroads to bring northeastern and midwestern tourists in the winter months during the late 1800s (Braden 2002). In some cases, railroad companies invested in the development of resorts along or at the end of their lines to increase ridership (Aron 1999).

In the 1870s, the travel network had become more interconnected, and travelers began to expect hotels to provide a more standardized experience. For example, resorts were expected to have a long verandah surrounding the hotel to allow guests to view the natural landscape outside, and wicker furniture to create a country atmosphere (Blackmar and Cromley 1982; Menz 1982; Sandoval-Strausz 2007). Verandahs and wicker furniture appeared in many resort designs from the

Catskill Mountains in New York State to beach resorts in Florida (Braden 2002; Menz 1982). Many hotels provided public gathering areas, such as lobbies and parlors (Sandoval-Strausz 2007). People preferred to socialize in shared public spaces instead of their rooms (Sandoval-Strausz 2007). Dining rooms were a necessity at hotels, since meals were incorporated into the price of the room. Most hotels in the United States provided the "American Plan," in which hotel rates included both room and board with no discounts for meals taken elsewhere (Sutton 1990; Pevsner 1976; Sandoval-Strausz 2007). Food was one of the main ways of standardizing a hotel experience, since all guests ate at hotel.

Results from the excavation at the Rustic Hotel revealed that travelers on the Black-Hills Stagecoach enjoyed the same standardized food that Victorians ate at luxury hotels in urban centers. Guests ate mostly loin beefsteaks, beef ribs, occasional pork, and novelty wild game. Loin beefsteaks were culturally described as the preferred dish for hotels guests, and could be served at all meals (Whitehead 1884). The loin beefsteak was the most expensive cut of beef (Whitehead 1884), which archaeologically indicates the Rustic Hotel served upper-class guests. Hotels would appeal to Victorian travelers by presenting an occasional wild game dish, not as a staple but as a novelty. Victorian travelers enjoyed tasting local game, but did not want an entire meal of game (Whitehead 1884). For this reason, hotel cooks would often introduce wild game as a side dish along with beef as the main course (American Hotels and American Food 1861). In contrast, rural towns in Wyoming at this time primarily subsisted on wild game (Rockman 1995). The heavy abundance of domesticated animals compared to wild game at the Rustic Hotel suggest the guests received meals similar to Victorian tourists at urban hotels, and did not receive meals that resembled residents in rural Wyoming towns (Rockman 1995). These results indicate that hotel standardization was a culturally powerful force that impacted the development of hotels through the country, even into remote areas. The Rustic Hotel was only one small part of the larger cultural shift toward hotel standardization.

Hotel standardization in the 1870s represented a change in the way people traveled, and tourists began to expect similar components in hotels, creating a familiarity bias in consumerist choices. Prior to the Civil War, there was a great diversity of hotels, but by the 1870s, diversity decreased in favor of more standard accommodations (Sandoval-Strausz 2007). Familiarity is defined as something "frequently seen or experienced, easily recognized, of everyday occurrence, common, [and] customary" (Tasci and Knutson 2004:88). These familiar places, people, or things activate an affective response, and cognitively stimulate meaning from memory (Tasci and Knutson 2004). Hotels that offer similar services stimulate the familiarity bias in consumer choices. For example, hotels that are part of a chain are more likely to survive than those that are not (Ingram and Baum 1997). Familiarity continues to play a significant role in tourism, and destinations seek to strike the appropriate balance of familiarity and authenticity (Tasci and Kuntson 2004). The popularity of standard hotel accommodations during the Victorian Era implies that the familiarity bias in the tourism industry could be as old as tourism itself.

The concept of the hotel chain emerged from standardization during the Victorian Era, which stills resonates in the industry today. Hotel chains, which emerged around the turn of the 20th century, embody the impact standardization can have on consumer choice (Ingram 1996). All the hotels in E. M. Statler's early 1900s chain, had a similar appearance, and looked very similar to modern hotels. The exterior façade of the buildings were all alike, each guest's room had a door entering into a hallway, elevators were always arranged together, a simple carpet was chosen for all the hotels, and there was a uniformity in the personal service employees (Sandoval-Strausz 2007). This was unique and revolutionary at the time. Statler's original hotel chain, consisting of thirteen hotels, gave birth to an industry of chain hotels that after one hundred years is composed of more than 300 chains and more than 50% of the lodging venues in the United States (Ingram 1996:3).

The Victorian Era also saw drastic changes in the treatment and role of dogs in the military, from instruments of warfare to companions. Dogs have been associated military campaigns since ancient times. However, dogs lost much of their strategic function in the military during the Age of Exploration, and during the Victorian Era dogs found a new role as mascots and companions for military personnel. The changing role of dogs is part of Victorian sentimentality and the increasing role of family during that time period. In the Victorian world, dogs became associated with the family, which is still how Americas perceive dogs today.

Since recorded history began, dogs have been associated with the social elite and warfare where were typically linked together. Some of the earliest depictions of dogs are known from the Third Dynasty of Ur in Mesopotamia, where dogs guarded high-status individuals riding into battle on chariots (Hobgood–Oster 2014). A chest in King Tutankuhmun's tomb (1361–1352 BCE) depicts dogs running next to the chariot of the pharaoh as he goes in to battle (Hobgood-Oster 2014). Darius the Great

(550–486 BCE) used dogs as a diversionary tactic, and left dogs in camp to draw in the enemy while his army escaped (Hobgood-Oster 2014). Alexander the Great (356–323 BCE) was accompanied into battle by his loyal dog, Peritas, who was given a full military burial when he was killed in combat (Hobgood-Oster 2014). The Roman Empire (27 BCE–AD 395) followed suit, and used large dogs in warfare tactics. These dogs would later evolve into mastiffs, Rottweilers, and Great Danes (Hobgood-Oster 2014). Canine companions can also be seen in the Bayeux Tapestry beside William the Conqueror leading the Norman invasion of England in 1066 (Hobgood-Oster 2014). Dogs lost much of their military importance by the 1500s, and dogs did not play an official role in the American Revolution (Hamer 2001).

The perception of pets and animals drastically change during the Victorian Era because of increased sentimentality in the culture. Prior to the Victorian Era, families were united by working together to survive. However, with the change in modes of production during industrialization, families no longer were bonded together through production, and love became the source of family cohesion. Similarly, prior to the Victorian Era, marriages were based on economic and family alliances, but with social mobility, marriages lost much of their political and economic value. Hence, the focus of marriage changed to be based on feelings, emotions, and love. The role of pets and animals, similarly, changed from being tools to members of the family, bound together by emotional attachments (Flegel 2015). An example of the transformation of feelings of animals comes from comparing and contrasting René Descartes and Friedrich Nietzsche's views on horses. Descartes (1596-1650) wrote that horses had no soul, which is consistent with a pre-Victorian

Era perception of animals (Dorre 2006). During the Victorian Era, attitudes toward horses and animals change drastically. In 1889, Nietzsche cries at the sight of a broken down horse cart, and the coachman beating the horse with the whip. He thought it was the mark of insanity to be beating a horse, which was animal capable of feeling just as much as a human (Dorre 2006).

Pets were "subsumed within the family as almost human" establishing the "Victorian cult of the pet" (Flegel 2015:4–5). The cult of the pet established ideal ways to treat these animals within Victorian culture. Within Victorian literature, household pets took on childlike attributes, created a sense of household stability, and completed the natural family (Flegel 2015; Grier 2006). The Victorian cult of the pet firmly established essential components of family life. As one officer wrote about his setter, "For more than ten years, he was one of my family" (Maury 1894:94). As a result, dogs and pets became integrated into the larger cultural understanding of creating a domestic home life. Just as today, many families would argue that pets are members of the family, and that a family portrait would not be complete without the pet. In fact, Victorians started the trend of taking family photographs with their pets, and most of the pet images from this time period come from family portraits (Flegel 2015; Grier 2006).

After a long absence from military service, dogs were unofficially incorporated into the military during the Civil War as companions to soldiers far away from the comforts of home. These men were often far away from families, home, and loved ones, and found comfort in adopted mascots (Hamer 2001; Seguin 1998). While dogs and horses were the most common company pets, a Minnesota regiment kept a young bear, several Wisconsin regiments had pet badgers, a Confederate Arkansas regiment had a pet wild cat, and the 43rd Mississippi Infantry kept a camel named Douglas (Seguin 1998). Pet dogs, of both officers and enlisted men, accompanied their owners on campaign during the Civil War. These dogs were beloved pets that soldiers could not bear to leave behind (Hamer 2001). One of the most well-known dogs is Sallie, the brindle bull terrier, who traveled with the 11th Pennsylvania Voluntary Infantry (Hamer 2001). She followed her unit into many battles, and was honored with a statue at Gettysburg, where she fought next to her unit (Hamer 2001).

On frontier forts, dogs were companions to officers, officers' wives, and enlisted men. Dogs provided a sense of family for people stationed on the frontier, where the loneliness was sometimes crippling (Grierson 1989; McConnell 1996[1889]; Roe 1981[1909]). As discussed in Chapter 5, dogs played different, but equally important, roles in the lives of all individuals living on military forts. Women were often the ones directly overseeing the care of dogs, and dogs frequently provided a welcome distraction from the monotony of daily life (Roe 1981[1909]). Officers frequently sought recreation in hunting, and prided themselves on having a well-bred hunting dog. One of the privileges of being an officer was that he could leave the fort at any time to hunt. The officer would often be alone if not for their beloved dog. Enlisted men did not have the same hunting privileges or leisure time as officers or officers' wives, and the pet ownership style of dogs reflects this. A company or unit of enlisted men would communally adopt a dog, each sharing in the responsibilities. In the busy life of an enlisted man, a communal dog was an easy pet to maintain. Since the dog's only function was companionship, there was no need for breeding, and enlisted men often adopted a friendly mongrel.

Following the re-introduction of dogs as warfare companions during the 19th century, dogs were integrated into an official military role in WWII. In World War I, war dogs were considered an asset by European powers, but the United States did not create dog units until World War II. In World War I, U.S. soldiers occasionally snuck their pet canines onto ships and brought them to Europe. While these dogs were one person's pet, they were often put to tasks on the front line including running messages and warning soldiers of incoming shells (Bausum 2014; Hamer 2001). By World War II, dogs were integrated into the military and trained as guard dogs, scouts, and messengers (Hamer 2001). Their importance further increased during the Vietnam War, and dogs continue to play an important part of the U.S. military (Cummins 2013; Hamer 2001). While many animals used in warfare, including horses and pigeons, decreased in military importance, the dogs' presence has increased (Cummins 2013). Now canine units can be found in military, police force, transportation security, and border patrol, amongst others. In all these cases, the dogs are treated as more than just tools, but also as companions (Hamer 2001).

The Victorian sentimentality toward animals persists in our treatment of dogs in the military. While dogs play an important strategic role in the military, they are also increasingly perceived as emotional companions to soldiers. During the Vietnam War, it was noted that dogs had a big impact on the mental health of soldiers. "A dog's unwavering devotion and warm physical presence provided great comfort to a soldier suffering from the stress of not knowing whether he would survive the day"

(Hamer 2001:146). While dogs can physically save their handler's life in battles, they can also help soldiers deal with Post Traumatic Stress Disorder (PTSD), and aid in rehabilitation of soldiers to civilian life. Companion dogs ameliorate PTSD symptoms, and provide veterans with "fundamental human needs for safety, affiliation, and succourance" (Taylor et al. 2015:593).

Little is known about psychological stress in the frontier army in the 19th century, because the field was not well established at the time. However, the high amount of alcoholism within the frontier army would suggest that soldiers suffered from similar psychological stresses and PTSD, as do modern soldiers (Willey and Scott 2015). Pet dogs in 19th century forts fulfilled much of the same psychological needs for soldiers then as today. Under the stresses of the frontier, a dog was a welcome comfort that relieved much of the psychological stress of the environment for everyone living at the fort, including officers, enlisted men, and women. Pet dogs were a common thread that ran through the tapestry of military life for everyone living at the fort.

Victorian culture influenced the military institution, and reinforced social distinctions between enlisted men and officers. "Military environments are always a product of their place and time. The military is no more timeless than any other human institution, and to regard it as such is to flatten out enormous variables across cultures and eras" (Adams 2009:8). In this way, Victorian culture enforced social status distinctions already in place between enlisted men and officers. The organized structure for the military relies upon a chain-of-command, and a hierarchy, but the manifestations of that hierarchy are culturally defined. In the modern military, a rank and status divide still occurs between officers and enlisted men, but it manifests differently than it did in the 19th century. Enlisted men are extended many of the same comforts as officers, and there is more congeniality between the two groups than in the past. As Adams (2009:8) writes, "the familiarity between enlisted men and officers encouraged by the army during the twentieth century would have been viewed by officers serving on the frontier as injurious to military discipline and possibly dangerous." In this way, the 19th century military was shaped by Victorian culture, and social status distinctions in the military were reinforced even in remote environments.

The officer diet of luxury was contrasted to the relatively bland and limited menu for enlisted men. Fort rations included beef, either from the Quartermaster or local civilians, salted pork, flour, coffee, and beans, and, when campaigning away from the fort, hardtack, bacon or salt pork, and coffee (Adams 2009; Agnew 2008; Caperton and Fry 1974; Rickey 1963). Army rations consisted of 3,600-4,000 calories a day, 45% being meat and 50% being starchy foods, like rice, bread, or biscuit (Crass and Wallsmith 1992). This was twice the amount of meat daily consumed by average civilians (Crass and Wallsmith 1992). While fruits and vegetables were not included in the rations, enlisted men were encouraged to keep company gardens (Adams 2009; Agnew 2008; Caperton and Fry 1974). Occasionally, enlisted men would pool their money to buy a luxury food item for the company (Adams 2009). Enlisted men complained that the food was inedible, including flour with dead mice and rodent droppings, hard tack with green worms, and pickled pork so bad that it caused vomiting (Adams 2009:108). In contrast, officers consistently ate well. As one soldier reported that on campaign enlisted men ate:

> hairy hog jowls, maggots, bread like stone. Some cavalrymen preferred the raw corn allocated to their horses. Officers ate reasonably well, at least by comparison, and the general's table was decently supplied – often through his own efforts with a rifle or shotgun. He would halt the entire column if he spotted a covey of quail (Connell 1984:121).

In the 19th-century military, rank dictated which meat cut rations an individual received. Officers got the highest quality of meat cuts in rations, while enlisted men were given less desirable cuts of meat (Adams 2009). The quality of meat cut related to the meals prepared for the different ranks. While officers primarily ate steaks, beef stew was the staple of enlisted men's diet (Crass and Wallsmith 1992). In addition, officers received army rations, and got extra rations as a type of pay for their rank (Crass and Wallsmith 1992). Lieutenants received four extra rations, and Lt. Generals got 40 extra (Crass and Wallsmith 1992).

Archaeological investigations at Fort Laramie provide evidence that officers and enlisted men maintained different diets. A direct comparison of the meat cut and species consumed between officers and enlisted men reveal that they were not equals. Officers mostly ate thick loin beefsteaks, consumed more chicken, hunted prestige game birds, and fished for sauger/walleye. Enlisted men consumed chuck and beef ribs, small game mammals, such as jackrabbits, and primarily ate catfish. At Fort Laramie, officers and enlisted men consumed different beef meat cuts, which is consistent with the historical record. Cookbooks and menus suggested that officers and enlisted men ate different cuts of meat (Adams 2009; Crass and Wallsmith 1992), but these faunal assemblages provide archaeological support for this idea.

The difference between the faunal assemblages is a reflection of how the military restricted the Victorian movement of American sportsmanship to the upper-class officers. At Fort Laramie, class restrictions limited the sportsmen to officers, and enlisted men were unable to engage in the proper sportsmen-like activities, as defined in Chapter 3. Officers were the only group that was given the leisure time and individual liberties to pursue game in accordance to the "code of the sportsman." An officer's life was one of privilege and leisure, and they regularly had free time to engage in personal development in the wilderness (Adams 2009). In contrast, an enlisted man's life was full of work, and they were afforded little time for recreation (Adams 2009). Officers had the freedom to leave the fort to fish and hunt, while enlisted men had to obtain permission from their commanding officer to leave the fort. As a result, the wild faunal assemblage from the officers' cellars represents animals that were found farther away from the fort, and required more time to procure, such as sauger/walleye and pigeon/doves. These animals also required the sportsman to be more intimate with the environment, and have a greater knowledge of the activities of their prey, part of the sportsman code. In contrast, enlisted men were never afforded the opportunity to individually engage with the environment or their prey, and caught local wild resources not usually associated with "sporting." The faunal assemblage from the enlisted men's barracks demonstrates that they ate wild resources that were found locally at the fort, such as catfish.

While sportsmanship was thought to be classless in America (Reiger 2001), in the context of military forts, social status greatly impacted one's ability to be an American sportsman. The military social structure restricted the activities of a sportsman to the upper class, and enlisted men were denied the ability to engage in sportsman like conduct. Similarly, the frontier was thought to be a classless environment, but at Fort Laramie, class distinctions greatly impacted people living at forts.

According to Fredrick Jackson Turner's ideas, the frontier environment should have broken down the Victorian class hierarchy at Fort Laramie, but this dissertation demonstrates that class differences were a constant part of life for those individuals living at the fort. Status differences between officers and enlisted men can be seen in many aspects of life, including diet and pet ownership. Does this mean that the frontier was not a transformative environment, and that Turner's ideas were completely wrong? No, these results simply indicate that Turner's ideas of the frontier were not a physical reality, but instead a romanticized idea. As Patricia Limerick (1995:697) stated, "When you enter an essay by Frederick Jackson Turner, you enter an enchanted world . . . If you bump into a social force or a pioneer ideal, it will be you who gets the bruise." Limerick continues by saying that Turner's writings are full of "intellectual constructions," and despite not being a true reality; they can withstand the slings and arrows of time. The romanticized idea of the frontier, which Turner described, has had a lasting impact on American history and culture. While the frontier may a construct, and it has certainly evolved over the past century it continues to resonate today as it did over a century ago.

One of lasting impacts of Turner's frontier thesis was the transformation in people's perceptions of the wilderness from a place of danger to something pure, wholesome, and endangered (Arnold 1996). Two hundred years ago western society stressed the harmful effects of the environment (Arnold 1996:11). Tropical environments were believed to be beautiful but deadly. British naval surgeon Alexander Bryson said about an island off the West African coast in the 1840s, "The Island, taken as a whole, is perhaps one of the most beautiful on the face of the earth [and there was no] spot in the whole known world more detrimental to health" (Arnold 1996:155). Roderick Nash argues that there was fear and repulsion in Old World forests (Arnold 1996:133), which is seen in popular European fairytales. Turner romanticized the frontier, and saw it necessary for shaping the American spirit and a healthy individual. According to Turner, the frontier was a harsh environment, but detrimental to ones health. Instead, the frontier was beneficial to the development of a person and for national spirit.

The transformations of an individual in nature, according to Turner, came when an individual could escape the feminine forces of civilization, and discover oneself in a masculine environment of the frontier. Turner describes the frontier as being a safety valve against the pressures of civilization. While civilization gave some benefits to people such as education, it also made them weak (Turner 2008 [1920]:33). This perspective captures the Victorian ideas of masculine and feminine spaces. While civilization provided many amenities, it was also a feminine domain that made men weak. In contrast, the frontier was a masculine environment, and the more time spent in the wilderness, the more masculine a person would become. For example, the most masculine individuals were the ones immersed in the frontier, such as the cowboy. East coast middle-class and upper-class men, like Theodore Roosevelt, saw the cowboy as masculine icons and knights of the prairie (Moore 2010). The cowboy image had little to do with the actual lifestyle, which was quite rough (Moore 2010), but instead was the epitomized ideal of masculinity.

The frontier was transformative on both the individual and national scale. While individuals were transformed as they interacted with the frontier, Turner also saw the dialectical exchange between civilization and the frontier as defining American history and culture. Turner was a historian, and the goal of his writings was to show how American history was primarily shaped through interactions with the frontier. The democracy he saw on the frontier was the foundation for equality and democracy in American history. In 1893, when Turner wrote his original frontier thesis, the "frontier" as defined by the U.S. Census Bureau had officially closed (Arnold 1996). With the closing of the frontier, Turner saw the passing of something that had been the fundamental part of American nationality and history. He feared for the future because he felt that wild and masculine places were needed to make the country strong.

The Progressive Era in the United States, from the early 1900s and 1920s, reinforced many of Turner's ideas of the necessity of wild places for individuals and for the sake of the nation. The romanticized notions of the frontier during this time give birth to the conservation and preservation movements, creating National Forests, National Monuments, and National Parks (Reiger 2001). Similarly to Turner, several of the first conservationists believed that experiences in the wilderness were fundamental for the creation of a strong nation and people. Perhaps the most well-known Progressive Era conservationist is Theodore Roosevelt.

Roosevelt is known as the presidential conservationist, not only for his bold proclamations but also defining our current views on conservation. “The word ‘conservation’ in its present sense did not come into official use until the Theodore Roosevelt administration” (Cutright 1985: 238). The historical groundwork laid by Roosevelt in the 1900s set the historical precedence for conservation in the modern era. During his time as president, he declared eighteen national monuments, five national parks, fifty-one bird sanctuaries, four game reserves, and nearly 150 million acres of national forests tripling the national forest system established by the previous presidents Harrison, Cleveland, and McKinley (Righter 1989). These declarations were not without controversy. The Forest Reserve Act of 1891, which allowed the president to protect national forests on government land, was repealed in 1907 because Congress believed that Roosevelt had used the act to the point of abuse (Runte 1979). Roosevelt’s conservation ideas were based on the idea that everyone should have access to the wild places, which like Turner, he believed to be a key part of the democracy that defined America (Reiger 2001). Roosevelt was also personally invested in the idea that the frontier had individual transformative properties.

Roosevelt had a deeply personal experience with nature, which inspired his environmental efforts. As a small child, Roosevelt was considered to be weak and ill (Cutright 1985:4). Outdoor experiences were thought to improve health of individuals, so he was encouraged to engage in the outside world. In addition to alleviating his physical illnesses, nature was credited to healing Roosevelt's mental anguish after losing his first wife Alice in childbirth (Cutright 1985:149). Living as a cattle rancher in North Dakota was a welcome distraction from being a politician and lawyer in New York. It was in North Dakota that Roosevelt got to experience the closing of the frontier before Turner wrote his classic essay. In one of Roosevelt's numerous books, *Wilderness Hunter* (1893), he wrote, "The frontier has come to an end, it has vanished" (Cutright 1985:161). He witnessed first hand the "rapid, remorseless destruction of the buffalo and other game animals" (Cutright 1985:161). Roosevelt’s story is very similar to the story of Steven Mather, the first National Park Service director, who escaped to nature to restore his mental health (Albright and Cahn 1985:52). For both Roosevelt and Mather, immersion into the frontier environment healed them, and was a rejuvenating experience.

Roosevelt saw wild places as necessary for the America, and to shape future generations. Theodore Roosevelt started the Boone and Crocket Club to encourage boys to break free from their mothers, and become physically fit in the natural environment (Bayers 2003; Moore 2010). He saw this as not only being important for boys as individuals, but also for the health of the nation. The idea of conservation for future generations was pivotal to Roosevelt’s thinking.

With the closing of the western frontier in 1890, Turner hoped that other frontier spirit would be rekindled in the rainforests and savannahs of Central America in Southeast Asia (Arnold 1996:105). However, Latin American frontiers differed from the U.S. frontier in two key ways, ecology and national identity. Frontiers in Latin America had a range of ecological extremes, from the dense forest jungles around the equator, the deserts in northern Mexico, and high-elevation climates in

Chile (Guy and Sheridan 1998). These harsh environments were not hospitable for arable land development compared to the temperate forests described by Turner. Not only were these areas difficult to cultivate into agricultural land, some extremely harsh environments were viewed as uninhabitable. Alfred Crosby (1986) wrote about how the jungles in Central America made colonization by Europeans difficult and almost impossible. While Turner's frontier was one where the “wilderness masters the colonist” (Turner 2008[1920]:4), parts of the Latin American frontier were truly an environment that defied colonization. A second difference between Turner’s frontier and Latin American frontiers is formation national identity from the frontier experience (Guy and Sheridan 1998). Turner argues that the U.S. national identity was forged through the frontier movement and expansion to the West, which was accomplished through the creation of ideals of pioneer and frontiersman (Limerick 1995). These romantic images of the ideal frontiersman are still commonly seen in Western movies and novels (Uyl 2010). Latin American cultures often found disdain for the frontiersman, and they were considered barbaric, *barbarie* (Weber and Rausch 1994:xxviii). In Argentina, elites viewed gauchos as barbarians and demonized them, but in a type of cultural schizophrenia, they were also romanticized after the gaucho had largely disappeared (Clementi 1994; Weber and Rausch 1994:xxviii). In Brazil, the *bandeirante*, a raiding party, influenced a popular national myth. These individuals were courageous, individualistic, and independent, but in contrast to the pioneers of the United States, they were cruel and rapacious (Clementi 1994).

The frontier continues to be an important part of American national identity and history. As Patricia Limerick (1995:697) writes,

> As they have for nearly a century, Turner's conditions, forces, ideal, institutions, traits, types, elements, and processes remain . . . You are free to show, at length and in detail, that these concepts exist without the support of much evidence. You will still have to walk around them. After a century of holding their ground, they are not going to disappear in response to the latest frail protest against their power.

Throughout the 20th century until today, American history and popular culture is full of examples of an expanding frontier region. Alaska, commonly referred to as the "Last Frontier," embodied the expanding American frontier from the continental United States. Alaska still maintains popular mystic as a frontier region on edge of civilization, as demonstrated by the numerous popular television shows including *Alaska: The Last Frontier*, *Alaska: Bush People,* and *Wild West Alaska*. Similarly, mountaineering, which gained momentum in the early 1900s, in strongly associated with Turner's ideas of a frontiersman (Bayer 2003). Mountaineers in the early 1900s personified the masculine ability to conquer the environment, and to realize himself through the conquering of an "untouched" landscape (Bayer 2003). Mountaineering is still filled with terminology implying conquest over nature, such as "conquering" and "triumphing over" a mountain. Frontier theorist, James C. Malin, an ecologist and biologist on the plains in the 1980s, thought the frontier could never close. He described the frontier as constantly changing because the frontier was "always open to new cultural possibilities, for the land to be used in a number of different ways" (Arnold 1996:118). Finally, Turner's frontier spirit has lived on in popular culture, such as in the popular TV series *Star Trek*. The introduction to the show makes this clear, "Space: the final frontier."

7.2: FUTURE DIRECTIONS

No doubt, more aspects of Victorian culture persisted on the frontier than previously thought, but have yet to be investigated. Euroamerican settlements on the western frontier in the 19th century should be viewed within the context of a broader Victorian culture. This takes the research from being just a local archaeological project to contributing to a larger understanding of a global culture. The historical archaeological perspective on Euroamerican settlements requires that their interpretation be placed within a broader context (Deetz 1977; Orser 1996). James Deetz (1977:5) defined historical archaeology as "the archaeology of the spread of European culture through the world," which is the definition that has informed this dissertation. Future research will hopefully build upon this topic and integrate local Euroamerican settlements in the 19th century to the larger Victorian culture.

There are several possibilities for future research projects building upon the topics discussed in this dissertation. Forts on the 19th-century western frontier are excellent sites to test out conflict archaeology fundamentals, and to expand on our understanding of areas shaped by conflict. As argued in this dissertation, the frontier was formed through violence, and conflict archaeology provides a theory and method for studying the impact of violence on the formation of the culture. Faunal remains are underutilized in conflict archaeology sites, and can provide information about the lifestyles of those living under the stress of violence, as this dissertation shows. Future historical high plains archaeology sites could scaffold upon this interpretation of the frontier as a landscape of conflict, and draw research questions on the change of a culture in times of warfare. These studies demonstrate the usefulness and feasibility of this approach.

This dissertation lays the groundwork for future archaeological investigations into Victorian culture at military sites on the western frontier. Fort Laramie was an unusually large and comparatively civilized military fort on the frontier. It is possible that social status differences were more prevalent at Fort Laramie than at smaller forts or camps. Proposed future archaeological investigations would focus on smaller military sites to see if status differences emerged at these sites. Theoretically, smaller sites were under greater threat of violence, and social hierarchy may have been less important as the potential for conflict increased. This would be particularly interesting at camps near engagement sites.

Understanding the integration of Victorian culture into the frontier U.S. Army impacts our understanding of military and U.S. history. This research increases our knowledge of everyday life and status relationships between officers and enlisted men in the late 19th century. While previous historical research has mostly focused on battlefield tactics and combat (Adams 2009), this dissertation delivers a social history of life in the military during the Victorian Era. The use of archaeological and historical data brings to light the diets and lifestyles of enlisted men who are not usually represented in the historical record. Finally, military culture in the late 19th century is a foundation for social relationships within the U.S. Army today, and parallels can be drawn between the lifestyles of soldiers during American Indian Wars and later engagements.

APPENDIX A – FAUNAL CODING SHEET

Numbers on left correspond to column, and description is underneath.

1. **CATALOG NUMBER:**
    a. Individual number for each bag
2. **Temporary Number:**
    a. Previously un-cataloged material. Numbers begin with "W."
3. **Excavation Site #**
    a. Always 48G01 – Fort Laramie
4. **Excavation Year**
    a. 1971 – Rustic Hotel
    b. 1996 – Quartermaster's Dump
    c. 1998 – Fort William / Old Bedlam / Ice Cave
    d. 2003 – 2003 Survey
    e. 2004 – 2004 Survey (Hospital)?
    f. 2010 – Infantry Barracks
5. **Cultural Unit**
    a. Group who deposited faunal remains.
6. **Accession Number**
    a. 509 – Rustic Hotel
    b. 912 – 2003 Survey
    c. 921 – 2004 Survey
    d. 922 – Quartermaster's Dump (QMD)
    e. 852 – QMD
    f. 857 – QMD
    g. 854 – QMD
    h. 860 – Barracks
    i. 858 – Barracks
    j. 893 – Fort William Project
7. **North**
8. **East**
9. **Elevation**
10. **FS#**
11. **Level**
12. **Entry # from bag:** Separate different categories and entries of faunal remains that were grouped in one bag with one catalog number.
13. **NISP:** Number of identified specimens per taxon.
14. **Total # of Pieces:**
    a. # – pieces associated with single element
15. **Wild / Domestic:**
    a. 1 – Domestic animal
    b. 2 – Wild animal
    c. 0 – Unknown / Either wild or domestic because species could not be determined (*Bison* / *Bos*) or (pronghorn / domestic sheep or goat)
16. **Taxon**

Taxon 1	Taxon 2	Description	Common Name
0	Below	Unknown animal	Unspec. animal
2	Below	Unspec. small mammal/bird	Unspec. small mammal or bird
10	Below	Mammalia	Unspec. mammal
11	Below	Unspec. large mammal	Cattle/ Bison / Elk / Horse
12	Below	Unspec. large-medium mammal	Deer / bighorn sheep / pronghorn/large pig
13	Below	Unspec. medium mammal	Domestic sheep / goat / coyote / dog /
14	Below	Unspec. medium-small mammal	Fox / jackrabbit
15	Below	Unspec. small mammal	Small rodents
20	Below	Aves	Unspec. bird
21	Below	Unspec. large bird	Unspec. large bird
22	Below	Unspec. Medium-large bird	Unspec. Medium-large bird
23	Below	Unspec. medium bird	Unspec. medium bird
24	Below	Unspec. medium-small bird	Unspec. medium-small bird
25	Below	Unspec. small bird	Unspec. small bird
30	Below	Reptilia	Unspec. reptile
40	Below	Amphibia	Unspec. amphibian
50	Below	Osteichthyes	Unspec. bony fish
60	Below	Shell	Unspec. shell
70	Below	Egg Shell	
10	1000	Artiodactyla	Unspec. artiodactyl
11	1000	Large Artiodactyla (cattle)	
12	1000	Med / Large Artiodactyla	
13	1000	Medium Artiodactyla (sheep)	
	1010	Bovidae	Cattle, sheep, antelopes, goats, sheep
	1020	*Bos taurus*	Domestic cattle
	1030	*Bos / Bison*	Cattle / bison
	1100	*Bison bison*	Bison
	1101	Most likely *B. bison*	Most likely bison, but not definite
	1110	Ovis / Capra	Sheep / goat - Domestic
	1111	*Ovis* sp.	Sheep (domestic or bighorn)
	1112	*Ovis aries*	Domestic sheep
	1113	*Ovis/Capra*	Sheep / goat
	1120	*Ovis canadensis*	Bighorn sheep
	1121	*Capra* sp.	Goat
	1200	*Capra hircus*	Domestic goat

	1300	*Antilocapra americana*	Pronghorn
	1400	Suidae – *Sus scrofa*	Pigs
	1500	Cervidae	Deer, elk
	1510	*Cervus canadensis*	elk
	1520	*Odocoileus* sp.	Unspec. deer
	1521	*Odocoileus hemionus*	Mule deer
	1522	*Odocoileus virginianus*	While tale deer
	2000	Lagomorpha	Unspec. rabbit
	2100	Leproidae	Unspec. rabbit
	2110	*Sylvilagus* sp.	Cottontail
	2120	*Lepus* sp.	Jackrabbit
	3000	Carnivora	Unspec. carnivore
	3001	Large carnivore	Mountain lion / wolf
	3002	Medium carnivore	Bobcat / coyote
	3003	Small carnivore	Foxes
	3100	Canidae	Wolves, dogs, coyotes, foxes – unspec.
	3110	*Canis latrans*	Coyote
	3120	*Canis lupus*	Gray wolf
	3121	*Canis familiaris*	Dog
	3122	*Canis lups / familiaris*	Dog ?
	3130	*Vulpes sp.*	fox
	3131	*Vulpes vulpes*	Red fox
	3132	*Vulpes velox*	Swift fox
	3200	Ursidae	Bear – unspecific
	3210	*Urus americanus*	Black bear
	3220	*Ursus acrtos horribilis*	Grizzly bear
	3300	Procyonidae	Raccoon
	3310	*Procyon lotor*	Raccoon
	3400	Mustelidae	Weasels & relatives
	3410	*Taxidae taxu*	American badger
	3420	*Martes americana*	American marten
	3430	*Neovison vison*	American mink
	3440	*Mustela sp.*	Weasels
	3500	Mephitidae	Skunks
	3600	Felidae	Unspec. cat
	3610	*Puma concolor*	Mountain lion
	3620	*Lynx rufus*	Bobcat
	3630	*Felis catus*	Domestic cat
	4000	Equidae	Horse / burro
	4100	*Equus caballus*	Horse
	5000	Rodentia	Unspec. rodent
	5100	Geomyidae (*Thomoys clusius*)	Wyoming pocket gopher
	5200	Sciuridae	Squirrels

	5210	*Cynomys ludoviciancus*	Black Tailed Prairie Dog
	5220	*Callospermophilus lateralis*	Golden mantled ground squirrel
	5001	Large Rodent	
	5002	Medium Rodent	
	5003	Small Rodent	
20	0	Aves – unspec.	Unspec.
	1000	Galliformes	Unspec.
	1100	Phasianidae	Grouse / Pheasant
	1120	*Gallus gallus*	chicken
	1121	*Gallus gallus* - ?	Most likely chicken
	1130	*Meleagris gallapavo*	Turkey (wild)
	1150	*Centrocercus sp.*	"Sage" hen / grouse
	1151	*Centrocercus urophasianus*	Sage grouse
	2000	Anseriformes	Waterfowls (dusks, geese, swans)
	2100	Anatidae	Ducks, geese, swans
	2110	*Anas sp.*	Unspec. Ducks
	2111	*Anas platyrhynchos*	Mallard duck
	2112	*Anas sp. (*NOT Mallard / smaller than mallard)	
	5000	Columbidae	Pigeons / Doves
	5110	*Columba sp.*	Pigeon
	5111	*Ectopistes migratorius*	Passenger pigeon
	5112	*Zenaidura macroura*	Mourning dove
	6000	Corvidae	Crows, Ravens, Jays, etc.
	6100	*Corvus sp.*	Raven
	7000	Passeriformes	
	7100	Icteridae	Blackbirds and meadowlarks
	7111	*Agelaius phoeniceus*	Red-winged blackbird
	8000	Accipitriformes	Hawks
	8100	Circinae	Harrier
	8110	*Circus sp.*	Harrier
30	0	Reptilia	Unspec. Reptile
	1000	Testudines	Turtles
40	0	Amphibia	Unspec. amphibian
	1000	Anura	Frog / Toad
50	0	Osteichthyes	Unspec. Bony fish
	1000	*Sander sp.*	Sauger / Walleye
	1050	Percidae	Other Perciform fish

	2000	Ictaluridae	Catfish
	2010	*Ictalurus punctatus*	Channel Catfish
	2020	*Ameiurus melas*	Black Bullhead
	2030	*Noturus flavus*	Stonecat
	3000	*Catostomus sp.*	Sucker
	3010	*Catostomus commersonii*	White Sucker
	4000	Acipensidae	Sturgeon
	4010	*Scaphirhynchus platorynchus*	Shovelnose Sturgeon
	5000	Salmonidae	Trout, graylings, whitefishes
	5010	*Oncorhynchus clarkii*	Cutthroat Trout
	5020	*Prosopium williamsoni*	Mountain Whitefish
	5030	*Thymallus arcticus*	Artctic Grayling
	6000	Mystery Fish	
60	0	Shells	Unspec. Shell
70	0	Egg Shell	Unspec. shell
		In “comments” put color	

17. Element:

FAUNAL_ELEMENT	
CODE	**TEXT**
100	skull fragment
101	nearly complete skull w/teeth
102	nearly complete skull w/o teeth
103	half skull (parts) w/teeth
104	half skull (midline) w/o teeth
105	rear half of skull
106	indeterminate cranial
111	basioccipital
112	occipital
113	sphenoid
114	pterygoid
115	vomer
116	palatine
117	interparietal
118	parietal
119	frontal
120	petrous-temporal
121	squamous temporal
122	frontal/parietal
123	temporal/occipital
124	temporal/parietal
125	temporal/frontal
126	nasal
127	lacrimal
128	malar/zygomatic
129	frontal (orbit area)
130	bulla
131	stylohyoid
132	hyoid
141	premaxilla w/teeth
142	premaxilla w/o teeth
143	maxilla w/teeth
144	maxilla w/o teeth
145	max/premax w/teeth

FAUNAL_ELEMENT	
CODE	**TEXT**
146	max/premax w/o teeth
147	maxillary incisor
148	maxillary canine
149	maxillary premolar
150	maxillary molar
161	mandible w/teeth
162	mandible w/o teeth
163	mandibular symphysis w/teeth
164	mandibular symphysis w/o teeth
165	mandibular body w/teeth
166	mandibular body w/o teeth
167	mandibular symph and body w/teeth
168	mandibular symph and body w/o teeth
169	mandibular ventral border only
170	mandibular condyle
171	ascending ramus
172	mandibular incisor
173	mandibular canine
174	mandibular premolar
175	mandibular molar
176	angle
177	coronoid process
181	indeterminate incisor
182	indeterminate canine
183	indeterminate premolar
184	indeterminate molar
185	indeterminate tooth
186	indeterminate cheek tooth
191	antler
192	antler w/frontal
193	antler or horn core fragment
194	horn core
195	horn core w/ frontal

FAUNAL_ELEMENT	
CODE	TEXT
200	atlas
201	axis
202	cervical vert
203	thoracic vert
204	lumbar vert
205	sacrum
206	caudal vert
207	unspec. vert
220	rib
221	clavicle
222	costal cartilage
223	sternebra
224	manubrium
225	xiphoid
302	scapula
303	humerus
304	radius
305	ulna
306	radio-cubitus
307	radial carpal (scaphoid)
308	interm. carpal (lunate/semilunate/lunar)
309	ulnar carpal (cuneiform)
310	accessory carpal (pisiform)
311	1st carpal (trapezium)
312	2nd carpal (trapezoid)/magnum
313	3rd carpal (capitate)
314	4th carpal (unciform)
315	2nd-3rd carpal
316	Unspec. carpal
317	Intermedioradial carpal
351	metacarpal I
352	metacarpal II

FAUNAL_ELEMENT	
CODE	TEXT
353	metacarpal III
354	metacarpal IV
355	metacarpal V
357	metacarpal III-IV (ungulates)
359	indeterminate metacarpal
360	sesamoid front
401	innominate
402	ilium
403	ischium
404	pubis
405	acetabulum
406	ilium/ischium
407	ilium/acetabulum
408	ischium/acetabulum
409	pubis/acetabulum
410	ilium/pubis
411	ischium/pubis
412	ilium/acetabulum/ischium
413	ischium/pubis/acetabulum
414	ilium/acetabulum/pubis
415	ilium/ischium/pubis
420	baculum
433	femur
434	patella
435	tibia
436	fibula
437	lateral malleolus
438	astragalus (talus)
439	calcaneus
440	navicular (central tarsal/2nd/3rd tarsal)
441	1st tarsal
442	2nd tarsal
443	3rd tarsal
444	4th tarsal (cuboid)

FAUNAL_ELEMENT	
CODE	TEXT
445	2nd-3rd tarsal
446	unidentified tarsal
447	naviculo-cuboid
451	metatarsal I
452	metatarsal II
453	metatarsal III
454	metatarsal IV
455	metatarsal V
457	metatarsal III-IV (ungulates)
459	unidentified metatarsal
460	sesamoid rear
499	partial skeleton
500	quadrate
501	mandible
502	jugal/zygomatic
503	premaxilla
504	cranium
510	Sternum / keel
511	sternal rib
512	vertebral rib
520	furculum (wishbone)
521	lumbar/sacral vert (synsacrum)
522	pygostyle
523	synsacral caudal vertebra
524	thoracic vertebrae
530	coracoid
531	carpometacarpus
532	wing digit 2 phal 1
533	wing digit 2 phal 2
534	wing digit 3
535	scapholunar
536	cuneiform
537	pollex
540	tibiotarsus
541	ossified tendon

FAUNAL_ELEMENT	
CODE	TEXT
542	tarsometatarsus
550	pelvis
571	leg digit 1 phal 1
572	leg digit 1 phal 2
573	leg digit 2 phal 1
574	leg digit 2 phal 2
575	leg digit 2 phal 3
576	leg digit 3 phal 1
577	leg digit 3 phal 2
578	leg digit 3 phal 3
579	leg digit 3 phal 4
580	leg digit 4 phal 1
581	leg digit 4 phal 2
582	leg digit 4 phal 3
583	leg digit 4 phal 4
584	leg digit 4 phal 5
585	terminal phalanx
589	digit? phal (leg)
599	eggshell
620	dentary
621	articular
660	shell, indeterminate
670	carapace, indeterminate
671	marginal (peripheral edge)
672	pleural (long portion)
673	peripheral
674	neural
675	costal
676	nuchal
677	pygal
680	bridge
681	plastron, indeterminate
682	xiphiplastron
683	anal
684	entoplastron

FAUNAL_ELEMENT	
CODE	TEXT
685	epiplastron
686	hyoplastron
687	hypoplastron
688	epi/entoplastron (Kinosteridae)
700	parasphenoid
701	exoccipital
730	urostyle
740	radio-ulna
741	carpale
750	tibiofibula
760	suprascapula
810	basioccipital
830	second dorsal spine
831	unspec. spine
841	Pectoral Spine
900	unidentified metapodial
901	metapodial III-IV (ungulates front/rear)
902	metapodial 3-4 (pig)
903	metapodial 2,5 (pig)
904	Splint bone (horses)
910	unidentified carpal or tarsal
920	sesamoid f/r
931	1st phalanx f/r
932	2nd phalanx f/r
933	3rd phalanx f/r
934	1st or 2nd phalanx f/r

FAUNAL_ELEMENT	
CODE	TEXT
939	indeterminate phalanx
950	long bone
960	unspec. postcranial
970	See comments
0	indeterminate element
100	Fish Neurocranium
302	Scapula
207	Vertebra
980	Scutes
981	Dentry
982	Articular
983	Quadrate
984	Premaxilla
985	Maxilla
986	Hyomandibular
987	Operculum
988	Preoperculum
989	Palatine
990	hypuropophysis
991	Cleithrum
992	hyalcomplex
993	Otolith
994	Vomer
995	Coracoid and radials
996	Dorsal spine
999	Unknown complete fish element

Element Portion / Part:

FAUNAL_BONE_PART	
CODE	**TEXT**
11	complete
12	nearly complete
13	prox. epiphysis only
14	prox end top
15	prox shaft missing unfused prox epiphysis
16	prox shaft
17	prox end and shaft
18	prox end and shaft, unfused dist epiphysis missing
19	shaft, both ends unfused
20	shaft, both ends missing
21	distal end/bottom
22	distal shaft minus unfused distal epiphysis
23	distal shaft frag
24	distal end and shaft
25	distal end and shaft, unfused prox epiphysis missing
26	distal epiphysis only
27	shaft, one end unfused, one end broken
28	epiphysis fragment
29	articular fragment
30	other long bone fragment
31	proximal or distal end
40	glenoid (scapula)
41	blade (scapula)

FAUNAL_BONE_PART	
CODE	**TEXT**
42	spine
50	portions of body and spine present
51	Body – vert
52	spinous arch-vert
53	spinous process-vert
54	transverse process-vert
55	wing- vert
56	articular surface
57	vertebral pad
58	other process
59	various vertebral fragments
60	vertebra cut along midsection
61	keel
62	arch
63	coracoid facet
64	posterior
65	anterior
66	Iliac creest
67	Innominate body / blade
70	root
71	enamel fragment
72	Cranial fragment
73	Other fragment
74	condyle
90	other part (see comment)
0	not applicable/indeterminate

18. SIDE:

- **a.** 0= unknown/not applicable
- **b.** 1= left
- **c.** 2= right

19. Fusion:

FAUNAL_FUSION	
CODE	TEXT
10	fused (portion present is fused)
11	fusing (portion present is fusing)
12	unfused (portion present is unfused)
13	prox fused, dist fusing
14	prox fused, dist unfused
15	prox fusing, dist fused
16	prox unfused, dist fused
17	prox unfused, dist fusing
18	prox fusing, dist unfused
30	fetal or neonate
40	immature (porous bone or very small)
0	not applicable / unknown

20. Amount Present:

FAUNAL_AMOUNT_PRESENT	
CODE	TEXT
11	complete
12	nearly complete
13	complete except for epiphyses
14	more than 3/4 complete
15	1/2 to 3/4 complete
16	1/4 to 1/2 complete
17	less than 1/4 complete
0	indeterminate portion

21. Natural Modification #1 & #2:

FAUNAL_NATURAL_MODIFICATIONS	
CODE	**TEXT**
11	sun-bleached
12	root etched
13	Eroded / weathered
14	abraded / polished
15	stained
16	crystals adhering to bone
17	diseased/pathologic
18	fossilized
19	Caliche coated
20	Iron staining
99	Other – comments
0	unmodified

22. Faunal / Animal Modifications:

FAUNAL_ANIMAL_MODIFICATIONS	
CODE	**TEXT**
11	indeterminate gnawing
12	rodent gnawing
13	carnivore gnawing
14	raptor damage
15	digestion
16	possibly digested
17	Carnivore puncture
18	Possible gnawing
19	Possible puncture
99	multiple modifications; other
0	unmodified

23. Bone Break:

a. 10=old break
b. 20=recent break
c. 30=old and recent breaks
d. 40 = green bone break
e. 90=indeterminate
f. 0=not applicable

24. Burning:

FAUNAL_BURNING	
CODE	**TEXT**
11	light brown
12	partially charred
13	charred (black)
14	brown/calcined
15	charred/calcined
16	calcined
17	blue/gray
90	other
0	unburned

a.

25. Human Modifications / Tool Marks:

11	unspecified butchering mark
12	Cut mark – single
13	Cut marks – multiple
14	One cut end – unspecified cut
15	Two sides cut – unspecified cut
20	saw marks, unspecified – one end
21	saw marks, unspecified – two ends
22	saw marks, mechanical saw
25	One sawed end – mechanical
26	Two sides sawed – mechanical
27	One side mechanical saw / one side hand-sawed
28	Two sides sawed – hand
29	One side sawed – hand
31	One side chopped
32	Two sides chopped
40	Chop and saw marks - comments
41	One side chopped & one side sawed (mechanical)
42	One side chopped and one side hand sawed
43	One side chopped and one unknown sawed side
50	Blunt impact with local crushing
70	Tool / artifact
71	Possible tool / artifact
72	Polished / abraded
80	Excavation / lab damage
90	Multiple modifications
99	other
0	Unmodified

Chop: using a sharp blow with an ax, knife, or cleaver
Saw: using a saw

26. **Meat Cut: Adding 0.1 to any code = a steak cut. For example, 6.1 = loin steak cut, 12.1 = rib-eye steak cut**

0.1	Unknown steak cut
C	Cranial
M	Mandible
1	Neck (cervical vertebrae)
2	Chuck (1 – 5 thoracic ribs & vertebrae, scapula, proximal humerus)
3	Rib – Primal Rib (ribs and vertebrae 6-12 – spinal end)
2/3	Unknown Thoracic Vertebrae
4	Full Brisket / Full Plate – (ribs 1 – 12 ventral / sternal end)
5	Foreshank (distal humerus, radius, ulna)
6	Loin (lumbar vertebrae, ilium, publis, sacrum)
7	Hip / Round (ischium, posterior sacrum, femur, tibia, fibula)
8	Hindshank – distal femur, tibia, fibula, matatarsals
9	Foot bones (metapodials, phalanges)
11	Tail (caudal)
12	Ribs (misc ribs)
13	Indeterminate steak (long bones)
14	Undetermined vertebrae cuts
20	Sheep
21	Sheep Neck (cervical vertebrae)
22	Sheep Chuck (1 – 5 thoracic ribs & vertebrae, scapula, proximal humerus)
23	Sheep Rib – Primal Rib (ribs and vertebrae 6-12 – spinal end)
24	Sheep Full Brisket / Full Plate – (ribs 1 – 12 ventral / sternal end)
25	Sheep Foreshank (distal humerus, radius, ulna)
26	Sheep Loin (lumbar vertebrae, ilium, publis, sacrum)
27	Sheep Hip / Round (ischium, posterior sacrum, femur, tibia, fibula)
28	Sheep Hindshank – distal femur, tibia, fibula, matatarsals

29	Sheep Foot bones (metapodials, phalanges)
30	Pig
31	Pig Neck (cervical vertebrae)
32	Pig Chuck (1 – 5 thoracic ribs & vertebrae, scapula, proximal humerus)
33	Pig Rib – Primal Rib (ribs and vertebrae 6-12 – spinal end)
34	Pig Full Brisket / Full Plate – (ribs 1 – 12 ventral / sternal end)
35	Pig Foreshank (distal humerus, radius, ulna)
36	Pig Loin (lumbar vertebrae, ilium, publis, sacrum)
37	Pig Hip / Round (ischium, posterior sacrum, femur, tibia, fibula)
38	Pig Hindshank – distal femur, tibia, fibula, matatarsals
39	Pig Foot bones (metapodials, phalanges)
99	Other – comments

27. **Number of Starter Attempts / Cutmarks** - number of cutmarks and starter attempts on bones

28. **Tool Mark Orientation**
    a. 1= transverse (perpendicular) to main axis
    b. 2= longitudinal (parallel to main axis)
    c. 3= diagonal (oblique) to main axis
    d. 4=other
    e. 5=parallel and perpendicular

29. **Length in centimeters**

30. **Weight in grams**

31. **COMMENTS**

32. **Steak Cut Thickness**

    a. Thickness of steak cut / length of rib-eye steak – measure in inches at maximum

APPENDIX B – RUSTIC HOTEL RAW DATA

Site #: 48G01 Excavation Year: 1971 Access #: 509

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	COMMENTS
38091	1	1	0	2	10	1110	302	40	2	10	17	0	0	0	10	11	0	2		1	6.6	11.91	
38099	1	1	0	2	10	1110	401	12	2	10	12	15	0	0	10	0	32	28	3	1	15.7	48.77	3 starter attemptson illium
32131	2	1	0	0	10	0	0	0	0	0	0	0	0	0	10	16	0	0		0	1.8	1.21	
32131	3	1	0	0	10	0	0	0	0	0	0	0	0	0	10	0	0	0		0	2.2	1.15	
32131	1	2	0	0	10	0	0	0	0	0	0	0	0	0	10	17	0	0		0	2	2.32	
3298	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	10	0	41	12		1	14.4	15	
38002	1	1	0	2	10	1020	359	24	0	10	16	12	0	0	10	11	31	5		1	11	100	
38003	1	1	0	2	10	4100	453	11	2	10	11	12	0	0	0	11	0	0		0	28.5	306	
38004	1	1	2	2	10	1020	459	17	2	10	15	12	13	0	10	12	0	0		0	23	146	
38005	1	1	0	2	10	1020	459	24	1	10	16	13	0	0	10	12	31	8		1	11.7	128	
38006	1	1	0	1	10	1100	359	24	0	10	16	12	20	0	10	11	31	5		1	12	134	
38007	1	1	0	2	10	1020	459	24	2	10	16	12	0	0	10	11	31	8		1	11	76	
38008	1	1	0	2	10	1020	459	11	1	11	11	11	13	0	10	11	0	0		0	21	211	
38009	1	1	0	2	10	1020	459	24	1	10	15	12	13	0	10	11	0	0		0	20	184	
38010	1	1	0	1	10	1300	439	11	1	10	11	12	0	0	0	0	0	0		0	7	14.58	
38011	1	1	0	1	10	1300	439	11	2	12	11	12	0	0	0	11	0	0		0	7.6	15.74	
38012	1	1	0	2	10	1110	439	11	1	12	11	13	0	0	10	11	0	0		0	6.9	16.88	
38013	1	1	0	3	10	1114	439	11	1	10	11	11	13	0	0	0	0	0		0	7.6	13.03	
38014	1	1	0	1	10	1300	439	11	2	10	11	12	0	0	0	0	0	0		0	7.5	17.3	
38015	1	1	0	3	10	1115	439	12	2	12	12	13	0	0	0	11	0	0		0	5.9	8.03	
38016	1	1	0	2	10	1110	439	11	1	12	12	12	0	0	0	11	0	0		0	5.8	9.51	
38017	1	1	0	2	10	1020	439	12	1	0	12	13	0	0	20	11	0	0		0	8.8	39.3	
38018	1	1	0	2	10	1020	439	12	1	10	12	0	0	0	10	11	14	8		2	14.8	72.9	
38019	1	1	0	2	10	1020	439	11	2	12	11	0	0	0	0	11	0	0		0	14.7	151	
38020	1	1	0	2	10	4100	439	11	1	10	11	0	0	0	0	0	0	0		0	13	98	
38021	1	1	0	3	10	1030	435	24	2	12	15	13	19	0	30	11	31	8		1	17.6	121	
38022	1	1	0	3	10	1030	459	24	0	11	16	12	13	0	30	11	31	8		1	10.5	47.44	
38023	1	1	0	2	10	1020	359	17	1	10	16	12	13	0	10	11	31	5		1	10	80	
38024	1	1	0	2	10	1020	359	17	1	10	12	12	13	18	10	11	0	0		0	14	81	
38025	1	1	0	2	10	4100	438	11	2	10	11	0	0	0	0	0	0	0		0	7.7	83	
38026	1	1	0	2	10	4100	438	11	1	10	11	0	0	0	0	0	0	0		0	7.3	83	
38027	1	1	0	3	10	1114	433	26	2	12	17	13	0	0	10	0	0	0		0	5.5	17.48	
38028	1	1	0	3	10	1114	433	26	1	12	17	13	0	0	10	0	0	0		0	5.8	20.43	
38029	1	1	0	2	10	1020	438	11	2	10	11	0	0	0	0	11	13	9		2	7.3	123	
38030	1	1	0	2	10	1020	438	11	1	10	11	12	13	0	10	12	14	9		2	7.1	70	
38031	1	1	0	2	10	1020	438	11	1	10	11	0	0	0	0	11	12	9		2	7.5	112	
38032	1	1	0	2	10	1110	438	11	1	10	11	0	0	0	0	0	0	0		0	3	8.4	
38033	1	1	0	2	10	1110	438	11	1	10	11	13	0	0	0	0	0	0		0	3.5	3.86	
38034	1	1	0	2	10	1020	900	21	0	10	17	12	13	0	10	11	0	0		0	4.7	13.65	
38035	1	1	0	3	10	1030	900	26	0	12	17	12	13	0	10	11	0	0		0	3.3	10.16	
38036	1	1	0	3	10	1030	900	26	0	12	17	12	13	0	30	11	0	0		0	4	5.4	
38037	1	1	0	2	10	1020	314	11	1	10	11	11	15	0	0	0	0	0		0	4.21	16.79	iron staining on bone
38038	1	1	0	2	10	1020	307	11	2	10	11	13	0	0	0	11	0	0		0	4.9	22.72	
38039	1	1	0	2	10	1020	308	11	1	10	11	0	0	0	0	11	0	0		0	4.3	18.79	
38042	1	1	0	2	10	1020	931	25	0	16	12	0	0	0	0	11	0	0	0	0	5.1	15.09	
38043	1	1	0	2	10	1020	931	25	0	16	12	13	15	0	30	11	0	0	0	0	4.3	9.42	
38044	1	1	0	1	10	1300	439	12	1	10	12	11	13	0	20	11	0	0		0	5.5	13.1	
38045	1	1	0	1	10	1300	931	11	0	10	11	0	0	0	0	12	0	0	0	0	5	6.55	

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
38046	1	1	0	1	10	1300	931	11	0	10	11	13	0	0	0	0	0	0	0	0	5.3	7.08
38047	1	1	0	1	10	1300	932	11	0	10	11	0	0	0	0	0	0	0		0	3.4	4.45
38048	1	1	0	3	10	1030	433	19	2	12	14	12	0	0	10	11	12	0	1	0	19	103
38049	1	1	0	2	10	1020	304	17	1	10	15	13	0	0	10	0	25	5		1	18	190
38050	1	1	0	2	10	1020	304	24	2	12	16	13	19	0	10	11	25	5		1	10.8	194
38051	1	1	0	2	10	1020	304	24	1	10	16	0	0	0	10	11	31	5		1	12.4	144
38053	1	1	0	3	10	1030	433	17	2	12	16	15	17	0	10	11	31	7		1	16	124
38054	1	1	0	2	10	1020	459	17	2	10	16	0	0	0	40	11	31	8		1	13.8	94
38055	1	1	0	3	10	1030	194	73	0	0	17	11	13	0	10	0	0	0		0	6.5	30.43
38056	1	1	0	2	10	1020	359	17	2	10	16	12	0	0	10	11	31	5		1	10.8	77
38057	1	1	0	3	10	1030	304	22	1	12	14	12	20	18	10	11	31	5		1	24	230
38058	1	1	0	1	10	1100	359	17	2	10	16	17	0	0	10	11	31	5	2	1	14	219
38059	1	1	0	1	10	1300	435	17	2	10	17	12	20	0	10	0	0	8		1	5.2	34.79
38060	1	1	0	0	10	1010	433	17	1	12	16	13	0	0	30	11	31	8		1	8.2	24.74
38061	1	1	0	2	10	1020	459	17	2	10	15	12	20	0	10	12	31	8		1	17.5	152
38062	1	1	0	3	10	1030	459	24	0	11	17	12	13	0	10	11	31	8		1	9.1	52.69
38063	1	1	0	3	10	1030	433	24	2	12	16	13	0	0	10	11	31	8		1	11.5	58.2
38064	1	1	0	1	10	1300	435	17	2	10	16	12	0	0	10	11	25	8		1	10.7	42.53
38066	1	1	0	3	10	1030	459	17	2	10	17	0	0	0	10	11	31	8		1	10	124
38067	1	1	0	2	10	1020	359	17	2	10	15	12	20	0	10	11	31	5		1	14.6	190
38068	1	1	0	3	10	1030	435	24	1	12	16	12	20	0	10	11	0	8		1	12	145
38069	1	1	0	1	10	1120	305	17	2	10	12	13	0	0	10	11	31	5		1	18.1	58
38070	1	1	0	2	10	1020	302	40	1	10	16	13	0	0	20	11	0	0		0	12.5	78
38071	1	1	0	3	10	1030	302	40	0	10	17	13	0	0	10	11	25	2		2	14.1	100
38072	1	1	0	2	10	1020	302	41	2	0	17	12	0	0	10	11	26	2		4	14.1	72
38073	1	1	0	2	10	1020	302	12	1	10	12	13	15	0	10	11	41	2	7 cutmar	3	28.2	342
38075	1	1	0	0	11	0	302	41	0	0	17	0	0	0	10	11	25	2		1	6.6	7.65
38076	1	1	0	1	10	1300	302	50	1	10	15	12	20	0	30	11	0	0		0	15.8	35
38077	1	1	0	2	10	1400	302	40	1	12	16	11	13	0	10	11	0	0		0	9.8	25.07
38078	1	1	0	2	10	1020	407	0	1	10	16	20	0	0	10	11	26	6		1	11.8	141
38079	1	1	0	2	10	1110	302	40	2	10	17	12	0	17	0	10	25	2		1	4	10.87
38080	1	1	0	2	10	1020	302	41	1	0	17	12	13	18	10	11	11	2		3	12.8	33.15
38081	1	1	0	2	10	1110	435	20	2	0	17	12	0	0	0	11	26	8	1	1	6	20.56
38082	1	1	0	1	10	1300	302	50	2	10	15	12	13	0	10	11	0	0		0	18.5	33
38083	1	1	0	2	10	1020	402	0	2	0	16	0	0	0	10	11	26	6	5	1	18	202
38084	1	1	0	2	10	1020	302	41	1	0	16	12	0	0	10	11	41	2	3 cutmar	1	18.8	145
38085	1	1	0	3	10	1030	100	72	0	0	17	12	0	0	10	12	0	0		0	8.3	16.4
38085	1	1	0	3	10	1030	459	17	1	10	17	12	0	0	0	12	31	8		1	9.4	44.26
38086	1	1	0	2	10	1020	302	41	2	0	17	12	13	0	10	11	25	2		3	9.9	35.76
38087	1	1	0	2	10	1110	302	50	2	10	16	12	20	12	10	11	31	2		1	13.2	27.46
38088	1	1	0	2	10	1020	302	42	2	0	17	13	20	0	10	11	25	2		1	13.6	47.17
38089	1	1	0	2	10	1020	302	41	1	0	16	12	15	0	20	0	0	0		0	17	34.21
38090	1	1	0	1	10	1300	302	50	1	10	15	12	0	0	30	11	0	0		0	15.3	32.91
38092	1	1	0	2	10	1020	402	0	1	0	16	12	0	0	10	11	25	6	2	1	13.3	90
38093	1	1	0	2	10	1020	302	41	1	0	17	13	15	0	10	11	26	2		1	14	77
38094	1	1	0	2	10	4100	412	0	2	10	15	11	13	0	30	11	0	0		0	32	370
38095	1	1	0	2	10	4100	413	0	1	10	15	13	0	0	10	11	0	0		0	34.9	315
38096	1	1	0	2	10	1020	408	0	2	10	16	12	13	0	30	11	25	7		1	14	94
38097	1	1	0	2	10	1020	408	0	2	12	15	12	0	0	10	11	26	7	2	1	13.3	60.94
38098	1	1	0	1	10	1300	401	12	1	10	12	20	0	0	10	0	0	0		0	16	43
38100	1	1	0	1	10	1300	401	12	2	10	12	0	0	0	10	11	0	0		0	20.3	54

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
38101	1	1	0	2	10	1110	401	12	2	10	15	0	0	0	10	0	26	28		1	9	23.92
38102	1	1	0	2	10	4100	433	12	2	16	12	11	13	0	10	0	0	0		0	36.4	743
38103	1	1	0	1	10	1300	433	24	2	10	14	0	0	0	10	0	25	8	40 cutma	1	20.3	98
38104	1	1	0	2	10	1020	303	17	2	11	16	13	15	0	10	0	31	2	0	1	18	318
38105	1	1	0	3	10	1115	435	15	1	12	16	13	0	0	10	11	31	8		1	12.3	38.27
38106	1	1	0	2	10	1400	433	17	1	12	15	15	0	0	10	0	25	38		1	13.6	46.72
38107	1	1	0	1	10	1521	433	24	2	11	15	0	0	0	10	0	25	8	6 cutmar	1	14.5	10.9
38108	1	1	0	1	10	1300	433	24	2	10	16	0	0	0	10	0	31	8	1	1	14.5	41.55
38109	1	1	0	1	10	1300	435	20	2	0	15	12	0	0	10	0	41	8		1	17	68.85
38110	1	1	0	2	10	1020	303	17	2	11	16	13	15	0	10	0	25	2	0	1	19.2	361
38112	1	1	0	2	10	1110	303	24	2	10	14	0	0	0	30	11	11	25	0	1	12.2	29.56
38113	1	1	0	2	20	1130	303	11	2	10	11	12	0	0	0	0	0	0		0	13.8	16.44
38114	1	1	0	2	10	1020	303	24	1	10	17	0	0	0	10	11	90	5	7 cutmar	2	13.8	90
38115	1	1	0	2	10	1400	303	19	1	12	12	13	0	0	10	11	0	0		0	15.5	158
38116	1	1	0	2	10	1110	303	24	1	10	16	12	15	0	10	12	31	25		1	9.3	20.89
38117	1	1	0	1	10	1120	303	24	2	10	16	13	0	0	10	11	31	25	2 cutmar	1	8.2	34.67
38118	1	1	0	3	10	1114	435	27	1	12	14	0	0	0	10	11	0	0	0	0	16.8	22.46
38119	1	1	0	2	20	1130	540	17	2	0	14	12	0	0	10	0	0	0		0	17	12.47
38120	1	1	0	2	10	1110	435	24	1	10	15	13	0	0	10	11	90	28		1	14.5	30.91
38121	1	1	0	3	10	1114	433	20	2	0	17	0	0	0	10	0	32	8		1	8.2	16.54
38124	1	1	0	1	10	1300	435	24	1	10	16	12	0	0	10	0	31	8		0	6.9	23.3
38125	1	1	0	3	10	1114	304	24	2	10	16	12	0	0	10	12	31	25		1	7.8	18.23
38126	1	1	0	3	10	1114	304	24	2	10	16	12	13	0	10	11	31	25		1	10.5	26.81
38127	1	1	0	1	10	1300	435	24	1	10	16	0	0	0	10	11	31	8	1 cutmar	1	8.4	22.19
38127	1	1	0	3	10	1114	433	20	2	0	16	13	17	0	10	0	31	28	2	1	11	28.2
38128	1	1	0	2	10	1110	304	18	1	14	12	12	0	0	0	12	0	0		0	16	46.65
38129	1	1	0	3	10	1115	304	18	1	14	14	12	13	0	10	11	0	0		0	11.5	19.16
38130	1	1	0	3	10	1115	304	18	1	14	12	13	0	0	10	11	0	0		0	12.8	33.86
38131	1	1	0	3	10	1115	304	19	1	12	12	15	0	0	0	0	0	0		0	8.6	14.56
38132	1	1	0	2	10	1020	512	80	0	0	17	0	0	0	10	0	32	12		1	9	18
38133	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	10	0	26	12		1	16.3	35
38134	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	11	12		1	11.8	10.73
38135	1	1	0	2	10	1020	512	80	0	0	17	13	0	0	10	0	26	12		1	11.3	12
38136	1	1	0	2	10	1020	512	81	0	0	17	12	15	0	10	0	26	12		1	13	25.31
38137	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	10	0	25	12		1	9	13
38138	1	1	2	2	10	1020	512	81	0	0	17	0	0	0	30	0	31	12		1	9.5	13.49
38139	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	41	12		1	7.7	27.79
38140	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	0	12		0	7.7	6.22
38141	1	1	0	2	10	1020	512	80	2	10	17	0	0	0	10	0	11	3		1	9	9.01
38142	1	1	0	2	10	1020	512	81	0	0	17	0	13	0	30	0	0	12		0	9.5	5.94
38143	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	0	12		0	8	6.12
38144	1	1	0	2	10	1020	512	81	0	0	16	13	0	0	10	11	41	12	1	1	14.3	19.52
38145	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	25	12		1	11.4	11
38146	1	1	0	2	10	1020	512	80	2	0	17	13	0	0	10	0	25	12		1	12	26
38147	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	40	0	32	12		1	7.8	18.94
38148	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	31	12		1	6.1	4.96
38149	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	25	12		1	6	10.47
38150	1	1	0	2	10	1020	512	81	1	0	17	13	17	0	30	0	0	12		0	16	11
38151	1	1	0	2	10	1020	512	81	2	0	17	13	0	0	10	0	26	12	1	1	12	26.02
38152	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	30	0	31	12		1	7	10

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
38153	1	1	2	0	12	0	512	81	0	0	17	12	13	0	30	0	0	12		0	8.2	4.19
38154	1	1	2	2	10	1020	512	81	0	0	17	0	0	0	30	0	13	12		1	9.8	4.18
38155	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	30	0	0	12		0	8.8	12.67
38156	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	32	12		1	9.3	11.96
38157	1	1	0	2	10	1020	512	80	1	10	17	0	0	0	10	0	0	4		0	11	6.36
38158	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	0	12		0	8	4.39
38159	1	1	0	0	12	0	512	81	0	0	17	12	13	0	30	0	0	12		0	5.5	2.82
38160	1	1	0	2	10	1020	512	80	2	10	16	13	0	0	10	0	25	3		1	13	21
38161	1	1	0	2	10	1020	512	80	1	12	15	13	0	0	10	0	25	3		1	15.5	20
38162	1	1	0	2	10	1020	512	81	2	0	16	12	15	0	30	0	0	12		0	17.2	8
38163	1	1	0	2	10	1020	512	81	1	0	17	0	0	0	30	0	25	12		1	11.5	36
38164	1	1	0	2	10	1020	512	80	2	0	16	0	0	0	10	0	31	3		1	13.2	26
38165	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	10	0	41	12		1	18.2	40
38166	1	1	0	2	10	1020	512	80	1	10	16	17	0	18	10	0	31	3		1	10.5	34.79
38167	1	1	0	2	10	4100	904	0	0	0	14	12	13	0	30	0	0	0		0	9.3	5.67
38168	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	20	0	0	12		1	6.4	5.01
38169	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	20	0	0	12		1	4.5	3
38170	1	1	0	0	13	0	512	81	0	0	17	12	13	0	30	0	0	12		0	7.20	2.64
38171	1	1	0	2	10	1020	203	53	0	0	16	15	17	0	30	0	0	3		0	15.5	28
38172	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	25	12		1	7.8	4
38173	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	30	11	31	12		1	8	10
38174	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	25	12		1	7.7	9
38176	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	0	12		0	15	12
38177	1	1	0	0	12	0	303	20	0	0	17	11	13	0	30	0	32	0		1	7.1	17.06
38178	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	25	12		1	8.4	8
38178	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	11	41	12		1	11	16
38179	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	11	12		1	7.2	5
38180	1	1	0	2	10	1020	512	80	2	10	15	0	0	0	10	0	25	2		1	16	68
38181	1	1	0	0	12	0	950	20	0	0	17	11	13	0	10	0	0	0		0	11.9	15.61
38182	1	1	0	2	10	1020	512	81	2	0	15	15	0	0	10	0	25	12		1	21	44
38183	1	1	0	2	10	1020	512	81	0	0	17	12	13	0	10	0	26	12		1	9	25
38184	1	1	0	2	10	1020	512	80	2	0	17	13	0	0	10	0	25	3		1	13.5	31.56
38185	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	26	12		1	13.5	21
38186	1	1	0	2	10	1020	512	81	2	0	16	15	0	0	30	0	15	2		1	11.7	28.61
38187	1	1	0	2	10	1020	512	80	1	0	15	13	15	0	10	11	26	2		1	16.1	37
38188	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	27	12		1	13	33
38189	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	25	12		1	10.2	20
38190	1	1	0	2	10	1020	512	81	1	0	17	12	15	0	10	0	25	12		1	11.6	27
38191	1	1	0	2	10	1020	512	81	2	0	17	0	0	0	10	0	26	12		1	9.1	23
38192	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	10	0	31	12		1	11.7	36
38193	1	1	0	2	10	1020	512	82	0	0	17	0	0	0	10	0	26	12		3	11	24
38194	1	1	0	2	10	1020	512	81	1	0	17	12	0	0	10	0	41	12		1	11.7	41
38195	1	1	0	2	10	1020	512	81	0	0	17	12	15	0	30	0	25	12		1	15.7	48
38196	1	1	0	2	10	1020	512	81	2	0	15	12	0	0	10	0	26	4		1	25.5	79
38197	1	1	0	2	10	1020	512	81	1	0	15	0	0	0	40	0	11	12		1	22	56
38198	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	10	0	41	12		1	10.5	26
38199	1	1	0	2	10	1020	512	81	0	0	16	13	15	0	10	0	25	4		1	21	73
3820	1	1	0	2	10	1020	512	81	1	0	17	13	0	0	10	0	27	4	6	1	13.3	36
38200	1	1	0	2	10	1020	512	81	1	0	15	12	11	0	10	0	25	4		1	23	10.3
38201	1	1	6	2	10	1020	512	81	0	0	17	12	0	0	30	0	25	12	1	1	6.4	8

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
38202	1	1	0	2	10	1020	512	81	1	0	17	12	15	0	10	0	26	12		1	9.5	22
38203	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	26	12		1	9	14
38204	1	1	0	2	10	1020	512	80	1	10	16	13	0	0	10	0	26	3		1	12.7	46.64
38205	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	25	12		1	9.2	29
38206	1	1	0	2	10	1020	512	81	0	0	16	12	15	0	10	0	25	12		1	15.7	39
38207	1	1	0	2	10	1020	512	82	0	0	17	15	0	0	10	0	26	12	1	1	11.2	27
38208	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	26	12	1	1	10.4	25
38209	1	1	0	2	10	1020	512	81	1	0	16	0	0	0	10	0	41	12		1	22.8	71
38210	1	1	0	2	10	1020	433	25	0	12	16	0	0	0	40	11	31	8		1	9.6	16.39
38210-38	1	1	0	2	10	1020	512	81	1	0	15	12	15	0	10	0	26	12		1	23.3	69
38211	1	1	0	2	10	1020	512	81	0	0	16	12	15	0	10	0	41	12	1	1	22.6	58
38212	1	1	0	2	10	1020	512	81	0	0	15	12	15	0	10	0	41	12		1	22.7	53
38213	1	1	0	2	10	1020	512	80	2	0	17	0	0	0	40	0	25	3		1	6	11.94
38214	1	1	0	2	10	1020	512	80	2	10	16	0	0	0	10	0	26	2		1	14	55
38215	1	1	0	2	10	1020	512	81	1	0	12	15	0	0	10	0	26	3		1	32.6	101
38216	1	1	0	2	10	1020	512	80	1	11	12	0	0	0	10	11	25	2		1	23.6	51
38217	1	1	0	2	10	1020	512	80	1	0	16	13	11	0	30	0	25	2		1	12	34
38218	1	1	0	2	10	1020	512	81	2	0	15	12	0	0	10	0	25	12		1	20.7	28
38220	1	1	0	2	10	1020	512	81	2	0	16	0	0	0	10	0	26	12		1	21.1	43
38221	1	1	0	2	10	1020	512	80	2	10	16	17	0	0	20	0	0	2		0	9.8	10.75
38222	1	1	0	2	10	1020	512	81	0	0	17	12	13	0	30	0	25	12		1	9.8	10
38223	1	1	0	2	10	1020	512	80	1	10	17	11	13	0	10	0	0	2		0	9.8	11.16
38224	1	1	0	2	10	1020	512	80	1	10	17	12	0	0	40	0	31	2	2	1	10	30.25
38225	1	1	0	2	10	1020	512	80	2	10	16	12	0	0	10	0	25	2		1	7.6	21.43
38226	1	1	0	2	10	1020	512	80	2	0	17	12	13	0	10	0	26	12		1	7	8
38227	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	26	12		1	9.8	21
38228	1	1	0	2	10	1020	512	80	1	10	17	13	0	0	30	0	0	3		0	8	5.82
38229	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	26	12		1	11.7	21
38230	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	11	41	12		1	10.2	16
38231	1	1	0	2	10	1020	512	81	1	0	16	12	0	0	10	0	26	12		1	19	45
38232	1	1	0	2	10	1020	203	53	0	0	16	0	0	0	10	0	25	3		1	12.3	29.37
38233	1	1	0	2	10	1020	512	82	2	0	16	12	15	0	10	0	25	4		1	16.5	32
38234	1	1	0	1	10	1300	433	17	1	10	16	12	13	18	40	11	31	8		1	10.8	23.31
38235	1	1	0	2	10	1020	512	80	1	10	17	13	0	0	10	0	25	3		1	6.8	8
38236	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	27	12		1	7.5	22
38237	1	1	0	2	10	1020	512	81	2	0	16	13	15	0	30	0	25	12		1	20.5	30
38238	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	25	12		1	15.2	43
38239	1	1	2	2	10	1020	512	81	0	0	17	15	0	0	30	0	25	12		1	16.5	16
38240	1	1	0	2	10	1020	512	81	0	0	16	13	15	0	10	0	31	12		1	19.5	27
38241	1	1	0	2	10	1020	512	80	1	0	16	13	0	0	10	0	25	2		1	16	48
38242	1	1	0	2	10	1020	512	80	1	10	16	13	15	0	30	0	11	2		1	19	21
38243	1	1	0	2	10	1020	433	15	0	12	16	12	17	17	40	0	41	7		2	6.6	14.65
38244	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	25	3		1	8.7	10.68
38245	1	1	0	2	10	1020	512	80	2	10	17	0	0	0	10	0	26	3		1	7	21.96
38246	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	26	12		1	10.6	21
38247	1	1	0	2	10	1020	512	80	1	0	17	15	0	0	10	0	25	3		1	7	15
38248	1	1	0	2	10	1020	512	80	2	10	16	0	0	0	10	11	26	2		1	8.4	14.83
38249	1	1	2	2	10	1020	512	80	1	0	17	13	0	0	10	0	25	3		1	9	21
38250	1	1	0	2	10	1020	512	80	1	10	17	0	0	0	10	12	31	3		1	9	25
38251	1	1	0	2	10	1020	512	80	1	0	16	0	0	0	10	0	26	2		1	13.5	38

CATALOG #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
38252	1	1	0	2	10	1020	512	80	2	10	17	0	0	0	10	0	25	2	1	1	5	22
38253	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	31	12		1	14.7	14
38254	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	11	12		1	11.2	7.43
38255	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	10	0	26	2		1	19.5	43
38256	1	1	0	2	10	1020	512	82	0	0	17	0	0	0	10	0	40	4		3	12.5	23
38257	1	1	0	2	10	1020	512	81	0	0	17	12	0	0	10	0	41	12		1	12.5	19
38258	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	30	0	11	12		1	19	25
38259	1	1	0	2	10	1020	512	81	2	0	17	12	0	0	10	0	26	12	1	1	17	28
38260	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	10	0	32	12		0	21.7	40
38261	1	1	3	2	10	1020	512	80	1	10	17	0	0	0	20	0	0	3		0	11.2	10.01
38262	1	1	0	2	10	1020	512	81	2	0	16	13	0	0	10	0	0	12		0	23.3	36
38263	1	1	0	2	10	1020	512	81	0	0	16	0	0	0	10	0	26	12		3	12	10
38264	1	1	0	2	10	1020	512	81	1	0	12	12	13	0	30	0	13	3		1	25.9	75
38265	1	1	0	2	10	1020	512	81	0	0	17	12	13	0	30	0	0	12		0	12	9
38266	1	1	0	2	10	1020	512	81	0	0	17	12	15	0	10	0	0	12		0	12	19
38267	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	26	12	1	1	13.4	8.11
38268	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	25	12		1	9.2	11
38269	1	1	0	2	10	1020	512	81	1	0	16	0	0	0	10	11	26	12		1	17.2	52
38271	1	1	0	2	10	1020	512	81	0	0	17	0	0	18	10	0	25	12		1	9.4	13.06
38272	1	2	0	2	10	1020	512	80	0	0	17	11	13	0	30	0	31	12		1	5.4	9.02
38273	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	0	12		0	5.9	4.36
38274	1	1	0	2	10	1020	512	80	1	10	16	0	0	0	10	0	25	3		1	15.4	42
38275	1	1	0	2	10	1020	512	80	2	10	17	13	0	0	10	0	41	4		1	9	15.2
38276	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	0	12		0	6.8	5.15
38277	1	1	0	2	10	1020	512	80	1	10	16	0	0	0	10	0	25	2		1	23.3	43
38278	1	1	0	1	10	1120	304	17	1	10	16	0	0	0	10	0	0	5		1	10.2	46.16
38279	1	1	0	2	10	1020	512	81	2	0	15	12	0	0	10	11	26	12		1	21.8	41
38280	1	1	0	2	10	1020	512	80	1	11	12	0	0	0	10	0	25	2		1	26	64
38281	1	1	0	2	10	1020	512	80	1	10	15	0	0	0	40	0	41	3		1	13.8	46.41
38282	1	1	0	2	10	1020	512	80	1	10	16	13	0	0	20	0	0	3		0	9	6.66
38283	1	1	0	2	10	1020	512	80	1	10	17	0	0	0	10	0	41	2		1	10	44
38284	1	1	0	2	10	1020	512	80	2	10	16	15	0	17	10	0	25	2		1	13.4	40
38285	1	1	0	2	10	1020	512	80	2	10	16	0	0	0	10	0	25	2		1	13.5	59
38286	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	11	12		1	6.4	4
38287	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	30	0	25	12		1	8.5	7.46
38288	1	1	0	2	10	1020	512	80	1	10	14	13	0	0	30	0	31	3		1	20.1	79
38289	1	1	0	2	10	1020	512	81	2	0	16	0	0	0	10	0	26	12	3	1	14.4	58
38290	1	1	0	2	10	1020	512	81	0	0	17	13	15	0	10	0	0	12		0	17.5	15
38291	1	1	0	2	10	1110	304	20	2	40	15	0	0	17	10	0	31	5		1	12.8	20.34
38292	1	1	0	2	10	1020	512	81	0	0	15	0	0	0	10	0	41	12		1	22	45
38293	1	1	0	0	12	0	512	81	0	0	17	13	0	0	30	0	0	12		0	11	7.04
38293	1	1	3	2	10	1020	512	81	0	0	17	13	0	0	30	0	0	12		0	16	21
38294	1	1	0	2	10	1020	512	82	1	10	16	0	0	0	20	0	0	4		0	12.4	18.11
38295	1	1	0	2	10	1020	512	81	0	0	17	0	0	0	10	0	26	12		1	11.5	11
38296	1	1	0	2	10	1020	512	81	0	0	17	13	0	0	30	0	25	12		1	9.8	15
38299	1	1	0	2	10	1020	512	81	0	0	17	15	0	0	10	0	31	12		1	11	15
38300	1	1	0	2	10	1110	433	17	2	11	17	12	0	0	10	11	25	7	3	1	6.4	20.64
38301	1	1	0	0	12	0	950	20	0	40	16	12	13	0	30	0	0	0		0	7	8.23
38302	1	1	0	2	10	1020	512	82	0	0	17	15	0	0	30	0	0	4		0	14.5	21
3840	1	1	0	2	10	1020	931	25	0	16	12	15	0	0	0	11	0	0	0	0	5	15.25
3841	1	1	0	2	10	1020	932	11	0	10	11	0	0	0	0	11	0	0	0	0	5	17.63
38674	1	1	0	1	10	1300	302	40	2	10	16	12	20	0	10	11	31	2	5 cutmar	1	10	22.08
6.5	1	1	0	3	10	1115	303	25	1	15	12	13	17	0	10	11	0	0		0	14.8	65
83052	1	1	0	3	10	1030	433	17	2	12	15	20	0	0	10	0	26	7		2	18.7	183

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W99	1	1	0	2	10	1400	459	25	0	12	12	12	13	0	10	0	0	0		0	6.5	9.76
W98	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	12	0	6.1	1 cutmar	1	13.3	42.1
W97	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	0	26	6.1	1 starter	1	6.2	26.42
W96	1	1	0	0	12	0	106	0	0	0	17	12	13	0	30	0	0	0		0	6.8	7.34
W95	1	1	0	1	10	2120	435	17	2	10	16	12	0	0	10	0	0	0		0	3.5	2.59
W94	1	1	0	2	10	1020	203	51	0	12	17	15	0	0	10	0	14	14		2	5	4.82
W93	1	11	0	0	11	0	0	0	0	0	17	11	13	0	30	0	0	0		0	10.1	83.28
W92	1	12	0	0	12	0	0	0	0	0	17	12	13	0	30	0	0	0		0	5	27.87
W91	1	1	0	0	11	0	402	67	2	0	17	11	13	0	10	0	28	6	1 starter	1	12.8	58.85
W90	1	1	0	2	10	1020	203	53	0	0	16	12	0	0	10	12	15	3	9 cutmak	1	10.1	30.61
W9	3	1	0	0	12	0	220	81	0	0	17	12	0	0	30	12	15	12		1	6.2	2.89
W9	2	1	0	0	12	0	220	81	0	0	16	12	0	0	10	12	26	12		1	8.5	8.49
W9	1	1	0	0	12	0	220	81	0	0	15	12	13	0	10	0	42	12		1	13.5	11.64
W89	1	1	0	3	10	1030	169	0	1	40	16	12	13	0	10	0	14	M	1 cutmar	1	6.9	14.28
W88	1	1	0	0	11	0	402	20	0	0	17	12	0	17	10	11	28	6.1		9.2	9.2	23.39
W87	1	1	0	3	10	1030	166	0	2	0	17	12	0	0	10	0	15	M		4	8.2	22.32
W86	1	1	0	3	10	1030	433	20	0	0	17	0	0	0	10	0	28	7		1	10.8	66.79
W85	1	1	0	0	11	0	0	0	0	0	17	11	13	0	30	0	0	0		0	5.5	10.1
W84	1	1	0	2	10	1020	402	67	2	0	17	0	0	0	10	11	28	6.1		1	8.5	21.4
W83	1	1	0	2	10	1020	402	67	1	0	17	0	0	0	10	0	28	6.1	1 starter	1	14.8	43.28
W82	1	1	0	2	10	1020	402	67	1	0	17	12	0	0	10	11	28	6.1		1	11.9	54.29
W81	1	1	0	2	10	1020	302	41	2	0	17	12	20	0	10	11	28	2.1		1	12.2	83
W80	1	1	0	2	10	1020	402	67	1	0	17	12	20	0	10	11	28	6.1		1	7.5	27.38
W8	1	1	0	2	10	1400	220	81	0	0	16	12	0	17	10	13	42	12	16	1	7.8	4.63
W79	1	1	0	2	10	1020	433	20	2	0	17	12	0	0	10	0	28	7.1		1	4.6	78
W78	1	1	2	3	10	1030	303	20	2	0	17	12	0	0	10	0	28	7.1	2 starter	1	5.7	66.27
W77	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	11	0	6.1		1	10.2	33.97
W76	1	1	0	2	10	1400	305	12	2	14	12	12	20	0	0	11	0	0		0	12.7	16.55
W75	1	1	0	2	10	1020	302	41	2	0	17	12	0	0	10	11	28	2.1		1	9.8	51.77
W74	1	1	0	2	10	1020	202	50	0	10	15	12	0	0	10	0	11	1		1	7.8	33.66
W73	1	1	0	2	10	1400	435	20	1	0	15	12	0	0	10	0	28	8.1		1	8	30.69
W72	1	4	0	0	11	0	960	0	0	0	17	12	0	0	10	11	28	0		0	8	36.7
W71	1	1	0	2	10	1020	302	41	1	0	17	0	0	0	10	11	28	2.1	5 cutmar	1	9.8	38.3
W70	1	1	0	2	20	1120	105	90	0	10	16	0	0	0	10	0	99	99		4	3	1.15
W7	1	1	0	2	10	1400	220	81	0	0	16	12	13	0	10	11	28	12		1	6.9	5.96
W69	1	1	0	3	10	1030	435	20	0	0	16	13	0	0	10	11	42	8		1	10.2	121
W68	1	1	0	2	10	1020	303	20	2	0	15	12	13	12	10	11	29	5		1	12.7	143
W67	1	1	0	2	10	1020	435	20	1	0	14	13	20	0	10	11	28	8.1		1	15.5	212
W66	1	1	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0		0	4.3	3.03
W65	1	1	0	2	10	1020	433	20	2	0	16	12	20	0	10	0	21	7		1	10	78
W64	1	1	0	0	11	0	0	304	1	0	14	12	20	0	10	0	28	5		1	12.4	78
W63	1	1	0	3	10	1030	433	20	0	0	17	12	13	0	10	12	31	7.1		1	8.4	39.38
W62	1	1	0	2	10	1020	435	20	1	0	14	0	0	0	10	11	28	8.1		1	18.3	244
W61	1	1	0	2	10	1020	204	50	0	12	15	0	0	0	10	0	28	6.1	4 cutmar	1	12	34.52
W60	1	1	0	2	10	1020	433	20	0	0	17	12	0	0	10	0	28	7.1		1	6.5	44.14
W60	1	1	0	3	10	1030	402	20	0	0	17	12	0	0	10	0	28	6.1	1 starter	1	6.8	31.1

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W6	1	1	0	2	10	1400	220	81	1	0	16	12	13	0	30	0	0	0		0	5.1	2.29
W59	1	1	0	3	10	1030	402	20	1	0	17	12	0	0	10	11	28	6.1		1	8.5	39.69
W59	1	1	0	3	10	1030	402	20	1	0	17	12	20	0	10	11	28	6.1		1	9.4	41.99
W58	1	1	0	2	10	1020	204	50	0	0	15	13	0	0	10	11	26	6.1		1	10.3	22.63
W58	1	1	0	3	10	1030	433	20	0	0	17	12	0	0	10	0	28	7.1		1	4.6	26.85
W57	1	1	0	2	10	1020	433	20	0	0	17	12	0	0	10	0	15	7		1	7.2	40.8
W57	1	1	0	3	10	1030	402	20	0	0	17	12	0	0	10	0	21	6.1		1	6.3	27.53
W56	1	1	0	2	10	1020	303	20	2	0	17	12	13	0	30	0	0	0		0	9.7	23.16
W56	1	1	0	3	10	1030	433	20	0	0	17	12	20	0	10	0	21	7.1		1	5	52.3
W55	1	1	0	2	10	1020	402	20	1	0	17	12	13	0	10	11	28	6.1		1	10.8	36.91
W55	1	1	0	3	10	1030	206	50	0	10	15	12	0	0	10	11	26	11		4	5.9	15.48
W54	1	1	0	2	10	1020	204	50	0	10	15	12	20	0	10	11	26	6.1	1 starter	4	11.2	45.86
W54	1	1	0	2	10	1020	402	20	2	0	17	12	20	0	10	11	28	6.1		1	8.8	31.3
W53	1	1	0	2	10	1020	202	50	0	10	16	12	0	0	10	0	29	2		1	12	35.51
W53	1	1	0	3	10	1030	402	20	1	0	17	0	0	0	10	11	28	6.1		1	10.9	34.55
W52	1	7	0	0	10	0	0	0	0	0	0	0	0	0	0	0	0	0		0	2.7	0.76
W52	1	1	0	3	10	1030	220	82	0	10	17	12	0	0	10	11	0	0		0	6.4	12.2
W51	1	1	0	2	10	1020	402	20	2	0	17	0	0	0	10	0	26	6.1		1	10	33.93
W51	1	1	0	2	10	1020	433	20	0	0	17	12	0	0	10	0	28	7.1		1	4.9	60.2
W50	1	1	0	2	10	1020	302	41	2	0	17	0	0	0	10	0	26	2		1	10.2	52.67
W5	1	1	0	2	10	1400	220	80	2	10	16	12	15	0	10	11	0	0		0	6.8	4.31
W49	1	1	0	1	10	1101	408	0	1	10	16	11	13	0	10	0	0	0		0	17.2	111
W48	1	1	0	2	10	1020	433	20	0	0	17	12	20	0	10	11	21	13		1	4.7	36.56
W47	1	1	0	2	10	1020	305	20	1	0	16	13	0	0	10	0	41	5		1	8.7	29.3
W46	1	1	0	0	11	0	220	80	0	10	17	11	13	0	10	11	0	0		0	4.1	3.3
W45	1	1	0	0	11	0	220	81	0	0	17	12	0	0	20	11	0	0		0	8	6.34
W44	1	1	0	0	11	0	950	20	0	0	16	12	20	0	30	11	14	0		0	14.4	52.69
W43	1	1	0	3	10	1030	112	74	0	10	15	12	0	0	10	0	14	1		2	6	77
W42	1	1	0	3	10	3000	206	11	0	10	11	0	0	0	0	0	0	0		0	2.5	0.7
W41	1	1	0	2	10	4100	204	52	0	10	16	12	0	0	10	0	0	0		0	4	12.55
W40	1	1	0	2	10	1020	203	57	0	12	17	13	0	0	30	11	0	0		0	5.2	3.66
W4	1	1	0	0	12	0	0	0	0	0	0	11	13	0	10	0	0	0		0	11.2	16.26
W4	2	1	0	0	12	0	0	0	0	0	0	11	13	0	30	0	0	0		0	9.4	7.82
W39	1	1	0	2	10	1020	200	51	0	10	15	12	0	0	10	0	20	1	+10	3	7.8	47.77
W38	1	1	0	2	10	1020	205	59	0	10	16	0	0	0	10	11	28	6.1		1	10.9	49.54
W37	1	1	0	0	12	0	0	0	0	0	0	13	0	0	30	0	0	0		0	2	0.43
W36	1	1	2	0	11	0	402	66	0	0	17	12	14	0	30	12	20	6		3	16.3	34.97
W352	1	1	0	0	11	0	0	0	0	0	0	0	0	0	10	0	99	0		0	5	8.62
W351	1	1	0	1	50	0	207	51	0	0	14	0	0	0	10	11	0	0		0	1	0.22
W350	1	1	0	0	11	0	0	0	0	0	0	13	19	0	30	0	0	0		0	6.3	16.05
W35	1	1	0	3	10	1030	403	21	2	0	16	12	13	11	10	12	31	7	12	1	8.5	44.1
W349	1	1	0	0	11	0	0	0	0	0	0	0	0	0	10	13	20	0		0	3.5	4.02
W348	1	1	0	0	11	0	205	28	0	12	17	12	20	0	10	0	0	0		0	5.2	4.77
W347	1	1	0	0	11	0	203	56	0	10	17	12	0	0	10	0	0	0		0	3.6	3.16
W346	1	1	0	2	10	1020	204	56	0	0	17	12	0	0	10	0	42	6	3 saw sta	4	5.1	9.58
W345	1	1	0	2	10	1020	204	52	0	10	16	12	20	0	10	0	32	6		4	5.1	13.13
W344	1	1	0	0	13	0	203	53	0	0	16	12	20	0	10	0	20	0		0	4	1.25
W343	1	1	0	2	10	1020	203	55	0	10	17	12	0	0	10	0	32	3		4	4.1	6.07
W342	1	2	0	0	11	0	203	28	0	12	17	12	0	0	10	0	0	0		0	4.3	6.21
W341	1	1	0	2	10	1020	203	56	0	0	17	20	0	0	10	0	32	6		4	3.9	6.51

B	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AG	AH
TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W340	1	1	0	2	10	1020	204	52	0	10	16	12	13	0	10	11	28	6.1		4	6.3	19.77
W34	1	1	2	2	10	4100	200	12	0	10	12	11	12	0	10	0	0	0		0	15.4	118
W339	1	1	0	2	10	1020	204	50	0	0	16	17	20	0	10	0	28	6.1		4	6.5	22.24
W338	1	1	0	0	11	0	203	53	0	12	17	12	0	0	10	0	20	3		1	4.7	5.05
W337	1	1	0	2	10	1020	202	55	0	10	16	17	0	0	10	0	32	1	1 cutmar	2	6.8	18.48
W336	1	1	0	2	10	1020	203	55	0	10	17	12	0	0	30	0	32	3	1 starter	4	4.5	8.87
W335	1	1	0	2	10	1020	204	55	0	10	17	0	0	0	10	0	42	6		4	5.8	6.14
W334	1	1	0	2	10	1020	203	55	0	10	16	0	0	0	10	0	32	3		4	5.8	12.64
W333	1	1	0	2	10	1020	204	50	0	0	16	12	0	0	10	11	28	6.1		4	6.2	14.93
W332	1	1	0	3	10	1030	359	17	2	10	16	12	0	0	30	0	31	5		1	9.8	35.93
W331	1	1	0	0	11	0	220	81	0	0	17	12	0	0	30	0	0	0		0	6.1	2.63
W330	1	1	0	0	11	0	0	0	0	0	0	12	0	0	30	0	14	0		0	6.5	7.25
W33	1	1	2	2	10	4100	205	12	0	10	12	13	20	0	30	0	0	0		0	18.3	75.91
W329	1	1	0	0	11	0	206	51	0	12	12	0	0	0	10	0	32	11		4	4.9	6.85
W328	1	1	0	2	10	1020	204	52	0	0	16	12	0	0	10	0	32	6		4	5.5	13.64
W327	1	1	0	2	10	1020	900	21	0	10	17	12	0	0	20	0	0	0		0	3.8	4.07
W326	1	1	0	2	10	1020	205	51	0	12	17	12	20	0	10	0	0	0		0	3.4	5.18
W325	1	1	0	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0		0	5.6	1.98
W324	1	1	0	2	10	1020	206	50	0	12	15	12	0	0	10	0	0	0		0	3.7	4.91
W323	1	1	0	0	11	0	203	28	0	12	17	0	0	0	30	0	0	0		0	3.4	1.84
W322	1	1	0	2	10	1020	310	11	0	10	11	12	0	0	0	0	0	0		0	2.5	5.1
W321	1	1	0	0	11	0	950	20	0	0	17	12	0	0	10	0	32	13		1	5.2	15.35
W320	1	2	0	0	12	0	950	20	0	0	17	12	13	0	30	0	29	13	1 starter	1	9.8	22.22
W32	1	7	0	0	12	0	220	81	0	0	17	12	13	0	30	11	0	0		0	8.2	17.76
W319	1	1	0	0	11	0	205	51	0	12	17	12	0	0	10	0	42	7.1		1	2.6	4.58
W318	1	2	0	0	11	0	220	80	0	10	17	12	20	0	30	0	0	0		0	6.3	8.54
W317	1	1	0	0	11	0	402	67	1	0	17	12	0	0	10	0	28	6.1		1	12.7	14.51
W316	1	1	0	2	10	1400	900	17	0	0	15	12	13	0	20	0	0	0		0	5.3	5.35
W315	1	1	0	0	11	0	220	82	0	0	17	12	0	0	10	0	0	31		0	5.8	9.57
W314	1	1	0	2	10	1110	305	20	1	0	17	12	0	0	10	0	32	35		1	5.5	6.15
W313	1	1	0	0	13	0	0	0	0	0	0	12	0	0	30	0	0	0		0	6.1	3.36
W312	1	1	0	2	10	1400	436	17	1	12	16	12	13	0	30	0	0	0		0	5.3	7.62
W311	1	1	0	0	11	0	910	0	0	0	17	12	13	0	30	0	0	0		0	3.7	4.37
W310	1	1	0	2	10	1400	303	13	1	12	17	0	0	0	10	0	0	0		0	4.5	9.14
W31	1	1	0	0	13	0	220	80	2	30	15	12	0	0	10	11	0	0		0	4.6	0.8
W31	2	1	0	0	13	0	220	80	1	30	16	12	0	0	10	0	0	0		0	3.2	0.67
W309	1	1	0	2	10	1020	220	80	0	10	17	12	0	0	10	0	43	2	3 cutmar	4	6.2	14.03
W308	1	1	0	0	11	0	220	80	0	12	17	12	0	0	10	0	31	12	2 cutmar	2	4.2	3.92
W307	1	1	0	0	12	0	950	20	0	0	17	12	13	0	30	0	29	0		0	5.6	6.51
W306	1	1	0	0	13	0	950	20	0	0	17	12	0	0	10	13	31	0		0	5	4.36
W305	1	1	0	0	11	0	204	55	0	0	17	12	13	0	10	12	20	0		0	4.8	2.5
W304	1	1	0	2	10	1400	204	50	0	10	16	12	0	0	30	0	13	0	2 cutmar	0	4	2.73
W303	1	2	0	0	11	0	220	80	0	10	17	11	13	0	30	0	0	0		0	4.9	5.56
W302	1	1	0	2	10	1400	933	11	0	10	11	12	0	0	0	0	0	0		0	2.1	0.74
W301	1	1	0	2	10	1020	204	50	0	0	16	0	0	0	10	0	26	6.1		4	10.6	24.61
W300	1	2	0	0	11	0	207	28	0	12	17	12	0	0	30	0	0	0		0	2.9	1.97
W30	1	1	0	2	10	1400	203	53	0	0	16	11	13	13	10	0	25	3		1	6.8	6.35
W3	1	1	0	2	10	1400	433	20	2	0	17	13	15	0	10	0	15	38		1	4.6	10.04
W299	1	3	0	0	11	0	207	28	0	12	17	12	0	0	30	0	0	0		0	3	7.18
W298	1	2	0	0	12	0	106	0	0	0	17	12	13	0	10	0	0	0		0	2.8	1.76

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W297	1	1	0	2	10	1400	900	25	0	16	12	0	0	0	0	0	0	0		0	1.6	1.7
W296	1	1	0	0	11	0	0	0	0	0	17	0	0	0	30	12	25	0		0	2.9	1.95
W295	1	1	0	3	10	1115	404	0	2	0	17	0	0	0	10	0	0	0		0	5.8	3.75
W294	1	1	0	0	12	0	0	0	0	0	0	11	13	0	10	11	0	0		0	2.4	2.63
W293	1	1	0	0	12	0	204	55	0	0	17	13	0	0	30	11	0	0		0	3.5	1.72
W292	1	1	0	0	13	0	0	0	0	0	0	13	0	0	30	11	0	0	2 cutmarl	0	2.2	1.07
W291	1	1	0	3	10	1030	402	90	1	12	17	0	0	0	10	0	0	0		0	12.3	12.94
W290	1	1	0	2	10	1020	402	67	1	17	17	12	0	0	30	11	26	6.1		3	24.4	29.82
W29	1	1	0	2	10	1400	220	80	1	10	17	12	0	0	30	11	12	2		1	3.9	1.92
W289	1	1	0	2	10	1020	204	50	0	0	16	12	90	0	10	11	41	6.1		4	10.3	21.91
W288	1	1	0	2	10	1020	204	50	0	0	16	12	0	0	10	11	41	6		4	5.8	11.96
W287	1	1	0	2	10	1020	204	50	0	10	16	13	20	0	10	11	42	6	3 cutmarl	4	7	17.58
W286	1	1	0	3	10	1030	402	66	1	12	17	12	0	0	10	0	20	6.1	1 cutmarl	1	10	11.17
W285	1	3	0	0	13	0	207	0	0	0	17	12	0	0	30	0	0	0		0	3.6	3.2
W284	1	1	0	0	13	0	204	56	0	0	17	13	0	0	30	0	0	0		0	3	1.57
W283	1	1	0	0	11	0	203	28	0	12	17	0	0	0	30	0	0	0		0	5.2	2.39
W282	1	1	0	0	11	0	405	0	0	0	17	11	13	0	30	0	0	0		0	3.1	4.61
W281	1	1	0	0	11	0	207	42	0	0	17	12	0	0	10	0	14	0		2	8.2	7.9
W280	1	1	0	2	10	1400	207	42	0	0	16	12	13	0	30	0	0	0		0	6.5	4.52
W28	1	1	0	0	13	0	433	11	2	30	11	0	0	0	0	0	0	0		0	3.1	0.63
W279	1	1	0	0	11	0	950	20	0	0	17	11	20	0	30	0	0	0		0	7.2	8.21
W278	1	1	0	2	10	1400	204	50	0	12	16	12	0	0	10	0	43	36		4	3	2.2
W277	1	3	0	0	13	0	950	20	0	0	17	13	0	0	10	13	0	0		0	4.9	3.19
W276	1	1	0	3	10	1030	205	66	1	12	17	11	12	0	30	0	0	0		0	7.9	21.01
W275	1	18	0	0	12	0	0	0	0	0	0	13	0	0	30	0	0	0		0	4.7	14.98
W274	1	5	0	0	11	0	0	0	0	0	0	11	13	0	30	0	0	0		0	5.6	10.26
W273	1	1	0	0	13	0	950	20	0	0	17	12	0	0	10	0	42	13		1	2.4	2.08
W272	1	14	0	0	12	0	220	81	0	0	17	12	13	0	30	0	0	0		0	7.8	18.7
W271	1	2	0	0	11	0	302	41	0	0	17	12	0	0	30	0	0	0		0	5.1	5.12
W270	1	1	0	0	13	0	220	81	0	0	16	12	0	0	30	0	12	0	1 cutmarl	1	9.5	4.26
W27	1	1	0	1	10	5100	204	11	0	10	11	0	0	0	0	0	0	0		0	0.7	0.08
W269	1	1	0	0	11	0	205	51	0	0	17	11	12	0	30	0	0	0		0	6.8	14.84
W268	1	1	0	1	10	3110	932	11	0	10	11	12	0	0	0	0	0	0		0	1.4	0.35
W267	1	1	0	2	10	1020	402	67	1	0	17	12	20	0	10	0	28	6.1		1	6.9	29.2
W266	1	18	0	0	12	0	950	0	0	0	17	12	0	0	30	0	0	0		0	5.1	11.97
W265	1	1	0	1	20	2100	531	12	2	0	12	13	20	0	10	0	0	0		0	6.9	0.93
W264	1	1	0	0	11	0	0	0	0	12	0	11	13	0	10	0	0	0		0	3.8	12.62
W263	1	1	0	0	12	0	0	0	0	0	0	12	13	0	20	0	0	0		0	2.1	0.56
W262	1	1	0	0	12	0	0	0	0	0	0	12	0	0	30	0	0	0		0	3.3	1.13
W261	1	1	0	2	10	1400	303	20	2	0	16	12	13	13	10	0	29	5		1	5.9	17.66
W260	1	1	0	0	11	0	402	67	1	0	17	12	15	17	10	13	21	6.1	1 starter	1	7.8	21.78
W26	1	1	0	2	20	1120	531	11	1	10	11	0	0	0	0	0	0	0		0	3.3	0.57
W259	1	1	0	0	11	0	205	50	0	0	17	12	0	0	10	0	31	7	2 starter l	2	4.1	9.45
W258	1	1	0	0	11	0	207	50	0	0	17	0	0	0	10	12	26	14.1		1	8.3	17.21
W257	1	1	0	0	12	0	405	17	0	0	17	12	13	0	30	0	0	0		0	3.6	2.91
W256	1	1	0	2	10	1020	204	55	0	0	17	20	0	0	10	11	29	6		2	8.9	7.14
W255	1	1	0	2	10	1020	205	55	0	0	17	12	13	0	30	0	0	0		0	5.8	8.23
W254	1	1	0	3	10	1030	203	53	0	0	16	12	20	0	30	11	31	3	2 hack m	1	13.3	25.04
W253	1	1	0	0	11	0	207	51	0	12	17	12	0	0	10	0	21	14		4	4.3	4.71
W252	1	1	0	0	11	0	204	50	0	12	16	12	13	0	30	0	0	0		0	7.5	10.88

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W251	1	1	0	0	11	0	207	51	0	0	17	12	20	0	10	0	15	14		4	4.6	4.21
W250	1	2	0	0	2	0	0	0	0	0	0	12	0	0	30	0	0	0		0	4	0.33
W25	1	1	0	1	10	2120	435	24	2	10	15	0	0	0	0	0	0	0		0	8.5	5.51
W249	1	1	0	0	12	0	220	81	1	0	17	12	0	0	30	12	0	0	2 cutmarl	0	5.1	3.26
W248	1	1	0	0	13	0	220	81	0	0	17	12	13	0	10	0	14	0	2 cutmarl	1	4.9	1.08
W247	1	1	0	2	10	1400	902	25	0	16	12	0	0	0	0	0	0	0		0	4.2	2.97
W246	1	1	0	0	11	0	0	0	0	0	0	12	13	0	30	0	0	0		0	6.5	24.65
W245	1	1	0	0	11	0	207	51	0	12	17	12	0	0	30	0	0	0		0	3.3	3.54
W244	1	1	0	2	10	1020	402	67	2	0	17	12	20	0	10	0	28	6.1	3 cutmarl	4	8.1	28.3
W243	1	1	0	0	13	0	950	20	0	0	17	12	0	0	30	0	28	13.1	1 starter	1	1.4	2.05
W242	1	9	0	0	13	0	0	0	0	0	17	12	13	0	30	0	0	0		0	3.1	4.09
W241	1	1	0	0	11	0	950	20	0	0	17	12	0	0	30	0	28	13.1		1	3.4	5.52
W240	1	3	0	0	11	0	207	0	0	0	17	12	0	0	30	0	0	0		0	3.4	3.43
W24	1	1	0	1	10	2120	433	12	1	10	12	12	0	0	10	0	0	0		0	11.2	6.85
W239	1	1	0	0	11	0	0	0	0	0	17	13	20	0	30	0	20	0		0	8.8	11.07
W238	1	1	0	0	11	0	207	28	0	12	17	0	0	0	10	0	0	0		0	5.2	5.89
W237	1	1	0	2	10	1020	204	50	0	10	16	0	0	0	10	11	26	6.1		4	8.3	22.25
W236	1	2	0	2	10	1400	931	25	0	16	11	0	0	0	0	0	0	0		0	2.2	3
W235	1	1	0	0	11	0	205	28	0	12	17	0	0	0	0	0	0	0		0	4.8	2.74
W234	1	1	0	2	10	1400	202	50	0	11	16	0	0	0	10	12	32	1		4	3.1	5.62
W233	1	1	0	0	11	0	185	71	0	0	17	0	0	0	10	0	0	0		0	3	0.47
W232	1	2	0	2	10	1400	932	25	0	16	11	12	0	0	0	0	0	0		0	1.5	1.85
W231	1	1	0	0	11	0	205	50	0	0	17	12	0	0	10	0	29	7.1		2	10.2	12.33
W230	1	1	0	2	10	1400	305	17	1	12	15	12	0	0	10	0	13	0	4 cutmarl	1	6	6.74
W23	1	1	0	1	10	2120	433	24	2	10	16	12	0	0	10	0	0	0		0	4.9	2.71
W229	1	1	0	0	11	0	202	50	0	10	16	12	0	0	30	11	31	1		2	6.8	30.2
W228	1	4	0	1	10	5100	204	11	0	10	11	0	0	0	0	0	0	0		0	0.8	0.15
W227	1	2	0	1	10	5100	220	12	1	10	12	0	0	0	10	0	0	0		0	1.7	0.05
W226	1	1	0	2	10	1020	205	51	0	12	17	12	0	0	10	0	11	6		2	3.9	6.51
W225	1	1	0	0	11	0	0	0	0	0	17	12	13	0	10	16	11	0		1	5.3	15.14
W224	1	1	0	0	11	0	459	17	0	10	17	11	13	0	10	0	0	0		0	5.4	17.79
W223	1	1	0	0	11	0	900	21	0	10	17	12	13	0	30	11	0	0		0	2.8	2.09
W222	1	1	1	0	13	0	433	20	0	0	17	12	20	0	30	11	28	8.1		0	3.9	4.54
W221	1	1	0	2	10	1020	204	50	0	0	17	12	0	0	10	0	26	6.1		4	9.8	26.32
W220	1	1	0	0	13	0	950	20	0	0	17	12	0	0	10	0	28	13.1	8 cutmarl	1	1.5	2.66
W22	1	1	0	2	20	1120	540	24	1	10	14	12	0	0	10	0	0	0		0	11	6.5
W219	1	1	0	1	10	5100	305	11	2	10	11	0	0	0	0	0	0	0		0	3.5	0.27
W218	1	1	0	0	13	0	434	90	2	10	14	12	20	0	10	0	0	0		0	2.9	4.53
W217	1	1	0	0	11	0	220	80	1	10	17	12	0	0	30	0	0	0		0	6	5.89
W216	1	1	0	0	11	0	207	51	0	0	17	12	20	0	10	0	42	14		4	4.3	11.94
W215	1	1	0	0	11	0	207	51	0	12	17	12	20	17	10	12	29	14		1	4.3	12.78
W214	1	1	0	2	10	1020	402	67	1	10	17	12	0	0	10	0	28	6.1	1 cutmarl	1	4.5	29.4
W213	1	1	0	2	10	1020	204	50	0	0	17	0	0	0	10	11	21	6.1		4	6	7.65
W212	1	1	0	2	10	1020	204	50	0	10	16	12	0	0	10	11	15	6		4	6.8	23.17
W211	1	1	0	0	11	0	433	20	0	0	17	12	0	0	10	0	27	7.1		1	6.7	21.39
W210	1	1	0	2	10	1020	204	50	0	10	16	12	0	0	10	0	42	6		4	6.1	15.25
W21	1	1	0	1	20	2111	305	11	1	10	11	12	0	0	0	0	0	0		0	7.3	1.22
W209	1	1	0	2	10	1020	433	20	2	0	17	12	20	0	10	11	26	7.1		1	6.1	45.49
W208	1	1	0	2	10	1020	303	20	2	0	17	12	0	0	10	0	28	5.1	3 cutmarl	1	6.2	51.4
W207	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	0	26	6.1	1 starter	1	8.4	70.73

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W206	1	1	0	0	11	0	435	12	0	0	17	12	0	0	10	0	25	8		1	9.5	43.72
W205	1	1	0	2	10	1020	304	20	1	0	16	12	0	0	10	0	42	5		1	9	82
W204	1	1	0	0	11	0	0	0	0	0	0	0	0	0	30	0	0	0		0	2.4	2.21
W203	1	1	0	0	11	0	220	81	0	0	17	12	0	0	30	12	0	0		0	6	4.99
W202	1	1	0	0	11	0	220	81	0	0	17	12	13	0	10	11	21	12		1	4.8	2.67
W201	1	1	0	2	10	1020	202	56	0	10	17	11	13	0	10	0	0	0		0	4.5	8.03
W200	1	1	0	0	11	0	220	81	2	0	17	11	20	0	10	11	11	0		0	12	9.85
W20	1	1	0	2	20	1120	304	11	1	10	11	12	0	0	0	0	0	0		0	5.7	0.5
W2	1	1	0	2	20	1120	433	17	2	10	15	20	0	0	30	11	0	0		0	5	2.11
W199	1	1	0	0	11	0	204	52	0	0	17	12	0	0	10	12	99	6		4	7.8	6.62
W198	1	1	0	2	10	4100	220	80	2	10	17	0	0	0	10	11	0	0		0	8.2	8.06
W197	1	1	0	0	11	0	205	28	0	12	17	0	0	0	10	0	0	0		0	3.4	1.7
W196	1	1	0	0	11	0	409	0	1	10	17	13	19	0	10	0	0	0		0	6	26.99
W195	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	0	28	6.1		1	9.4	37.38
W194	1	1	0	2	10	1020	402	67	1	0	17	12	0	0	30	11	28	6.1		1	7.3	19.51
W193	1	1	0	0	11	0	207	51	0	12	17	12	0	0	10	0	28	99		4	3.1	4.57
W192	1	1	0	2	10	1020	203	50	0	10	17	0	0	0	10	11	27	3.1		1	7	12.32
W191	1	1	0	0	11	0	204	28	0	12	17	12	0	0	10	0	0	0		0	5.4	5.36
W190	1	1	0	0	11	0	207	28	0	12	17	0	0	0	10	0	20	3		2	4.5	4.47
W19	1	1	0	1	20	2111	304	11	1	10	11	12	0	0	0	0	0	0		0	6.7	0.54
W189	1	1	0	0	11	0	205	28	0	12	17	0	0	0	20	0	0	0		0	4.2	1.89
W188	1	1	0	0	12	0	950	24	0	30	16	12	13	0	10	0	0	0		0	3.2	2.77
W187	1	1	0	2	10	1020	402	67	2	0	17	12	0	0	10	0	26	6.1		1	11.1	27.7
W186	1	1	0	2	10	1020	204	52	0	10	15	0	0	0	10	0	32	6	2 cutmarl	4	7.9	28.57
W185	1	1	0	2	10	1020	204	50	0	0	16	0	0	0	10	0	28	6.1	3 cutmak	4	7.3	26.8
W184	1	1	0	2	10	1020	438	12	2	10	12	11	13	0	0	0	0	0		0	6	47
W183	1	1	0	2	10	1020	303	24	1	10	16	11	13	17	10	0	31	5	1 cutmarl	1	9.5	111
W182	1	1	0	2	10	1020	407	0	2	10	16	12	13	0	30	12	29	6	5 cutmarl	1	12.7	124
W181	1	1	0	2	10	1020	402	67	2	0	16	12	0	0	10	12	28	6	4 cutmarl	1	8.3	78
W180	1	1	0	0	11	0	950	20	0	0	17	11	13	0	10	0	21	13		1	7.5	33.75
W18	1	1	0	2	20	1120	303	24	1	10	14	12	0	0	0	0	0	0		0	5.6	0.99
W179	1	1	0	2	10	1020	402	67	1	0	17	0	0	0	10	12	26	6.1	1 starter	1	9.8	82
W178	1	1	0	0	13	0	220	81	0	0	17	12	0	0	20	0	0	0		0	9	3.12
W177	1	1	0	0	11	0	220	82	0	0	17	12	0	0	30	0	0	0		0	4.3	4.61
W176	1	1	0	0	12	0	222	0	0	0	17	0	0	0	10	12	0	0		0	3.5	1.52
W175	1	1	0	0	11	0	220	82	0	0	17	0	0	0	10	0	0	0		0	6	10.38
W174	1	1	0	0	11	0	950	20	0	0	17	12	0	0	30	0	26	13		1	4.8	6.93
W173	1	15	0	0	12	0	220	81	0	0	0	13	0	0	30	0	0	0		0	13.4	30.13
W172	1	8	0	0	11	0	0	0	0	0	0	13	0	0	30	0	0	0		0	5.8	28.97
W171	1	1	0	0	11	0	207	51	0	12	17	0	0	0	30	11	0	0		0	4.7	3.14
W170	1	1	0	2	10	1020	204	50	0	12	17	12	0	0	10	11	42	6.1	3 starter a	4	5.6	9.63
W17	1	1	0	2	20	1120	302	12	1	10	12	12	0	0	0	0	0	0		0	6.7	0.90
W169	1	1	0	0	11	0	0	0	0	0	0	13	0	0	10	12	0	0		0	3.7	2.26
W168	1	3	0	0	13	0	0	0	0	0	0	13	0	0	10	0	0	0		0	2.6	1.61
W167	1	1	0	0	11	0	220	0	0	0	17	12	0	0	10	0	21	12		1	4.4	2.82
W166	1	1	0	0	12	0	0	0	0	0	0	13	0	0	10	13	0	0		0	4	2.5
W165	1	1	0	0	12	0	220	81	0	0	17	12	0	17	10	0	0	0	4 cutmarl	0	6.7	1.83
W164	1	1	0	0	13	0	0	0	0	0	0	13	0	0	30	16	0	0		0	1.8	0.19
W163	1	1	0	0	11	0	207	28	0	12	17	12	0	0	10	0	11	0		0	4.2	5.01
W162	1	1	0	0	11	0	205	28	0	12	17	0	0	0	10	0	0	0		0	5.2	3.15

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W161	1	1	0	2	10	1020	402	67	1	0	17	0	0	0	10	12	26	6.1	1 starter	1	12.1	29.59
W160	1	1	0	0	12	0	950	20	0	0	17	11	13	0	30	0	0	0		0	6.2	19.29
W16	1	1	0	2	20	1120	530	11	2	10	11	12	0	0	0	0	0	0		0	5.8	1
W159	1	1	0	0	11	0	207	28	0	12	17	12	0	0	30	0	0	0		0	3.9	2.57
W158	1	6	0	0	11	0	950	30	0	0	17	12	13	0	30	0	0	0		0	10	21.36
W157	1	1	0	1	10	1101	407	0	1	10	17	11	13	0	10	12	11	6		1	10.4	58.16
W156	1	1	0	0	11	0	0	222	1	0	15	0	0	0	10	12	20	3		1	11	13.88
W155	1	1	0	2	10	1020	408	0	0	1	17	11	13	0	10	0	20	7		2	5.3	16.32
W154	1	3	0	0	11	0	203	28	0	12	17	12	0	0	10	0	0	0		0	5.1	11.33
W153	1	1	0	2	10	1020	203	56	0	10	17	12	0	0	10	0	31	3		2	4.4	14.02
W152	1	1	0	3	10	1115	433	20	0	0	17	12	0	0	10	11	27	8.1	1 starter	1	3.8	17.42
W151	1	1	0	3	10	1114	433	20	0	0	17	12	20	0	10	0	27	28.1		1	3	3.92
W150	1	1	0	3	10	1114	950	20	0	0	17	12	20	0	10	0	28	13.1	3 cutmar	1	3.1	6.47
W15	1	1	0	2	20	1120	305	11	1	10	11	0	0	19	0	0	0	0		0	6.3	1.12
W149	1	1	0	0	11	0	950	20	0	0	17	11	13	0	10	0	29	13		1	7.4	14.26
W148	1	1	0	0	13	0	433	21	0	12	17	12	0	0	10	11	0	0		0	2.2	1.91
W147	1	1	0	3	10	1114	932	11	0	10	11	11	12	0	0	0	0	0		0	3	2.06
W146	1	1	0	0	11	0	302	41	0	0	17	12	0	0	30	0	0	0		0	7.4	11.94
W145	1	1	0	2	10	1110	403	0	2	0	16	11	12	0	10	0	0	0		0	7.3	12.06
W144	1	1	0	3	10	1030	203	50	0	12	16	12	0	0	10	0	29	3	5 cutmar	2	8.7	31.97
W143	1	1	0	2	10	1020	204	56	0	10	17	0	0	0	10	0	42	3	1 cutmar	4	4.9	8.96
W142	1	1	0	1	10	1300	435	20	0	0	17	12	0	0	10	0	32	8	3 cutmar	1	3.9	5.8
W141	1	1	0	2	10	1020	205	51	0	10	16	12	20	0	10	0	31	6		1	8.7	31.14
W140	1	1	0	0	13	0	433	20	0	0	17	12	0	0	10	11	28	8.1		1	2.8	4.84
W14	1	1	0	2	20	1120	530	11	1	10	11	12	0	0	0	0	0	0		0	6.2	1.58
W139	1	1	0	2	10	1400	203	52	0	10	17	12	0	0	10	0	0	0		0	4.9	3.16
W138	1	1	0	1	10	1300	433	21	2	10	17	12	0	0	10	0	32	8.1		1	4.3	20.9
W137	1	1	0	2	10	1020	200	50	0	10	15	12	0	0	10	12	29	1		2	8	89
W136	1	1	0	0	11	0	950	20	0	0	17	12	0	0	30	11	28	13.1		1	5.4	8.42
W135	1	1	0	0	13	0	435	20	0	0	17	12	20	0	10	0	28	8.1		1	4	8.49
W134	1	1	0	2	10	1110	303	21	2	10	17	11	13	0	30	0	0	0		0	3.3	4.66
W133	1	1	0	2	10	1020	203	50	0	0	16	11	12	0	10	0	0	0		0	11.6	28.89
W132	1	1	0	2	10	1400	203	50	0	0	17	20	0	0	10	0	28	33.1		1	4.7	6.13
W131	1	1	0	2	10	1400	203	53	0	10	17	12	0	0	30	0	0	0		0	5.9	3.91
W130	1	1	0	3	10	1030	900	21	0	10	17	11	12	0	30	0	0	0		0	3.7	10.6
W13	1	1	0	2	20	1120	540	11	2	10	11	12	20	0	0	0	0	0		0	12	5.73
W129	1	1	0	2	10	1110	407	0	1	10	17	12	0	0	10	0	31	6		2	6	8.26
W128	1	1	0	2	10	1400	204	50	0	10	15	0	0	0	10	0	28	36.1		4	5.2	6.2
W127	1	2	0	2	10	1020	203	54	0	10	17	11	13	0	10	0	0	0		0	6.2	24.13
W126	1	1	0	2	10	1020	203	53	0	0	16	12	0	0	10	0	11	3		1	8.9	12.25
W125	1	1	0	2	10	1400	204	50	0	0	17	11	12	0	10	0	20	36	6 cutmar	1	3.1	3.6
W124	1	1	0	2	10	1400	204	52	0	0	17	12	0	0	10	0	31	36	1 starter	1	4	1.68
W123	1	1	0	3	10	1030	433	20	2	0	17	20	0	0	30	0	27	7.1	2 hack m	1	6.8	19.15
W122	1	1	0	0	12	0	204	52	0	0	17	12	0	0	30	0	0	0		0	3.5	1.83
W121	1	1	0	2	10	1020	204	50	0	12	17	0	0	0	10	0	26	6.1		4	6.9	11.55
W120	1	1	0	2	10	1020	204	52	0	0	16	12	0	0	10	0	99	6	3 starter	4	8.2	16.01
W12	1	1	0	0	13	0	435	19	2	30	13	0	0	0	10	12	12	0		1	6.8	5.5
W119	1	1	0	2	10	1020	204	50	0	0	17	12	0	0	10	0	28	6.1		4	6.1	12.93
W118	1	2	0	2	10	1020	204	50	0	0	17	0	0	0	30	11	14	6.1		4	6.5	20.09
W117	1	1	0	2	10	1400	203	53	0	0	17	11	0	0	30	0	0	0		0	5.8	3.55

TEMP #	ENTRY FROM THE BAG	QUANTITY	Total pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
W116	1	1	0	2	10	1020	202	50	0	0	16	20	0	0	10	0	25	1		2	9	24.88
W115	1	1	0	0	11	0	106	0	0	0	17	0	0	0	30	0	0	0		0	5.5	10.75
W114	1	1	0	2	10	1020	203	50	0	12	17	12	0	0	10	0	31	6.1		2	6.8	17.68
W113	1	1	0	2	10	1110	447	11	1	10	11	12	0	0	0	0	0	0		0	2	1.38
W112	1	1	0	2	10	1020	204	50	0	0	17	20	0	0	10	0	32	6.1		4	11	22.55
W111	1	1	0	0	12	0	220	82	0	0	17	0	0	0	10	0	0	0		0	6	3.02
W110	1	1	0	0	13	0	169	0	0	0	16	12	13	0	30	11	0	0		0	12.5	28.74
W11	1	1	0	2	10	1400	220	80	1	10	16	0	0	0	10	0	0	0		0	6.5	2.03
W11	2	1	0	2	10	1400	220	80	2	12	15	12	15	0	10	11	14	33		1	13	10.18
W11	4	1	0	2	10	1400	220	80	1	12	15	12	13	0	10	0	31	33		1	5.53	9
W11	3	1	0	2	10	1400	220	80	2	0	15	12	20	0	10	0	31	33		1	4.33	31.2
W109	1	1	0	2	10	1020	204	53	0	0	12	13	0	0	10	0	0	0		0	3.8	2.66
W108	1	1	0	0	12	0	207	51	0	0	17	13	0	0	10	0	0	0		0	3.8	2.57
W107	1	1	0	2	10	1110	434	11	2	10	11	12	0	0	10	0	0	0		0	3	4.02
W106	1	1	0	0	11	0	207	28	0	12	17	0	0	0	10	0	0	0		0	4.1	3.14
W105	1	1	0	2	10	1020	433	20	2	0	17	12	0	0	30	0	28	7.1		1	5.8	14.52
W104	1	1	0	2	10	1020	435	20	1	0	15	12	20	0	10	0	27	8		1	12.5	176
W103	1	1	0	2	10	1020	435	20	2	0	16	12	0	0	10	0	42	8	3 cutmar	1	10.9	131
W102	1	1	0	2	10	1400	903	25	1	12	12	12	0	0	0	0	0	0		0	3.2	0.74
W101	1	1	0	2	10	1020	206	51	0	0	15	12	13	0	10	0	11	11		2	5	6.11
W100	1	1	0	0	11	0	220	81	2	0	17	12	0	0	10	11	41	12	1 starter	1	6.2	9.59
W10	2	1	0	2	10	1400	220	80	2	12	16	12	13	0	10	0	0	0		0	6.5	1.99
W10	1	1	0	2	10	1400	220	80	1	12	16	12	0	0	10	0	20	33		1	5.3	2.08
W1	1	1	0	2	10	1400	433	20	1	0	17	12	20	0	10	11	28	38.1	4	1	3.9	3.82

APPENDIX C – ENLISTED MEN INFANTRY BARRACKS

Site #: 48G01 Excavation Year: 2010 Access #: 960

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak Thick
36905	754	596.5	100.43-100.13	9	6	1	1	1	1	10	1020	204	60	0	10	16	0	0	0	30	0	13	6	0	2	8.2	34.23	
36960	754	596.5	99.83-99.23	20	10	1	1	1	1	10	1020	223	0	0	0	16	0	0	0	10	0	20	4	1	2	7.4	19.26	
36888	754	596.5	99.54	34	13	1	1	1	1	10	1020	302	41	2	0	16	20	0	0	10	0	31	2	0	1	21	159	
36970	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	220	80	2	12	17	0	0	0	10	0	41	3	0	1	8.5	19.91	
36945	754	596.5	99.91-99.83	16	9	1	1	1	1	10	1020	302	50	1	0	17	0	0	0	30	11	31	2	0	1	15	73.09	
36961	754	596.5	99.83-99.73	20	10	1	1	1	0	10	1020	222	0	0	0	11	0	0	0	0	0	0	0	0	0	8.5	13.94	
36920	754	596.5	100.04-99.92	12	8	1	1	9	0	10	0	0	0	0	0	0	13	0	0	30	0	0	0	0	0	2.5	5.84	
37001	754	596.5	99.66	29	4	1	1	1	1	10	1020	222	0	0	0	11	0	0	0	10	0	20	4	1	3	9.8	12.74	
36946	754	596.5	99.91-99.83	16	9	1	1	2	1	10	1020	220	20	0	0	17	13	0	0	10	0	14	12	0	1	6	7.81	
36953	754	596.5	99.83-99.93	20	10	1	1	1	1	10	1020	220	20	0	0	17	0	0	0	10	0	0	0	0	0	6.8	2.67	
36906	754	596.5	100.43-100.13	9	6	1	1	1	1	10	1020	204	53	0	12	16	0	0	0	10	0	31	6	0	2	8.8	24.8	
36890	754	596.5	99.54-99.46	33	13	1	1	3	0	10	12	0	0	0	0	0	0	0	0	10	0	0	0	0	0	5.6	2.31	
36999	754	596.5	99.66	29	11	1	1	1	1	10	1020	220	21	1	0	15	0	0	0	10	0	25	4	0	1	26.2	74.7	
36942	754	596.5	99.83	15	9	1	1	1	1	10	1020	220	20	0	0	17	13	20	0	10	0	32	12	0	1	10.8	27.04	
37007	754	596.5	99.36-99.31	40	14	1	1	1	1	10	1020	220	20	0	0	17	0	0	0	10	0	43	12	0	1	12.5	29.4	
37004	754	596.5	99.36	39	14	1	1	1	1	10	1020	220	21	0	12	15	0	0	0	10	0	25	4	0	1	14.7	27.54	
36982	754	596.5	99.84	21	10	1	1	1	1	10	1020	220	20	1	10	15	0	0	0	10	0	26	12	0	2	22.4	61.15	
37079	755	596.5	99.84-99.76	16	10	1	1	1	1	10	1020	204	55	0	0	17	0	0	0	10	0	32	4	0	2	7.3	16.66	
36932	754	596.5	99.91-99.83	14	9	1	1	1	1	10	1020	220	20	0	0	16	13	0	0	10	0	31	12	0	1	14	19.3	
36987	754	596.5	99.67	26	10	1	1	1	1	10	1020	220	20	1	0	15	0	0	0	10	0	26	12	0	1	21.5	97	
37005	754	596.5	99.36-99.31	40	14	1	1	1	1	10	1020	220	20	2	0	16	0	0	0	10	0	32	12	1	1	19	47.99	
35456	763.72	582.69	104.74	26	2	1	1	1	1	10	1020	402	67	1	0	17	12	0	0	10	0	26	4.1	1	1	18.5	46.98	1.3175
37006	754	596.5	99.66	29	11	1	1	1	1	10	1020	220	20	2	0	15	0	0	0	10	0	26	12	0	1	11.9	82	
36985	754	596.5	99.69	24	10	1	1	1	1	10	1020	220	20	2	10	15	0	0	0	10	0	26	12	0	1	24.9	119	
36984	754	596.5	99.68	23	10	1	1	1	1	10	1020	220	20	1	0	15	99	0	0	10	0	13	12	1	3	21.3	40.65	
37020	754	596.5	99.28-99.21	43	15	1	1	3	0	10	0	0	0	0	0	0	13	0	0	0	0	0	0	0	0	2.3	1.87	
37006	754	596.5	99.36-99.31	40	14	1	1	1	1	10	1020	220	21	1	12	17	13	0	0	10	0	14	12	0	0	5.7	10.28	
36934	754	596.5	99.91-99.83	14	9	1	1	1	1	10	1020	220	20	0	0	17	0	0	0	10	0	25	12	0	1	7.7	15.31	
36958	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	203	53	0	0	16	0	0	0	10	0	27	2	0	4	13.4	24.89	
37009	754	596.5	99.36-99.31	40	14	1	1	1	1	10	1020	222	0	0	0	11	0	0	0	10	0	31	4	0	1	3.7	6.09	
37010	754	596.5	99.36-99.31	40	14	1	1	1	1	10	1020	204	13	0	12	17	0	0	0	10	0	14	4	0	3	3.8	2.03	
36951	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	220	21	2	12	16	99	0	0	10	0	25	4	1	1	14.5	23.05	
36954	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	220	20	2	0	17	0	0	0	10	0	31	12	0	1	8.8	15.63	
36904	754	596.5	100.23-100.13	8	6	1	1	1	1	10	1020	220	20	0	0	17	0	0	0	10	0	29	12	0	0	4.4	3.31	
36918	754	596.5	100.04-99.96	12	8	1	1	1	1	10	1020	220	20	2	0	17	0	0	0	10	0	31	12	0	0	7.9	11.01	
36935	754	596.5	99.91-99.83	14	9	1	1	11	1	10	1020	220	20	0	0	17	13	0	0	10	0	25	12	0	1	6.8	23.29	
37066	755	596.5	100.30-100.20	8	6	1	1	4	1	10	1020	183	71	0	0	15	0	0	0	10	0	0	0	0	0	2.3	1.71	
36959	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	223	0	0	12	14	0	0	0	10	0	20	4	1	4	9	22.27	
36543	760	582	100.49-100.44	4	2	1	1	1	1	10	1020	220	20	2	0	17	99	13	0	10	0	25	12	0	1	7.8	19.65	
36971	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	303	20	1	0	17	20	0	0	10	0	0	0	0	0	8.5	26.48	
36962	754	596.5	99.83-99.73	20	10	1	1	11	1	10	1020	204	51	0	0	16	20	0	0	10	0	15	6	1	1	5.5	41.03	
36963	754	596.5	99.83-99.73	20	10	1	1	21	1	10	1020	207	51	0	12	16	13	0	0	10	0	14	0	0	2	3.5	38.21	
36461	761	582	unknown	3	1	3	1	1	1	10	1020	223	0	0	12	16	0	0	0	10	0	15	4.1	0	4	5.8	24.79	
37053	755	597	99.75	22	10	1	1	1	1	10	1020	220	17	2	11	14	0	0	0	10	0	25	3	3	1	14.8	43.91	
36753	761	582	3	3	1	1	1	1	1	10	1020	203	50	0	12	15	12	15	0	10	0	14	2	0	2	16.1	32.45	
37055	755	597	99.75	24	10	1	1	1	1	10	1020	435	17	1	12	15	15	0	0	10	0	25	8	0	1	23.3	321	
36761	762.86	582.26	103.66-.56	11	3	1	1	1	1	10	1020	220	21	0	12	17	0	0	0	10	0	14	4	1	3	6.2	8.22	
35706	763.95	582.73	104.78	49	2	1	1	2	1	10	1020	204	51	0	0	17	0	0	0	10	0	14	4	0	3	5.7	30.26	
35706	763.95	582.73	104.78	49	2	2	1	1	1	10	1020	206	21	0	12	16	0	0	0	10	0	14	11	0	1	5.8	13.29	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35706	763.95	582.73	104.78	49	2	3	1	1	1	10	1020	204	51	0	0	17	12	0	0	10	0	26	6.1	0	1	10.8	30.34	0.9045
35977	755.94	597.64	99.61	29	11	1	1	1	1	10	1020	435	20	2	0	14	13	0	0	10	0	26	8	1	1	21.1	409	
35993	755.65	597.41	99.71	27	11	1	1	1	1	10	1020	220	17	1	10	14	0	0	0	10	0	41	2	0	1	18.9	56.57	
35698	763.62	582.97	104.73	45	2	1	1	1	1	10	1020	220	24	2	12	14	12	0	0	10	0	25	4	4	1	26.4	44.12	
36175	755.82	597.59	99.82	18	9	1	1	1	1	10	1020	435	20	2	0	16	0	0	0	10	0	25	8	0	1	14.4	97	
35297	759	559	104.34	3	3	1	1	1	0	10	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	2.4	0.56	
36454	261	582	unknown	3	1	1	1	1	1	10	1020	303	20	0	0	17	13	0	0	10	0	26	5.1	0	1	5.1	97	2.055
36150	755	597	100.21-100.12	9	6	1	1	1	1	10	1020	220	13	0	0	17	0	0	0	0	0	0	0	0	0	2.1	1.38	
35766	762.42	582.47	103.66-.56	16	3	1	1	1	1	10	1400	220	24	2	0	15	12	0	0	10	0	0	0	0	0	10.5	2.18	
37021	755	596.5	99.48-99.46	21	13	1	1	1	1	10	1020	433	21	2	10	17	20	0	0	10	0	25	7	0	1	12.3	216	
35974	755	597	unknown	36	13	1	1	1	1	10	1020	302	41	1	0	16	20	0	0	10	0	25	2	1	1	17.5	146	
36153	755	597	100.22	8	5	1	1	1	1	10	1020	303	14	1	10	17	13	0	0	10	0	31	5	1	3	11.3	168	
35978	755	597	unknown	42	15	1	1	1	1	10	1020	220	24	1	0	16	20	0	0	10	0	29	12	2	1	11	47.11	
35978	755	597	unknown	42	15	2	1	1	1	10	1020	222	0	0	0	15	0	0	0	10	0	14	4	0	1	5.4	13.11	
37047	755	597	99.81-99.21	19	10	1	1	1	1	10	1020	220	17	2	11	17	0	0	0	10	0	31	2	0	1	7.3	35.16	
37047	755	597	99.81-99.21	19	10	2	1	1	1	10	1020	220	20	1	0	16	0	0	0	10	0	26	12	0	1	11.5	27.96	
37054	755	597	99.75	23	10	1	1	1	1	10	1020	220	24	1	0	15	0	0	0	10	0	25	12	0	1	19.8	55.6	
37052	755	597	99.77	20	10	1	1	1	1	10	1020	220	17	2	11	16	0	0	0	10	0	26	3.1	0	4	13.1	49.53	
35478	763.65	582.41	104.78	6	1	1	1	1	1	10	1020	220	17	1	12	14	12	0	0	10	0	0	0	0	0	17.6	33.54	
36455	761	582	unknown	3	1	1	1	1	2	10	2120	143	12	2	10	12	0	0	0	10	0	0	0	0	0	5.1	2.86	
36455	761	582	unknown	3	1	2	1	3	2	10	2120	143	12	1	10	12	0	0	0	10	0	0	0	0	0	6.6	2.8	
36456	761	582	unknown	3	1	1	1	1	1	10	1020	220	17	2	10	17	12	13	0	10	0	25	2	0	0	6.1	22.1	
35985	755	597	99.69	25	11	1	1	1	1	10	1020	220	24	1	0	14	0	0	0	10	0	25	12	0	1	29.8	58.5	
35775	762.57	582.89	103.74-.66	9	3	1	1	2	2	10	2120	143	12	1	10	12	0	0	0	10	0	0	0	0	0	5.1	2.84	
9917	760	572	unknown	3	3	1	1	2	0	10	0	0	0	0	0	0	12	13	0	30	0	0	0	0	0	2.8	1.75	
35992	755.35	597.55	99.19	45	15	1	1	1	1	10	1020	220	20	2	0	16	13	0	0	10	0	15	12	0	1	14.5	35.45	
36536	760.51	582.45	100.44	8	2	1	1	4	1	10	1020	220	20	0	0	17	13	15	0	30	0	25	12	0	1	12.4	28.63	
37044	755	597	99.81-99.21	19	10	2	1	1	0	10	1020	222	0	0	0	16	0	0	0	10	0	15	4	0	4	4.8	12.71	
37109	754	597.5	99.79	8	10	1	1	1	1	10	1020	302	12	1	0	12	17	0	0	10	0	26	2	0	1	26.2	530	
37072	755	596.5	100.13	11	8	1	1	1	1	10	1020	220	20	1	0	14	12	0	0	10	0	41	12	0	1	16.1	45.7	
37102	754.5	597.5	99.93	5	8	1	1	1	1	10	1020	220	20	1	0	13	0	0	0	10	0	25	12	0	1	21.8	48.2	
35390	760	583	100.54-100.49	1	1 screen	1	1	1	1	10	1020	220	20	0	0	17	12	13	0	30	0	25	12	1	1	7.8	12.39	
35685	752	560	101.3-101.2	39	3	1	1	1	0	10	0	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.8	0.44	
37069	755	596.5	100.20-100.08	9	7	1	1	1	1	10	1020	302	41	0	0	17	12	0	0	10	0	31	2	0	3	7.2	12.36	
37427	755	574	screen	6	4	1	1	1	1	10	1020	302	41	0	0	17	12	0	0	10	0	0	0	0	14	10	14.46	
37083	755	596.5	99.76-99.54	17	11	1	1	1	0	10	1020	222	0	0	0	15	0	0	0	10	0	14	4	0	3	6	5.69	
35794	763.81	582.96	104.78	57	3	1	1	1	1	10	1020	220	20	0	0	17	12	20	0	10	0	41	12	0	1	10.6	33.18	
35266	771.98	573.31-573	100.35-100.48	20	7	3	1	1	0	10	0	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.8	0.41	
36445	760	582	unknown	3	1	1	1	1	1	10	1020	207	57	0	10	17	12	0	0	10	0	14	0	0	0	3.8	3.36	
35625	752.86	560.15	101.4-101.3	16	2	1	1	1	1	10	1020	303	24	2	10	16	12	13	0	10	0	27	5	0	0	10.8	236	
35395	760	583	100.42-100.37	4	2 screen	1	1	3	1	10	1020	206	50	0	12	16	12	0	0	10	0	0	0	0	0	6.2	9.45	
35983	755.82	597.1	99.58	30	11	1	1	1	1	10	1020	303	24	2	10	16	0	0	0	10	0	29	5	2	1	18.4	463	
35458	763.47	582.71	104.76	27	2	1	1	1	1	10	1020	204	50	0	12	16	12	0	0	10	0	15	6.1	0	4	11	22.91	1.2115
37071	755	596.5	100.09-99.99	10	8	1	1	1	1	10	1020	220	14	0	12	17	0	0	0	10	0	0	0	0	0	3.5	3.8	
37028	755	596.5	99.25	23	14	1	1	1	1	10	1020	220	21	0	0	17	12	0	0	10	0	14	12	0	1	4.5	10.76	
37028	755	596.5	99.25	23	14	2	1	4	1	10	1020	220	20	0	0	16	20	0	0	10	0	29	12	0	1	6.2	15.01	
37437	755	568	screen	4	4	1	1	1	1	10	1020	203	13	0	12	17	12	0	0	0	0	0	0	0	0	3.8	2.33	
36535	760.47	582.41	100.44	7	2	1	1	18	1	10	1020	220	20	0	0	16	13	15	0	30	0	14	12	0	1	14	43.2	
37417	755	574	101.4	3	2	1	1	1	1	10	1020	220	20	0	0	16	12	13	0	0	0	0	0	0	0	12.8	24.86	
37413	755	574		2	2	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	29	12	0	2	7.4	11.25	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
37413	755	574		2	2	3	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	25	12	0	1	4.1	5.27	
36534	760.61	582.32	100.42	6	2	1	1	11	1	10	1020	220	20	0	0	17	13	15	0	30	0	14	12	0	1	7.9	19.23	
37440	755	566	30cm	3	3	1	1	1	1	10	1020	220	14	1	11	17	12	0	0	10	0	31	3	0	0	8.2	19.99	
37440	755	566	30cm	3	3	2	1	1	1	10	1020	204	50	0	12	16	12	13	0	10	0	29	6.1	0	2	8.8	26.64	1.516
35976	755	597	unknown	36	13	1	1	6	1	10	1020	220	20	0	0	16	13	0	0	10	0	28	12	1	1	16.1	72.64	
37441	755	566	30cm	2	3	1	1	1	1	10	1112	220	17	1	0	14	12	13	0	10	0	14	23	0	0	13.8	8.46	
37441	755	566	30cm	2	3	2	1	2	1	10	1112	204	50	2	10	15	12	13	0	10	0	20	26	0	2	4.6	6	
37441	755	566	30cm	2	3	3	1	1	1	10	1112	204	50	2	10	14	12	0	0	10	0	32	26	0	2	3.4	3.92	
37051	755	597	99.81-99.21	19	10	1	1	1	1	10	1112	204	26	0	12	10	0	0	0	0	0	0	0	0	0	2.8	0.99	
37051	755	597	99.81-99.21	19	10	2	1	1	1	10	1112	435	13	1	12	10	0	0	0	0	0	0	0	0	0	2.7	2.17	
37051	755	597	99.81-99.21	19	10	3	1	1	1	10	1112	435	13	2	12	10	0	0	0	0	0	0	0	0	0	2.8	2.97	
36133	755	597	100.31-100.21	7	5	2	1	5	1	10	1020	203	53	0	10	17	0	0	0	10	0	43	3	0	4	8.4	22.71	
35377	760.75	583.20	100.37	2	2	1	1	1	1	10	1020	309	11	2	10	11	12	20	0	0	0	0	0	0	0	4.9	19.59	
36797	779	572	100.96-100.94	1	1	1	1	1	1	10	1020	220	17	2	10	15	12	20	0	10	0	27	2	0	1	12.1	30.6	
35713	763.80	582.80	104.72	50	2	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	0	1	15.7	34.73	
35529	779.53	573.12	100.99	103	3	1	1	1	1	10	1020	220	17	1	10	15	12	9	9	19	9	14	2	0	1	14.4	41.38	
35455	763.12	582.34-48	104.77	13	2	1	1	2	1	10	1020	220	17	1	12	15	12	17	0	10	0	0	0	0	0	21.3	51	
35690	763.80	582.56	104.83	36	2	1	1	1	1	10	1020	220	24	1	0	16	12	0	0	10	0	25	4	0	1	20	63.6	
35705	763.80	582.93	104.73	47	2	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	0	1	13.3	22.69	
35279	771.80	573.68	100.66	15	4	1	1	1	1	10	1020	402	66	0	12	17	12	13	0	10	0	14	6	0	2	7.4	13.65	
35984	755	597	unknown	31	12	1	1	1	1	10	1020	402	67	2	0	17	0	0	0	10	0	41	6.1	1	1	8.7	29.69	1.053
35261	771.51	573.31	100.53	19	7	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	41	12	0	1	6.9	7.82	
35736	763	582	unknown	7	2	1	1	3	0	10	1020	220	20	0	0	17	12	0	0	10	0	12	12	1	1	10.8	16.7	
35476	763.25	582.88	104.81	9	2	1	1	1	1	10	1020	223	0	0	0	16	13	0	0	10	0	32	4	0	4	3.2	8.78	
36699	779	573	101.06	70	2	1	1	1	1	10	1020	409	0	2	10	16	12	0	0	10	0	41	6	0	4	17.4	257	
35919	780.50	574.85	101.30	8	1	1	1	1	1	10	1020	220	20	1	0	15	12	13	0	10	0	43	12	0	1	16	71.62	
36025	792.22	581.87	104.06	8	2	1	1	1	1	10	1020	435	17	1	10	17	12	15	0	10	0	31	8	0	1	8.5	239	
36031	792.0	581.84	104.02		4	1	1	1	1	10	1020	220	20	2	0	14	12	0	0	10	0	41	12	1	1	28.4	85	
35597	793.2	580.31	103.92	13	3	1	1	1	1	10	1020	220	17	2	10	15	12	13	0	10	0	31	2	0	1	19.6	49.85	
36830	797	583	101.20-101.15	10	4	1	1	1	1	10	1112	220	20	1	0	17	15	99	0	10	0	0	0	0	0	5.8	-	
36424	787	571	101.38	5	3	1	1	1	2	10	2110	401	12	1	10	12	12	0	0	10	0	0	0	0	0	5.7	1.16	
36515	772	583	100.12-100.08	9	6	1	1	1	1	10	1112	433	13	1	12	17	12	0	0	0	0	0	0	0	0	2	1.9	
36515	772	583	100.12-100.08	9	6	2	1	1	1	10	1112	203	26	0	12	17	0	0	0	0	0	0	0	0	0	2	0.28	
35578	780	573	100.97-101.08	1	1 screen	1	2	2	1	10	1020	222	0	0	0	12	20	0	0	10	0	25	4	0	1	13.8	20.32	
36855	791	583	100.96	38	8	1	1	1	1	10	1020	220	20	1	0	0	12	13	0	10	0	20	12	0	1	13.1	27.13	
37152	780	572	115.5		3	1	1	1	1	10	1020	202	51	0	10	15	12	15	0	10	0	32	2	0	4	11.8	45.66	
37152	780	572	115.5		3	2	1	1	1	10	1020	203	26	0	12	17	12	0	0	10	0	14	2	0	2	4.2	2.7	
2009	791	583	101.00	36	7	1	1	1	1	10	1020	202	50	2	12	16	12	0	0	10	0	14	2	0	2	9.1	55.83	
35921	779.55	572.4	101.3	19	2	1	1	1	1	10	1020	200	50	1	10	15	12	15	0	10	0	14	2	1	2	11.4	122	
35598	793.2	580.31	103.92	13	3	1	1	1	1	10	1020	203	50	2	12	15	12	13	0	10	0	14	2	0	2	19.9	10.3	
35598	793.2	580.31	103.92	13	3	2	1	1	1	10	1020	203	50	2	12	16	0	0	0	10	0	14	2	0	2	8.5	41.59	
36700	779	573	101.01	72	2	1	1	1	1	10	1020	202	51	1	10	16	12	0	0	10	0	15	2	0	2	9	44.43	
36839	791	583	101.00	36	7	1	1	1	1	10	1020	203	50	2	10	15	20	0	0	10	0	41	2	0	0	12.2	19.5	
36840	791	583	101.00	36	7	1	1	1	1	10	1020	220	17	2	10	16	12	0	0	10	0	31	2	0	1	11.5	45.37	
37318	779	574	103.77	2	2	1	1	1	1	10	1020	220	17	1	10	16	12	13	9	19	9	14	3	0	1	12.9	32.88	
37369	780	573	19cm	28	3	1	1	1	1	10	1020	202	50	1	12	16	12	0	0	10	0	25	2	0	2	8	35.77	
35488	763.48	582.28	104.74	16	2	1	1	1	1	10	1020	222	0	0	0	11	0	0	0	0	0	0	0	0	0	9.3	13.21	
35703	763.74	582.16	104.81	38	2	1	1	1	1	10	1112	204	51	0	0	17	12	0	0	10	0	14	26	0	2	3.8	3.37	
35703	763.74	582.16	104.81	38	2	2	1	1	1	10	1020	222	11	0	0	11	17	0	0	0	0	0	0	0	0	9.4	16.23	
35703	763.74	582.16	104.81	38	2	3	1	1	1	10	1020	203	50	2	10	16	12	0	0	10	0	25	2	3	4	11.4	67.49	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
36854	791	583	100.96	38	8	1	1	1	1	10	1020	402	67	1	0	17	0	0	0	10	0	26	6.1	0	1	12.3	22.44
35911	780.67	574.80	101.18	10	1	1	1	1	1	10	1020	220	20	2	0	17	12	13	0	10	0	25	12	0	1	6	9.42
36606	779	573	101.07	9	1	1	1	1	1	10	1020	203	28	0	12	17	12	13	0	10	0	14	3	0	2	4.8	5.75
36972	754	596.5	99.53-99.73	20	10	1	2	2	1	10	1020	220	14	2	11	17	0	0	0	10	0	32	2	1	4	3.6	11.53
36972	754	596.5	99.53-99.73	20	10	2	1	1	1	10	1020	203	28	0	12	17	0	0	0	10	0	20	0	0	2	3.8	4.72
36983	754	596.5	99.67	22	10	1	1	1	1	10	1020	302	40	2	10	17	0	0	0	10	0	31	2	0	1	7.1	33.04
36908	754	596.5	100.43-100.13	9	6	1	1	3	1	10	1020	204	51	0	12	15	0	0	0	30	0	31	6	0	2	7	39.64
36943	754	596.5	99.91-99.83	16	9	1	1	1	2	10	2110	459	12	0	18	12	0	0	0	0	0	0	0	0	0	2.9	0.19
35770	762.9	582.17	103.66-0.56	20	3	1	1	1	1	10	1020	435	23	1	0	17	12	0	0	10	0	41	8	0	4	7.2	38.46
35459	763.5	582.16-0.3:	104.77	14	2	1	1	4	1	10	1400	433	11	2	12	11	12	13	0	10	0	0	0	0	0	17.8	119.37
35689	763.92	582.67	104.84	37A	2	1	1	1	1	10	1020	439	11	2	10	11	12	0	0	0	0	0	0	0	0	7.8	154.7
35689	763.92	582.67	104.84	37A	2	2	1	1	1	10	1020	433	21	2	10	17	12	0	0	10	0	25	8	0	1	7.9	147.76
35689	763.92	582.67	104.84	37A	2	3	1	1	1	10	1020	437	11	2	10	11	12	0	0	0	0	0	0	0	0	4.5	18.21
35475	763.49	582.35	104.72	28	2	1	1	1	1	10	1020	402	67	2	0	17	12	0	0	10	0	26	6.1	0	1	8.5	37.23
36944	754	596.5	99.91-99.83	16	9	1	1	1	1	10	1020	305	24	1	12	17	12	0	0	10	0	31	5	0	3	11	18.89
36988	754	596.5	99.66	27	11	1	1	1	1	10	1020	305	12	1	12	12	0	17	0	10	0	26	5	5	1	30.5	203.78
36907	754	596.5	100.43-100.13	9	6	1	1	2	1	10	1020	203	50	0	12	16	0	0	0	10	0	32	3	1	4	7.9	21.3
35280	771.84	573.46	100.68	14	4	1	1	2	1	10	1020	205	55	2	12	17	12	13	0	10	0	26	6.1	0	1	11.7	36.76
35699	768.93	582.32	104.77	46	2	1	1	1	1	10	1020	402	67	1	0	17	20	0	0	10	0	27	6.1	2	1	12.7	51.11
36923	754	596.5	100.04-99.92	12	8	1	1	1	1	10	1400	204	26	0	12	17	0	0	0	0	0	0	0	0	0	3	1.43
36199	755.50	597.81	99.98	12	7	1	1	1	1	10	1020	304	20	1	0	13	0	0	0	10	0	41	5	1	1	19.7	401.44
36956	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	202	29	0	10	17	0	0	0	10	0	31	2	0	1	3.7	16.8
35623	752.73	560.29	101.4-101.3	14	2	1	1	1	1	10	1020	202	29	0	10	17	11	13	0	10	0	25	2	0	2	4	3.79
36697	779	573	101.04	68	2	1	1	1	1	10	1020	203	50	1	10	16	12	0	0	10	0	32	2	0	4	8.7	33.45
35599	793.2	580.31	103.92	13	3	1	1	1	1	10	1020	207	13	0	12	17	0	0	0	10	0	31	0	0	2	4.3	4.39
35918	780.59	574.39	103.94	11	1	1	1	2	1	10	1020	220	20	0	0	15	12	13	0	10	0	42	12	1	1	18.4	43.24
35935	779.85	572.86	101.30	14	2	1	1	1	1	10	1020	220	20	1	0	17	12	13	0	10	0	41	12	1	1	10.2	39.27
37252	779	574	122	37	3	1	1	1	2	10	2120	433	12	1	10	12	12	13	0	10	0	0	0	0	0	10.9	3.46
37252	779	574	122	37	3	2	1	1	2	10	2120	435	17	1	10	15	12	13	0	10	0	0	0	0	0	5.1	1.93
36559	773	583	100.09-100.01	8	6	1	1	2	0	10	1020	220	14	1	12	17	12	0	0	10	0	31	0	0	1	4.5	13.19
36835	797	583	100.96	16	9	1	1	1	1	10	1020	220	24	1	0	16	12	0	0	10	0	31	4	0	1	15.1	35.21
35405	793.28	581.0	103.85	11	2	1	1	1	1	10	1020	20	17	2	11	16	11	13	0	10	0	14	2	2	1	11.7	39.79
35405	793.28	581.0	103.85	11	2	2	1	3	1	10	1020	204	50	0	12	17	12	0	0	10	0	14	6	0	4	4.8	13.26
35405	793.28	581.0	103.85	11	2	3	1	1	1	10	1020	203	26	9	12	17	12	0	0	10	0	14	0	0	2	5.6	3.14
36284	792.96	580.25	103.96	15	3	1	1	2	1	10	1020	220	17	1	11	15	12	0	0	10	0	31	2.1	0	1	21	68.88
36798	779	572	100.96-100.94	1	1	1	1	1	1	10	1020	222	12	0	0	12	0	0	0	10	0	25	4	0	1	11.2	20.42
36558	723	583	100.34-100.29	6	4	1	1	1	1	10	1020	220	20	1	0	15	12	20	0	30	0	25	12	0	1	15.4	26.75
36434	787	571	12-20	17	5	1	1	1	0	10	0	0	0	0	0	0	12	0	0	10	0	70	0	0	0	1.1	0.16
36571	774	583	100.44	10	6	1	1	6	0	10	0	0	0	0	0	0	12	0	0	10	0	70	0	0	0	1.6	0.56
37224	780	574		1	1	1	1	1	1	10	1020	204	26	0	12	17	12	15	0	10	0	25	6	0	2	4	3.5
37224	780	574		1	1	2	1	1	1	10	1020	202	29	0	10	17	12	0	0	10	0	31	2	0	2	5.2	5.09
35289	780.71	594.06	103.70	1	1	1	1	2	1	10	1020	220	14	1	12	17	12	0	0	10	0	26	2	0	4	4.8	19.53
35507	779.63	573.99	100.99		3	1	1	4	1	10	1020	203	50	1	12	15	13	15	0	10	0	14	3	0	2	14.4	53.15
36580	787	572	101.46	3	2	1	1	1	1	10	1020	110	10	1	0	17	12	0	0	10	0	14	12	0	1	8.1	11.98
37073	755	596.5	100.40-100.29	13	8	1	1	1	1	10	1020	203	50	0	12	16	12	0	0	10	0	31	0	0	2	7.1	7.67
37032	755	596.5	99.25	23	14	1	1	1	2	10	3132	203	11	0	10	11	0	0	0	0	0	0	0	0	0	2.3	0.38
36957	754	596.5	99.83-99.73	20	10	1	1	1	1	10	1020	302	42	0	0	17	12	0	0	10	0	25	2	1	1	11	23.4
36933	754	596.5	99.91-99.83	14	9	1	1	1	1	10	1020	206	50	0	10	15	0	0	0	10	0	25	11	2	2	5.2	6.73
35972	755	597	unknown	35	13	1	1	1	1	10	1400	161	11	2	40	11	20	0	0	10	0	0	0	0	0	12.6	26.78
35972	755	597	unknown	35	13	2	1	29	1	10	1400	103	72	0	12	40	0	0	0	10	0	0	0	0	0	7.2	43.88

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS
36858	791	583	101.01-100.96	49	8	1	1	3	0	10	1020	223	51	0	0	17	12	0	0	10	0	43	4	0	0	4.1	4.89
35913	780.02	574.95	103.83	19	1	1	1	5	1	10	1020	220	20	1	0	16	12	0	0	30	0	32	4	2	1	15.7	45.6
36002	787.98	583.09	100.74	28	6	1	1	1	1	10	1020	203	51	0	0	16	12	13	0	10	0	32	3	0	4	3.8	7.48
36840	791	583	101.00	36	7	1	1	2	1	10	1020	203	51	0	10	16	12	0	0	10	0	31	3	0	2	6.3	17.32
36863	791	583	100.88	40	10	1	1	1	1	10	1020	302	40	1	10	17	12	13	0	10	0	14	2	0	2	5	21.97
37166	780	572	104-103.9	36	3	1	1	1	1	10	1020	223	51	0	12	17	0	0	0	10	0	15	4	0	4	5.5	8.4
37185	779	574	105.14-102.5	6	1	1	1	1	2	10	2110	433	20	1	0	15	12	0	0	10	0	0	0	0	0	4.5	0.43
36123	755	597	99.91-99.81	15	9	1	1	1	1	10	1020	206	50	0	12	16	0	0	0	10	0	21	11	0	4	5.8	5.6
36123	755	597	99.91-99.81	15	9	2	1	1	1	10	1020	202	57	0	0	17	0	0	0	10	0	14	2	0	2	5	12.92
36123	755	597	99.91-99.81	15	9	3	1	4	1	10	1020	302	41	1	0	17	0	0	0	10	0	14	2	0	1	7.1	27.45
36869	759	596.5	99.54-99.46	38	13	1	1	1	2	10	3132	101	12	0	10	12	0	0	0	10	0	0	0	0	0	10.5	19.74
36869	759	596.5	99.54-99.46	38	13	2	1	1	2	10	3132	200	11	0	10	11	0	0	0	0	0	0	0	0	0	3.4	0.98
36869	759	596.5	99.54-99.46	38	13	3	1	1	2	10	3132	201	11	0	10	11	0	0	0	0	0	0	0	0	0	3	1.04
36869	759	596.5	99.54-99.46	38	13	4	1	3	2	10	3132	202	11	0	10	11	0	0	0	0	0	0	0	0	0	1.5	2.16
36869	759	596.5	99.54-99.46	38	13	5	1	4	2	10	3132	203	11	0	10	11	0	0	0	0	0	0	0	0	0	2.7	1.77
36869	759	596.5	99.54-99.46	38	13	6	1	1	2	10	3132	204	11	0	10	11	0	0	0	0	0	0	0	0	0	1.5	0.58
36869	759	596.5	99.54-99.46	38	13	7	1	2	2	10	3132	302	12	1	10	12	0	0	0	10	0	0	0	0	0	4	0.89
36869	759	596.5	99.54-99.46	38	13	8	1	1	2	10	3132	302	50	2	10	14	0	0	0	10	0	0	0	0	0	6.1	1.35
36869	759	596.5	99.54-99.46	38	13	9	1	1	2	10	3132	161	11	1	10	11	0	0	0	0	0	14	0	0	2	8.4	4.47
36869	759	596.5	99.54-99.46	38	13	10	1	1	2	10	3132	161	11	2	10	11	0	0	0	0	0	14	0	0	2	8.4	4.67
36869	759	596.5	99.54-99.46	38	13	11	6	6	2	10	3132	181	11	0	10	11	0	0	0	0	0	0	0	0	0	1	0.24
36869	759	596.5	99.54-99.46	38	13	12	4	4	2	10	3132	182	11	0	10	11	0	0	0	0	0	0	0	0	0	2.4	1.33
36869	759	596.5	99.54-99.46	38	13	13	7	7	2	10	3132	183	11	0	10	11	0	0	0	0	0	0	0	0	0	1.1	0.77
36869	759	596.5	99.54-99.46	38	13	14	1	1	2	10	3132	184	11	0	10	11	0	0	0	0	0	0	0	0	0	0.13	1.2
36869	759	596.5	99.54-99.46	38	13	15	9	9	2	10	3132	185	11	0	10	11	0	0	0	0	0	0	0	0	0	1	0.46
35791	763.90	582.16	104.78	53	3	1	1	1	1	10	1020	205	50	0	0	17	12	0	0	10	0	25	7.1	0	4	8.5	14.94
37045	755	597	99.81-99.21	19	10	1	1	1	2	10	1300	403	12	1	10	16	0	0	0	10	0	32	27	0	4	9.5	20.7
37045	755	597	99.81-99.21	19	10	2	1	1	1	10	1020	403	12	1	30	16	12	0	0	10	0	12	7	0	1	6.2	9.79
37045	755	597	99.81-99.21	19	10	3	1	1	1	10	1020	405	0	0	30	17	0	0	0	10	0	25	7	0	3	2.8	3.58
36920	754	596.5	100.04-99.92	12	8	2	1	1	0	11	0	220	0	0	0	0	0	0	0	10	0	32	12	1	4	4.3	4.93
35393	760	583	100.54-100.49	1	1 screen	1	1	1	0	11	0	0	0	0	0	0	13	0	0	30	0	26	0.1	0	1	4.1	4.84
35393	760	583	100.54-100.49	1	1 screen	2	1	18	0	11	0	0	0	0	0	0	13	12	0	30	0	0	0	0	0	6.2	15.45
37079	755	596.5	99.84-99.76	16	10	1	1	7	0	11	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	4	14.44
36919	754	596.5	100.04-99.92	12	8	1	1	8	0	11	0	950	30	0	0	17	0	0	0	30	0	4.3	0	0	0	4.3	16.8
36965	754	596.5	99.83-99.73	20	10	1	1	8	0	11	0	950	30	0	0	17	0	0	0	30	16	0	0	0	0	5	20.37
36936	754	596.5	99.91-99.83	14	9	1	1	8	0	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	3.5	7.2
36936	754	596.5	99.91-99.83	14	9	2	1	11	0	11	0	0	0	0	0	0	13	0	0	10	0	14	0	0	0	3.1	6.36
36936	754	596.5	99.91-99.83	14	9	3	1	1	0	11	0	0	0	0	0	0	15	0	0	10	0	25	0	0	0	3	0.7
36917	754	596.5	100.04-99.92	12	8	1	1	1	0	11	0	950	30	0	0	0	0	0	0	10	0	0	0	0	0	8.3	13.42
36911	754	596.5	100.43-100.13	10	6	1	1	1	0	11	0	0	204	0	0	17	0	0	0	20	0	0	0	0	0	1.7	1.07
36469	761	582	100.39-100.33	8	3	1	1	2	0	11	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	3.5	2.17
36973	754	596.5	99.83-99.73	20	10	1	1	6	0	11	0	220	21	0	12	17	13	0	0	10	0	0	0	0	0	3	6.2
35378	760.80	582.52	100.50	2	surface	1	1	20	0	11	0	433	20	0	0	17	12	13	0	30	0	0	0	0	0	6.8	19.85
36927	754	596.5	100.04-99.92	13	8	1	1	1	0	11	0	207	53	0	0	17	0	0	0	10	0	0	0	0	0	4.5	2.19
36927	754	596.5	100.04-99.92	13	8	2	1	1	0	11	0	207	13	0	12	17	0	0	0	10	0	25	0	0	0	3.7	2.57
36991	754	596.5	99.73-99.63	28	11	1	1	2	0	11	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3.7	3.02
36929	754	596.5	100.12-100.03	11	7	1	1	4	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	4.4	4.3
36929	754	596.5	100.12-100.03	11	7	3	1	1	0	11	0	207	26	0	12	17	12	0	0	10	0	0	0	0	0	2.8	1.22
36990	754	596.5	99.73-99.63	28	11	1	1	7	0	11	0	204	51	0	0	17	0	0	0	10	0	27	6	0	0	3.3	12.49
37002	754	596.5	99.63-99.51	30	12	1	1	3	0	11	0	0	0	0	0	0	15	0	0	10	0	13	0	0	0	5	12.31

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
37002	754	596.5	99.63-99.51	30	12	2	1	1	0	11	0	207	51	0	0	17	13	0	0	10	0	0	0	0	0	2.9	3.16	
37002	754	596.5	99.63-99.51	30	12	3	1	1	0	11	0	207	13	0	12	17	0	0	0	10	0	0	0	0	0	3.5	2.65	
36962	754	596.5	99.83-99.73	20	10	2	1	2	1	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	4.3	18.66	
36963	754	596.5	99.83-99.73	20	10	2	1	3	0	11	0	950	30	0	0	0	0	0	0	10	0	0	0	0	0	4.2	7.53	
36461	761	582	uknown	3	1	1	1	3	0	11	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	6	28.81	
36774	755.80	597.13	99.93	11	8	1	1	1	0	11	0	433	20	0	0	17	0	0	0	30	0	0	0	0	0	11.5	62.45	
37070	755	596.5	100.20-100.08	9	7	1	1	1	0	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	5.6	12.75	
37431	755	574	screen	10	5	1	1	1	0	11	0	0	0	0	0	0	12	20	0	10	0	0	0	0	0	7.9	8.46	
37050	755	597	99.81-99.21	19	10	1	1	1	0	11	0	950	20	0	0	17	0	0	0	10	0	31	0	4	1	10.5	55.63	
36546	760	582	100.44-100.39		3	1	1	2	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	3.4	1.95	
36546	760	582	100.44-100.39		3	2	1	1	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	5.3	8.02	
37044	755	597	99.81-99.21	19	10	1	1	2	0	11	0	220	20	0	0	17	12	13	0	10	0	14	12	0	1	6.5	6.22	
37063	755	596.5	100.40-100.20	7	5	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	25	0	0	1	3.2	2.1	
37105	754.5	597.5	99.93-99.83	7	9	1	1	1	0	11	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	5.2	1.75	
37088	755	596.5	99.54-99.46	18	12	1	1	2	0	11	0	950	20	0	0	0	0	0	0	10	0	0	0	0	0	5.3	15.6	
37082	755	596.5	99.76-99.54	17	11	1	1	1	0	11	0	207	28	0	12	17	0	0	0	10	0	14	0	0	2	3.4	2.76	
37097	754.5	597.5	100.62-100.55	2	2	1	1	2	0	11	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	2.5	1.15	
37062	755	596.5	100.40-100.30	7	5	1	1	3	0	11	0	0	0	0	0	0	12	13	0	30	0	14	0	0	0	4	3.48	
35392	760	583	100		1 screen	1	1	3	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	6.2	
35266	771.98	573.31-573	100.35-100.48	20	7	1	1	2	0	11	0	220	20	0	0	17	0	0	0	10	13	25	12	0	1	6.3	9.18	
37067	755	596.5	100.30-100.20	8	6	1	1	5	0	11	0	0	0	0	12	0	13	15	0	10	0	0	0	0	0	4.2	11.22	
37059	755	596.5	100.57-100.49	4	3	1	1	7	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	4.9	8.26	
37410	755	574		1	1	1	1	4	0	11	0	220	20	0	0	17	12	0	0	10	0	41	12	0	1	3.5	7.57	
37080	755	596.5	99.76-99.54	17	11	2	1	2	0	11	0	0	0	0	0	0	13	0	0	10	0	14	0	0	0	3.5	3.28	
37080	755	596.5	99.76-99.54	17	11	3	1	1	0	11	0	0	0	0	0	0	0	0	0	10	0	14	0	0	0	3.8	0.8	
37080	755	596.5	99.76-99.54	17	11	4	1	1	0	11	0	0	0	0	0	0	0	0	0	10	11	31	0	0	0	2.5	1.04	
37080	755	596.5	99.76-99.54	17	11	5	1	2	0	11	0	950	30	0	0	0	0	0	0	10	0	0	0	0	0	4.3	6.17	
37080	755	596.5	99.76-99.54	17	11	6	1	3	0	11	0	220	20	0	0	0	0	0	0	10	0	14	12	0	0	9.1	6.58	
37435	755	568	100.84	7	6	1	1	2	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	4.2	4.66	
37028	755	596.5	99.25	23	14	3	1	1	0	11	0	302	41	0	0	17	12	0	0	10	0	14	2	0	1	9.2	9.2	
36111	755	597	100.70-100.61	1	1	1	1	4	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	5.8	13.45	
37413	755	574		2	2	2	1	4	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	6.6	25.15	
37413	755	574		2	2	4	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	6.5	8.23	
37061	755	596.5	100.40	6	4	1	1	4	0	11	0	0	0	0	0	0	11	13	0	30	0	0	0	0	0	4.8	9.86	
37725	755	574	screen	5	4	2	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	31	12	0	0	4	3.67	
35976	755	597	unknown	36	13	2	1	1	0	11	0	950	30	0	0	17	13	0	0	10	0	31	0	0	0	6.2	17.5	
37043	755	597	99.81-99.21	19	10	1	1	1	0	11	0	0	0	0	0	0	0	0	0	10	11	0	0	0	0	1.4	0.34	
37043	755	597	99.81-99.21	19	10	2	1	41	0	11	0	401	73	0	0	17	13	0	0	10	0	15	0	1	4	4.2	58	
36256	768	579	unknown	5	2	1	1	1	0	11	0	220	20	0	0	17	11	13	0	10	0	0	0	0	0	5.4	2.21	
37048	755	597	99.81-99.21	19	10	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	7	20.88	
36260	768	579	unknown	7	4	1	1	1	0	11	0	220	20	0	0	17	12	17	0	10	0	0	0	0	0	7.8	9.44	
36260	768	579	unknown	7	4	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	14	0	1	0	7.5	5.09	
35251	771	573	100.85	2	1	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	12	0	0	0	6.9	13.41	
37363	780	573	screen	8	3	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	3.01	
36842	791	581	101.00	36	7	1	1	2	0	11	0	207	26	0	12	12	12	0	0	10	0	0	0	0	0	3.8	1.94	
37286	780	573		1	1	1	1	1	0	11	0	0	0	0	12	0	12	13	0	10	0	14	0	0	0	4.8	9.68	
36076	780.27	592.69	103.40	2	4	1	1	1	0	11	0	303	20	0	0	17	12	0	0	10	0	25	5	0	1	8.2	38.17	
37208	780	594	103.0	9	2	1	1	2	0	11	0	435	20	2	0	17	12	20	0	10	0	0	0	0	0	10.2	48	
36555	773	583	100.44-100.39	4	3	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	9.7	4.76	
36096	780.17	592.60	103.4	1	4	1	1	1	0	11	0	950	30	0	0	0	12	0	0	10	0	0	0	0	0	12.1	29.74	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
37331	780	573	20-30	20	3	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	70	0	0	0	5.2	2.06	
36550	789	591	103.75	3	2	1	1	4	0	11	0	0	0	0	0	0	12	13	0	30	0	70	0	0	0	14.6	12.01	
36520	772	583	100.29-100.24	7	4	1	1	1	0	11	0	0	0	0	0	0	12	o	o	30	0	70	0	0	0	4.6	6.34	
35689	763.92	582.67	104.83	37A	2	4	1	1	1	11	0	0	0	0	0	0	12	0	0	10	0	31	0	0	0	9.2	17.19	
36557	773	583	100.3-100.29	6	4	1	1	3	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	3.6	3.58	
35293	780.97	594.12	103.70	3	1	1	1	2	0	11	0	220	20	0	0	17	11	13	0	10	0	0	0	0	0	13.6	19.39	
35532	779.65	573.41	100.98	102	3	1	1	1	0	11	0	0	0	0	0	17	13	20	0	10	0	15	0	3	1	10.4	44.09	
37389	779-181	572-575		132		1	1	1	0	11	0	0	0	0	0	0	13	20	0	10	0	70	0	0	0	7.4	8.31	
36548	780	574	103.91	1	2	1	1	1	0	11	0	0	0	0	0	0	12	20	0	0	0	70	0	0	0	13.8	20.01	
36521	772	583	100.29-100.24	7	4	1	1	1	0	11	0	950	30	0	0	0	12	0	0	10	0	31	0	0	0	5.7	9.2	
36000	787.70	583.03	100.73	26	6	1	1	1	0	11	0	207	28	0	12	17	12	0	0	10	0	14	0	0	4	2	0.43	
36221	789	590	uknown	1	1	1	1	1	0	11	0	0	0	0	0	17	0	0	0	10	0	31	0	0	0	4.8	4.71	
35790	763.82	582.05	104.74		3	1	1	2	0	11	0	207	50	0	12	17	0	0	0	10	0	14	0	0	2	4.1	3.74	
36057	793	580		2	2	1	1	1	0	11	0	207	28	0	12	17	0	0	0	10	0	0	0	0	0	3.5	1.78	
36001	787.78	583.07	100.74	27	6	1	1	1	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	6.8	19.82	
36078	780.23	592.95	103.57	5	3	1	1	2	0	11	0	220	0	0	0	17	12	13	0	30	0	14	12	0	1	4.7	8.66	
37103	754.5	597.5	100.03-99.93	6	8	1	1	1	0	11	0	205	55	0	0	17	0	0	0	10	0	25	0	0	2	5.9	8.63	
35972	755	597	unknown	35	13	1	1	1	0	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	10.7	41.44	
35484	763.34	582.27	104.75	4	1	1	1	2	0	11	0	0	0	0	0	0	12	13	0	10	0	14	0	0	0	4.7	2.21	
36552	773	583	100.54-100.47	3	2	1	1	1	0	11	0	207	51	0	0	17	12	0	0	10	0	0	0	0	0	4	3.66	
37307	779	572	screen	1	1	1	1	1	0	11	0	0	0	0	0	0	12	13	0	10	0	14	0	0	0	4.4	3.85	
37140	780	572	104-103.9	36	3	1	1	1	0	11	0	220	20	0	0	17	12	13	0	10	0	0	0	0	0	5.8	5.82	
36765	779	573	101.02-100.79	77	3	2	1	4	0	11	0	0	0	0	0	17	12	0	0	10	0	14	0	0	0	6.3	8.6	
36765	779	573	101.02-100.79	77	3	3	1	6	0	11	0	0	0	0	0	17	0	0	0	10	0	14	0	0	0	4.4	6.64	
36856	791	583	100.96	38	8	1	1	1	0	11	0	401	0	0	0	17	0	0	0	10	0	20	6	0	1	4.3	3.67	
36856	791	583	100.96	38	8	2	1	1	0	11	0	401	0	0	0	17	0	0	0	10	0	43	0	0	1	5.8	10.6	
35908	780.13	593.53	103.62-0.52	3	2	1	1	5	0	11	0	220	20	0	0	16	12	0	0	10	0	31	0	0	1	8.1	19.18	
36123	755	597	99.91-99.81	15	9	6	1	7	0	11	0	950	30	0	0	17	0	0	0	10	0	31	13	3	0	4.2	30.35	
36123	755	597	99.91-99.81	15	9	7	1	15	0	11	0	220	20	0	0	17	12	0	0	10	0	14	0	0	1	5.7	16.88	
36898	754	596.5	100.33-100.30	6	5	1	1	3	0	12	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	3.2	2.57	
36968	754	596.5	99.83-99.73	20	10	1	1	3	0	12	0	0	0	0	0	0	13	0	0	10	12	0	0	0	0	2.1	0.47	
36952	754	596.5	99.83-99.73	20	10	1	1	1	0	12	0	220	20	0	0	17	0	0	0	10	0	43	12	2	1	5.8	6.23	
37011	754	596.5	99.36-99.31	40	14	1	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3	0.53	
36922	754	596.5	100.04-99.92	12	8	1	1	1	0	12	0	204	13	0	12	17	0	0	0	10	0	20	6	0	1	2.4	0.72	
36895	754	596.5	100.64-100.34	2	2	1	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.6	0.41	
36911	754	596.5	100.43-100.13	10	6	2	1	1	0	12	0	0	0	0	0	0	0	0	0	20	0	0	0	0	0	2.5	0.38	
36122	755	597	99.91-99.81	15	9	1	1	1	0	12	0	950	30	0	0	17	0	0	0	10	16	25	0	0	0	2.8	3.78	
36929	754	596.5	100.12-100.03	11	7	2	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3	1.49	
35259	771	573	100.76-100.71	5	3	1	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3.1	0.8	
37078	755	596.5	99.99-99.84	15	9	3	1	1	0	12	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	8	3.81	
37098	754.5	597.5	100.55-100.44	3	3	1	1	1	0	12	0	0	0	0	12	0	13	0	0	10	0	14	0	0	0	1.8	0.67	
37038	755	597	99.81-99.21		10	1	1	4	0	12	0	0	0	0	0	0	0	0	0	10	16	0	0	0	0	3.8	1.61	
35392	760	583	100		1 screen	2	1	1	0	12	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.9	1.11	
35266	771.98	573.31-573	100.35-100.48	20	7	2	1	1	0	12	0	0	0	0	0	0	0	0	0	10	12	25	0	0	0	3.9	3.15	
37091	755	596.5	99.48-99.46	19	13	1	1	1	0	12	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	3.8	1.6	
37080	755	596.5	99.76-99.54	17	11	7	1	1	0	12	0	0	28	0	12	0	0	0	0	10	0	12	0	0	2	3.5	2.1	
35624	752.745	560.35	101.4-101.3	15	2	1	1	1	0	12	0	0	0	0	0	0	11	13	0	10	0	14	0	0	0	3.4	2.16	
37436	755	568	100.84	6	6	1	1	19	0	12	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.6	5.5	
37106	754.5	597.5	99.93-99.83	7	9	1	1	1	0	12	0	0	28	0	12	0	12	0	0	10	0	0	0	0	0	2.8	2.58	
36525	760	584	100.38-100.00	1	1	1	1	11	0	12	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	5	6.79	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
37029	755	596.5	99.25	23	14	1	1	8	0	12	0	220	20	0	0	17	12	13	0	10	0	25	12	0	1	6	8.98	
37058	755	596.5	100.51	3	2	1	1	2	0	12	0	0	0	0	0	0	12	13	0	30	0	0	0	0	0	2.6	1.49	
35142	779.50	572.20	103.88	41	3	1	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1	0.11	
36130	755	597	100.41-100.31		4	1	1	1	0	12	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	3.2	1.62	
35262	771	573	100.55-100.50	18	7	1	1	7	0	12	0	220	20	0	0	17	0	0	0	10	15	14	12	0	0	5.8	6.33	
36561	773	583	100.95-99.92	9	7	1	1	1	0	12	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	5.2	2.53	
36081	780	592	103.4-103.3		4	1	1	1	0	12	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	3.5	2.36	
37654	780	673		7	2	2	1	1	0	12	0	220	20	0	0	17	12	0	0	10	0	20	12	0	1	4.7	6.24	
35481	763.67	582.63	104.73	25	2	1	1	1	0	12	0	220	20	0	0	16	12	0	0	10	0	14	12	0	1	9	14.92	
35703	763.74	582.16	104.81	38	2	4	1	4	0	12	0	0	28	0	12	0	12	0	0	10	0	0	0	0	0	3.4	3.9	
35703	763.74	582.16	104.81	38	2	5	1	1	0	12	0	401	73	0	0	0	12	0	0	10	0	25	0	0	3	9.5	9.93	
35477	763.26	582.81	104.78	10	2	1	1	1	0	12	0	407	51	0	12	17	0	0	0	10	0	14	0	0	2	3.2	2.08	
36693	779	573	101.07	63	2	1	1	1	0	12	0	220	20	0	0	17	12	13	0	30	0	31	12	0	1	3.8	4.49	
36525	774	582	102.08	13	8	1	1	1	0	12	0	207	28	0	12	17	0	0	0	10	0	15	0	0	0	2.5	1.53	
36518	772	583	100.46	5	4	1	1	1	0	12	0	0	0	0	0	0	12	99	0	0	0	99	0	0	0	11.3	20.68	
35895	787	583	100.76-100.71	24	6	1	1	2	0	12	0	0	0	0	0	0	11	13	0	10	0	25	0	0	0	3.2	1.33	
36859	791	583	100.96-100.91	50	9	1	1	5	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.8	5.42	
36851	791	583	100.96	38	8	1	4	4	0	12	0	0	28	0	12	17	13	0	0	10	0	0	0	0	0	3.4	13.23	
35671	752.51	560.25	101.3-101.2	37	3	1	1	1	0	12	0	220	20	1	0	17	12	0	0	10	0	14	12	0	1	6.2	4.08	
35655	752.88	560.93	101.3-101.2	18	3	1	1	1	0	12	0	0	0	0	0	0	13	17	0	10	0	14	0	0	0	4.3	2.87	
37093	755	596.5	99.26-99.21	25	15	1	1	2	0	12	0	402	67	2	0	17	13	0	0	10	0	32	6	0	4	8.4	11.64	
36909	754	596.5	100.43-100.13	9	6	1	1	4	0	12	0	207	51	0	0	17	0	0	0	10	0	31	0	0	2	5.2	6.49	
36765	779	573	101.02-100.79	77	3	1	1	1	0	12	0	0	28	0	12	17	12	0	0	10	0	0	0	0	0	3	0.93	
36123	755	597	99.91-99.81	15	9	8	1	3	0	12	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	2.9	3.19	
36239	745	567	unknown	6	2	1	1	2	0	13	0	220	80	1	0	17	13	0	0	10	0	20	12	0	1	5.3	4.13	
36315	752	559	104.4	7	5	1	1	2	0	13	0	950	20	0	0	17	13	0	0	10	0	20	0	0	1	5.4	3.8	
37019	754	596.5	99.25-99.21	43	15	1	1	1	0	13	0	220	20	0	0	16	0	0	0	10	0	0	0	0	0	10.9	6.14	
36935	754	596.5	99.91-99.83	14	9	1	1	1	0	13	0	220	20	0	0	17	0	0	0	10	0	29	12	0	1	4.8	1.59	
36955	754	596.5	99.83-99.73	20	10	1	1	1	0	13	0	220	20	1	40	17	13	0	0	10	0	13	12	1	1	2.1	0.89	
36964	754	596.5	99.83-99.73	20	10	1	1	1	0	13	0	207	51	0	12	16	13	0	0	10	0	31	0	0	0	2.4	3.5	
36461	761	582	unknown	3	1	2	1	4	0	13	0	220	90	0	10	16	13	15	0	10	0	25	12	0	1	4.9	16.3	
37078	755	596.5	99.99-99.84	15	9	1	1	1	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	3.7	0.46	
37078	755	596.5	99.99-99.84	15	9	2	1	1	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.8	0.56	
37078	755	596.5	99.99-99.84	15	9	3	1	1	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.3	0.46	
37101	754.5	597.5	100.12-100.03	4	7	1	1	2	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2	0.34	
36457	761	582	unknown	3	1	1	1	1	0	13	0	220	20	1	0	16	12	13	0	10	0	0	0	0	0	7.4	5.29	
37095	754.5	597.5	100.14-100.61	1	1	1	1	1	0	13	0	220	20	0	0	17	0	0	0	10	0	0	0	0	0	2.5	0.43	
37088	755	596.5	99.54-99.46	18	12	2	1	1	0	13	0	220	20	0	0	17	0	0	0	10	0	0	12	0	0	3.8	0.91	
36446	760	582	100.54-100.44	3	1	1	1	1	0	13	0	433	20	0	0	16	13	15	0	30	0	14	0	0	0	6.5	14.95	
37091	755	596.5	99.48-99.46	19	13	2	1	2	0	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.9	0.27	
37080	755	596.5	99.76-99.54	17	11	1	1	2	0	13	0	220	20	1	0	16	13	0	0	10	0	0	0	0	0	7.2	4.04	
36335	755	572	100.99-101.28	5	3	1	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	3.8	1.32	
10045	755	572	40.5	7	5	1	1	1	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.1	1.83	
36100	755	597	unknown	26	11	1	1	6	0	13	0	0	0	0	0	0	0	0	0	30	16	0	0	0	0	2.8	3.32	
36334	755.32	572.14	100.87	8	5	1	2	2	0	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.8	1.67	
37029	755	596.5	99.25	23	14	2	1	1	0	13	0	405	29	0	0	17	12	0	0	10	0	0	0	0	0	2.4	3.31	
37425	755	574	screen	5	4	1	1	1	0	13	0	207	50	0	0	17	12	13	0	10	0	25	0	0	0	3.7	6.81	
35976	755	597	unknown	36	13	3	1	1	0	13	0	403	73	0	0	17	0	0	0	10	0	41	26.1	0	2	5	8.3	1.06
35976	755	597	unknown	36	13	4	1	1	0	13	0	403	73	2	10	17	0	0	0	10	0	20	26	0	2	4.9	5.9	
35976	755	597	unknown	36	13	5	1	1	0	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	4.5	1.19	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35290	780.73	594.06	103.70	2	1	1	1	1	0	13	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	3.6	2.44	
35717	763	582	unknown	7	2	1	1	1	0	13	0	0	0	0	0	0	0	0	0	10	13	0	0	0	0	2.2	0.42	
35695	768.85	582.0	104.83	34	2	1	1	1	0	13	0	220	20	0	0	16	12	0	0	10	0	14	12	0	1	7.8	2.4	
35711	763.98	522.83	unknown	24	2	1	1	2	0	13	0	0	0	0	0	0	13	0	0	30	0	0	0	0	0	3	0.78	
35578	780	573	100.97-101.08	1	1 screen	2	1	3	0	13	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	2.4	1.27	
9993	792	580	105.14	1	surface	1	1	1	0	13	0	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.8	0.51	
36522	772	583	100.29-100.24	7	4	1	1	1	0	13	0	220	20	0	0	16	12	0	0	10	0	20	0	0	1	9.1	5.14	
37368	780	573	screen	8	3	1	1	1	0	13	0	0	0	0	0	0	0	0	0	10	0	72	0	0	0	1.8	0.79	
37252	779	574	122	37	3	4	1	1	0	13	0	0	28	0	12	17	12	0	0	10	0	14	0	0	0	2.1	0.94	
36562	773	583	100.95-99.92	9	7	1	1	1	0	13	0	0	0	0	0	17	13	0	0	10	0	0	0	0	0	2.4	0.84	
36525	774	582	102.08	13	8	1	1	1	0	13	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	2.5	1	
36576	774	582	102.08	13	8	1	1	1	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	0.71	
36079	780.32	592.51	103.40	3	4	1	1	2	0	13	0	220	20	0	0	17	12	0	0	30	0	0	0	0	0	5.8	3.45	
36080	780.97	592.38	103.57	1	3	1	1	1	0	13	0	207	53	0	0	16	12	0	0	10	0	0	0	0	0	2.8	1.1	
37224	780	574		1	1	3	1	1	0	13	0	207	50	0	12	0	13	0	0	30	0	0	0	0	0	2.1	1.17	
37224	780	574		1	1	4	1	2	0	13	0	0	0	0	0	0	12	0	0	10	0	31	0	0	0	4.4	2.97	
36570	774	582	100.41	8	5	1	1	3	0	13	0	0	0	0	0	0	12	15	0	10	0	0	0	0	0	3.2	1.25	
36796	779	572	100.96-100.94	1	1	1	1	1	0	13	0	0	0	0	12	0	12	0	0	10	0	0	0	0	0	1.8	0.51	
36577	774	582	102.09	14	9	1	1	2	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.7	1.9	
36516	772	583	100.12-100.08	9	6	1	1	2	0	13	0	220	20	0	0	17	0	0	0	10	0	25	12	0	0	2.9	2.48	
36583	787	572	102.88	8	10	1	1	2	0	13	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	8.1	1.48	
36585	787	582	100.82-100.77	3	8	1	1	2	0	13	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	3.5	0.9	
37140	780	572	104-103.9	36	3	2	1	1	0	13	0	207	51	0	0	17	12	13	0	10	0	20	0	0	2	3.2	2.03	
37185	779	574	105.14-102.5	6	1	2	1	3	0	13	0	0	0	0	0	17	11	13	0	10	0	0	0	0	0	3.2	1.96	
36123	755	597	99.91-99.81	15	9	4	1	5	0	13	0	220	20	0	0	17	0	0	0	10	0	15	12	0	1	5.8	5.15	
36123	755	597	99.91-99.81	15	9	5	1	2	0	13	0	950	20	0	0	0	0	0	0	10	0	12	0	0	0	4.3	3.71	
37239	780	574		9	2	1	1	1	0	14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3.4	0.21	
36832	797	583	101.20-101.15	10	4	1	1	1	0	14	0	0	0	0	0	0	13	0	0	10	11	0	0	0	0	0.8	0.08	
36599	779	573	101.12-101.07	2	1	1	1	4	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.1	0.34	
37252	779	574	122	37	3	3	1	2	0	14	0	0	0	0	0	0	12	0	0	30	16	0	0	0	0	13.4	0.96	
37240	780	574		9	2	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2	0.42	
35899	787.31	583.01	100.74	25	6	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	26	0	0	4	2.2	1.01	
37258	779	574	101.28	14	1	1	1	12	0	14	0	0	0	0	0	0	11	13	0	30	0	0	0	0	0	3.1	4.03	
36569	774	582	102.12	7	4	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	1	0.2	
36864	791	583	100.86-100.81	42	11	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1.7	0.11	
10045	755	572	40	40 scre	7	5	1	1	0	14	0	910	12	0	10	12	0	0	0	0	0	13	0	2	2	1.6	1.4	
36827	797	583	101.00-100.95	14	8	1	1	1	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.4	0.12	
36441	787	571	101.81-101.01	24	9	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1.6	0.17	
36834	797	583	100.95-100.96	15	9	1	1	1	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.5	0.04	
37140	780	572	104-103.9	36	3	3	1	1	0	14	0	950	20	0	0	17	12	13	0	10	0	0	0	0	0	4.1	1.97	
36765	779	573	101.02-100.79	77	3	4	2	2	0	14	0	939	12	0	10	12	13	15	0	10	0	0	0	0	0	2.5	0.73	
36765	779	573	101.02-100.79	77	3	5	1	1	0	14	0	407	0	0	10	17	12	13	0	10	0	0	0	0	0	2.7	1.49	
37185	779	574	105.14-102.5	6	1	3	1	3	0	14	0	950	20	0	0	16	12	15	0	10	0	0	0	0	0	4	0.69	
35264	771.98	573.31-573	100.35-100.48	20	7	1	1	1	0	14	0	402	67	1	0	17	12	13	0	10	16	32	0	2	2	4	2.59	
35264	771.98	573.31-573	100.35-100.48	20	7	2	1	5	0	14	0	303	20	0	0	17	13	16	0	10	16	0	0	0	0	4.3	4.61	
35264	771.98	573.31-573	100.35-100.48	20	7	3	1	12	0	14	0	304	27	0	12	16	13	16	0	30	16	0	0	0	0	5.7	21.76	
35264	771.98	573.31-573	100.35-100.48	20	7	4	1	22	0	14	0	950	20	0	0	17	12	13	0	30	16	0	0	0	0	5.8	19.12	
35264	771.98	573.31-573	100.35-100.48	20	7	5	1	32	0	14	0	0	0	0	0	0	12	13	0	30	16	0	0	0	0	3.4	7.46	
35264	771.98	573.31-573	100.35-100.48	20	7	6	1	2	0	14	0	305	20	0	0	16	12	13	0	10	16	14	0	0	1	4.8	1.98	
37228	780	574		1	1	1	1	1	0	15	0	0	0	0	0	0	12	0	0	10	0	13	0	0	0	1.8	0.22	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35815	793	580		1	1	1	1	1	0	15	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.4	0.18	
35616	752.73	560.23	101.4-101.3	7	2	1	1	2	0	16	0	0	0	0	0	0	13	0	0	10	0	0	0	0	0	0.8	0.1	
37363	780	573	screen	8	3	1	1	1	0	2	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.7	0.09	
37654	780	673		7	2	1	1	1	0	2	0	950	20	0	0	0	12	0	0	10	0	0	0	0	0	1.3	0.01	
36930	754	596.5	100.12-100.13	11	7	1	1	1	2	20	2111	530	21	1	0	17	0	0	0	10	0	0	0	0	0	1.4	0.24	
37419	755	574	screen	4	3	1	1	1	2	20	2111	119	12	0	0	12	12	0	0	10	0	0	0	0	0	4.1	1.04	
36460	761	582	unknown	3	1	1	1	1	1	20	1121	304	17	1	0	16	12	0	0	20	0	0	0	0	0	2.2	0.32	
36458	761	582	unknown	3	1	1	1	1	1	20	1120	303	24	2	10	15	12	0	0	10	0	14	0	0	0	4.8	2.47	
35687	763.75	582.13	104.82	30	2	1	1	14	2	50	4010	100	0	0	0	15	0	0	0	10	0	0	0	0	0	12.1	10.34	
36459	761	582	unknown	3	1	1	1	1	1	20	1120	305	17	2	10	14	12	0	0	10	0	0	0	0	0	8.4	3.19	
36937	754	596.5	99.91-99.83	14	9	1	1	1	1	20	1120	589	11	0	10	11	0	0	0	0	0	0	0	0	0	1.4	0.13	
35702	763.74	582.16	104.81	38	2	1	1	1	2	2110	0	220	17	1	10	12	12	0	0	10	0	0	0	0	0	3.9	0.12	
37077	755	596.5	99.99-99.84	15	9	1	1	1	2	40	1000	750	20	0	0	14	0	0	0	10	0	0	0	0	0	3.8	0.17	
36133	755	597	100.31-100.21	7	5	1	1	1	2	40	1000	750	20	0	0	15	0	0	0	10	0	0	0	0	0	1.7	0.04	
37030	755	596.5	99.25	23	14	1	1	1	2	40	100	750	20	0	0	15	0	0	0	10	0	0	0	0	0	3.6	0.23	
36938	754	596.5	99.91-99.83	14	9	1	1	1	2	50	0	207	51	0	0	12	0	0	0	10	0	0	0	0	0	0.5	0.11	
36989	754	596.5	99.73-99.63	28	11	1	1	1	2	50	0	207	51	0	0	12	0	0	0	10	0	0	0	0	0	0.7	0.22	
36526	760	584	100.38-100.00	1	1	1	1	1	2	50	2000	207	51	0	0	13	13	0	0	10	0	0	0	0	0	0.8	0.08	
37065	755	596.5	100.40-100.30	7	5	1	1	1	2	50	0	100	0	0	0	0	0	0	0	10	0	0	0	0	0	2.1	0.09	
36910	754	596.5	100.43-100.13	10	6	1	1	1	2	50	0	100	0	0	0	12	0	0	0	10	0	0	0	0	0	1.8	0.18	
37084	755	596.5	99.76-99.54	17	11	1	3	3	2	50	1000	207	51	0	0	12	13	0	0	10	0	0	0	0	0	0.6	0.49	
37099	754.5	597.5	100.55-100.44	3	3	1	1	4	2	50	0	100	0	0	0	17	0	0	0	0	0	0	0	0	0	1.4	0.16	
37085	755	596.5	99.76-99.54	17	11	1	1	1	2	50	0	207	51	0	0	12	0	0	0	10	0	0	0	0	0	0.8	0.07	
37089	755	596.5	99.54-99.46	18	12	1	1	1	2	50	1000	207	51	0	0	12	0	0	0	10	0	0	0	0	0	1.1	0.19	
35494	763	582	105.14	7	2	1	3	3	0	50	1000	207	50	0	0	12	0	0	0	10	0	0	0	0	0	1.3	0.44	
35493	763	582	105.14	7	2	1	1	18	2	50	4010	100	0	0	0	16	0	0	0	10	0	0	0	0	0	4.8	8.22	
37104	754.5	597.5	100.03-99.93	6	8	1	1	1	2	50	1000	207	11	0	10	11	0	0	0	0	0	0	0	0	0	1.9	0.25	
36992	754	596.5	11	28	11	1	1	1	0	60	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.8	0.47	
35626	752	560	101.4-101.3	17	2	1	1	1	0	60	0	0	0	0	0	0	0	0	0	0	0	70	0	0	0	1	0.1	
35386	760	583	100.54-100.49	1	1 screen	1	1	1	1	60	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.7	0.11	
37305	779	574	screen	3	2	1	1	2	0	60	0	0	0	0	0	0	0	0	0	0	0	72	0	0	0	2.5	1.22	
36082	780	592	103.40-103.30		4	1	1	1	0	60	0	0	0	0	0	17	0	0	0	10	0	71	0	0	0	1.3	0.15	
10183	773	583	101.37-100.54	2	1	1	1	1	0	60	0	0	0	0	0	17	0	0	0	10	0	71	0	0	0	1.4	0.44	
35720	763	582	unknown	7	2	1	1	5	0	70	0	0	0	0	0	0	15	0	0	30	0	0	0	0	0	0.8	0.08	
37130	780	572	104-103.9	36	3	1	1	1	0	70	0	0	0	0	0	17	15	0	0	10	0	0	0	0	0	1.3	0.08	
36781	779	573	101.02-100.97	77	3	1	1	14	0	70	0	0	0	0	0	0	15	0	0	10	0	0	0	0	0	1.4	0.46	
35122	779.38	574.65	103.92	51	3	1	1	82	0	70	0	0	0	0	0	0	15	0	0	30	0	0	0	0	0	1.3	2.32	
36462	761	582	unknown	3	1	1	1	1	1	11	0	220	14	0	12	17	0	0	0	10	0	31	12	0	0	4.5	3.73	
36462	761	582	unknown	3	1	2	1	1	1	10	1020	222	12	0	0	12	0	0	0	10	0	14	4	1	3	5.5	11.96	
36462	761	582	unknown	3	1	3	1	1	0	11	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	4.6	4.6	
36462	761	582	unknown	3	1	4	1	1	0	15	0	0	0	0	0	0	11	13	0	10	0	0	0	0	0	1.9	0.15	
36462	761	582	unknown	3	1	5	3	17	0	13	0	0	0	0	0	0	13	0	0	10	0	12	0	0	0	2.4	4.17	
36462	761	582	unknown	3	1	6	1	1	0	12	0	302	40	0	10	17	12	0	0	10	0	14	2	0	2	2.2	0.74	
36462	761	582	unknown	3	1	7	1	5	0	11	0	220	23	0	0	17	0	0	0	30	0	12	12	0	1	6.9	4.81	
36462	761	582	unknown	3	1	8	1	1	0	11	0	303	14	0	10	17	0	0	0	10	0	14	2	0	2	3.6	6.07	
36462	761	582	unknown	3	1	9	1	1	0	11	0	206	51	0	12	15	0	0	0	10	0	15	11	0	4	2.8	1.47	
36462	761	582	unknown	3	1	10	1	13	0	11	0	220	20	0	0	17	11	13	0	10	0	12	12	0	0	9.9	8.91	
36462	761	582	unknown	3	1	11	1	4	0	12	0	204	52	0	12	17	11	12	0	10	0	0	0	0	0	3.4	6	
36462	761	582	unknown	3	1	12	1	9	0	11	0	950	30	0	0	17	12	20	0	10	0	0	0	0	0	9.1	28.2	
36462	761	582	unknown	3	1	13	1	1	0	13	0	950	30	0	10	17	11	13	0	10	0	31	0	1	0	3.7	6	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
37432	755	574	screen	9	5	1	1	2	1	10	1020	220	21	0	0	17	12	0	0	10	0	25	4	0	3	5	6.92	
37432	755	574	screen	9	5	2	1	1	1	20	1120	303	17	2	10	16	0	0	0	10	0	0	0	0	0	3.3	0.89	
36847	791	583	101.96	38	8	1	1	1	2	10	1300	437	11	2	10	11	0	0	0	0	0	0	0	0	0	1.5	1.36	
36865	791	583	100.71-100.61	41	13	1	1	1	0	20	0	207	0	0	0	17	12	13	0	10	0	0	0	0	0	1	0.1	
35483	763.79-0.	582.41	104.74	8	2	1	1	2	1	10	1020	403	0	0	10	17	0	0	0	10	0	41	7	0	4	4.1	12.05	
35662	725.25-0.	560.0.60	101.3-101.2		3	1	1	1	1	10	1400	220	20	0	0	16	12	0	0	10	0	32	33.5	0	1	5.1	7.64	
35734	763	582	unknown	7	2	1	1	2	0	12	0	0	0	0	0	0	0	0	0	10	0	12	0	0	0	5.3	3.11	
35734	763	582	unknown	7	2	2	1	2	1	10	1020	220	23	0	0	17	12	0	0	10	0	25	4	0	1	7.6	12.16	
35734	763	582	unknown	7	2	3	1	17	0	11	0	0	0	0	0	0	12	0	0	10	0	15	0	0	0	1.8	14.07	
35734	763	582	unknown	7	2	4	1	11	0	11	0	207	0	0	0	17	13	0	0	10	0	13	0	5	0	3.4	17.69	
35734	763	582	unknown	7	2	5	1	13	0	11	0	207	51	0	12	17	12	0	0	10	0	26	0	0	4	3.6	16.01	
35734	763	582	unknown	7	2	6	1	14	0	12	0	220	20	0	0	17	0	0	0	10	0	25	0	1	1	3.7	17.75	
35734	763	582	unknown	7	2	7	1	20	0	13	0	220	20	0	0	17	12	0	0	10	0	12	0	0	0	3.4	11.24	
35734	763	582	unknown	7	2	8	1	4	0	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.6	3.87	
35734	763	582	unknown	7	2	9	1	3	0	13	0	204	52	0	0	17	12	0	0	10	0	31	0	0	1	3.9	4.19	
35734	763	582	unknown	7	2	10	1	2	1	10	1020	206	50	0	12	16	0	0	0	10	0	14	11	1	3	3.8	3.38	
35734	763	582	unknown	7	2	11	1	2	0	11	0	220	20	0	0	17	12	0	0	10	0	14	12	2	0	7.1	4.78	
35734	763	582	unknown	7	2	12	1	1	0	13	0	220	15	0	12	17	0	0	0	10	0	41	12	0	4	4.3	2.83	
35734	763	582	unknown	7	2	13	1	1	0	13	0	220	14	0	10	17	0	0	0	10	0	14	12	0	2	2.2	1.34	
35734	763	582	unknown	7	2	14	1	1	0	11	0	203	52	0	0	17	12	0	0	10	0	0	0	0	0	2.4	0.92	
35734	763	582	unknown	7	2	15	1	3	0	12	0	0	0	0	12	17	0	0	0	10	0	0	14	0	0	1.5	1.21	
35734	763	582	unknown	7	2	16	1	3	0	11	0	950	20	0	0	17	0	0	0	10	0	0	0	0	0	7.4	18.87	
35734	763	582	unknown	7	2	17	1	1	0	10	1020	220	20	0	0	17	12	0	0	10	0	21	12	0	4	3.6	3.11	
35734	763	582	unknown	7	2	18	1	3	0	14	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	2.9	0.99	
35734	763	582	unknown	7	2	19	1	2	1	10	1020	222	0	0	0	14	0	0	0	10	0	14	4	0	1	3.3	4.13	
35734	763	582	unknown	7	2	20	1	1	0	13	0	220	20	0	0	17	0	0	0	10	0	14	12	1	1	2.1	1.99	
35734	763	582	unknown	7	2	21	1	2	0	14	0	0	0	0	0	0	0	0	0	10	0	14	0	0	0	2.6	1.17	
35734	763	582	unknown	7	2	22	1	1	0	12	0	207	50	0	12	17	12	0	0	10	0	14	0	2	2	3.4	1.8	
35734	763	582	unknown	7	2	23	1	2	0	13	0	203	13	0	12	17	12	0	0	10	0	14	0	0	2	1.9	0.82	
35734	763	582	unknown	7	2	24	1	2	0	11	0	207	51	0	0	17	0	0	0	10	0	25	0	0	1	3.4	6.47	
35734	763	582	unknown	7	2	25	1	3	0	11	0	0	0	0	12	17	12	0	0	10	0	14	0	0	4	3.8	7.63	
37408	755	566	unknown	7	4	1	1	1	1	10	1020	434	11	2	10	11	11	12	0	10	0	0	0	0	0	7.1	53.45	
37408	755	566	unknown	7	4	2	1	2	1	10	1020	304	21	2	12	17	0	0	0	10	0	25	5	0	1	11.2	180.84	
37408	755	566	unknown	7	4	3	1	1	1	10	1020	307	11	2	10	11	12	0	0	0	0	0	0	0	0	5	19	
37408	755	566	unknown	7	4	4	1	1	1	10	1020	308	11	2	10	11	12	0	0	0	0	0	0	0	0	3.7	16.78	
37408	755	566	unknown	7	4	5	1	1	1	10	1020	309	11	2	10	11	12	0	0	0	0	0	0	0	0	5.1	27.35	
37408	755	566	unknown	7	4	6	1	1	1	10	1020	447	11	2	10	11	0	0	0	0	0	0	0	0	0	4.9	20.93	
37408	755	566	unknown	7	4	7	1	1	1	10	1020	312	11	2	10	11	0	0	0	0	0	0	0	0	0	4.7	23.58	
37408	755	566	unknown	7	4	8	1	1	1	10	1020	205	50	0	0	0	12	0	0	10	0	31	6	0	1	10.1	39.11	
37408	755	566	unknown	7	4	9	1	1	0	12	0	220	24	0	12	17	0	0	0	10	0	25	12	0	1	3.1	2.62	
37408	755	566	unknown	7	4	10	1	1	2	10	2110	950	20	0	0	16	12	0	0	10	0	0	0	0	0	3.9	0.47	
37408	755	566	unknown	7	4	11	4	5	0	13	1000	181	12	0	0	12	0	0	0	30	0	0	0	0	0	2.4	1.15	
37680	780	573	unknown	10	3	1	1	2	2	10	2120	302	12	2	10	12	0	0	0	30	0	0	0	0	0	5.5	1.14	
37680	780	573	unknown	10	3	2	1	3	0	15	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.4	0.18	
37680	780	573	unknown	10	3	3	1	1	0	15	0	0	0	0	0	0	0	0	0	10	0	70	0	0	0	1.3	0.14	
37680	780	573	unknown	10	3	4	1	2	1	20	1120	205	51	0	0	15	0	0	0	10	0	0	0	0	0	3.4	0.86	
37680	780	573	unknown	10	3	5	2	1	1	20	1120	220	17	1	0	17	0	0	0	10	0	0	0	0	0	1.4	0.05	
37680	780	573	unknown	10	3	6	1	1	1	20	1120	220	17	2	0	17	0	0	0	10	0	0	0	0	0	2.4	0.04	
37680	780	573	unknown	10	3	7	1	1	1	20	1120	530	17	1	10	15	0	0	0	10	0	0	0	0	0	2.1	0.21	
36086	780	592	103.57-103.40		3	1	1	1	2	30	1000	673	0	0	0	0	0	0	0	10	0	0	0	0	0	2.4	1.98	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
36086	780	592	103.57-103.40		3	2	1	1	0	11	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	3.4	3.78	
36086	780	592	103.57-103.40		3	3	1	1	0	13	0	204	51	0	0	0	0	0	0	10	0	0	32	0	4	2.6	1.99	
35988	755	597	unknown	38	14	1	1	1	0	14	0	205	13	0	12	17	0	0	0	0	0	0	0	0	0	1.8	0.15	
35781	762	582	103.75-0.66	2	2	1	1	1	2	50	1000	981	12	1	0	12	0	0	0	10	0	0	0	0	0	1.6	0.16	
35781	762	582	103.75-0.66	2	2	2	1	4	2	50	3010	987	0	0	0	12	12	0	0	10	0	0	0	0	0	3.2	0.69	
35781	762	582	103.75-0.66	2	2	3	1	1	2	10	2110	305	12	1	10	12	12	0	0	10	0	0	0	0	0	3.8	0.27	
35781	762	582	103.75-0.66	2	2	4	1	1	0	13	0	220	14	0	10	17	12	13	0	10	0	0	0	0	0	3.8	0.45	
35781	762	582	103.75-0.66	2	2	5	1	4	0	13	1000	305	16	2	12	17	12	0	0	10	0	0	0	0	0	3.4	3.96	
35781	762	582	103.75-0.66	2	2	6	1	1	0	13	1000	204	50	0	0	17	12	0	0	10	0	15	0	0	4	3.1	2.14	
35781	762	582	103.75-0.66	2	2	7	1	1	0	11	0	207	57	0	10	17	13	0	0	10	0	14	0	0	2	2.8	1.89	
35781	762	582	103.75-0.66	2	2	8	1	1	2	10	2120	161	0	1	10	15	0	0	0	10	0	0	0	0	0	3.8	1.87	
35781	762	582	103.75-0.66	2	2	9	1	1	0	10	1000	932	12	0	12	12	12	13	0	10	0	0	0	0	0	2.7	0.86	
35781	762	582	103.75-0.66	2	2	10	1	1	2	10	1400	932	14	0	10	15	12	0	0	10	0	25	9	0	3	2	1.92	
35781	762	582	103.75-0.66	2	2	11	1	2	2	20	1120	202	51	0	10	15	12	0	0	10	0	0	0	0	0	2.1	0.46	
35781	762	582	103.75-0.66	2	2	12	1	1	2	20	1120	542	24	2	10	17	0	0	0	10	0	0	0	0	0	1.4	0.18	
35781	762	582	103.75-0.66	2	2	13	1	4	0	13	0	222	12	0	0	12	0	0	0	10	0	15	4	0	1	3.6	5.68	
35781	762	582	103.75-0.66	2	2	14	1	2	0	11	0	220	20	0	0	17	13	20	0	10	0	0	0	0	0	3.7	1.8	
35965	779	572	101.4-101.3	26	2	1	1	1	1	10	1020	201	51	0	10	15	12	0	0	10	0	41	1	0	4	8.4	44.87	
35965	779	572	101.4-101.3	26	2	2	1	1	1	10	1020	204	51	0	0	16	11	12	0	10	0	32	6	0	4	7.5	27.02	
35965	779	572	101.4-101.3	26	2	3	1	1	0	13	0	220	17	1	10	17	12	0	0	10	0	0	0	0	0	4.9	2.6	
35965	779	572	101.4-101.3	26	2	4	1	1	0	11	0	207	50	0	30	16	12	0	0	10	0	0	0	0	0	2.1	0.91	
35694	768.85		582.0	34	2	1	1	1	1	20	1120	510	12	0	10	12	12	0	0	10	0	0	0	0	0	3.5	1.18	
35694	768.83		582.0	34	2	2	1	2	2	10	1400	112	74	0	10	16	12	0	0	10	0	14	C	1	1	6.8	6.41	
35694	768.83		582.0	34	2	3	1	1	0	13	0	507	51	0	0	17	0	0	0	10	0	15	0	0	4	3.4	1.85	
35986	755	597	unknown	38	14	1	1	1	0	13	0	112	12	0	30	12	0	0	0	10	0	0	0	0	0	2.3	1.07	
37081	755	596.5	99.76-99.54	17	11	1	1	1	2	10	1300	305	17	2	12	16	0	0	0	10	0	31	25	0	1	6.7	9.48	
35263	771	573	100.50-100.55	18	7	1	1	1	2	50	2000	987	12	1	0	12	0	0	0	10	0	0	0	0	0	2.8	0.42	
35263	771	573	100.50-100.55	18	7	2	1	1	2	50	2000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3.1	0.57	
35263	771	573	100.50-100.55	18	7	3	1	1	0	12	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.7	0.62	
37076	755	596.5	99.99-99.84	15	9	1	1	1	2	20	2111?	520	51	0	0	16	0	0	0	10	0	0	0	0	0	2.4	0.22	
37046	755	597	99.81-99.21	19	10	1	1	3	0	13	1000	220	12	1	10	12	12	0	0	30	0	0	0	1	0	7.6	5.98	
35780	762.88	582.58	103.75-103.66	8	2	1	1	1	2	50	2000	987	12	0	0	12	0	0	0	10	0	0	0	0	0	3.1	0.52	
36447	760	582	101.54-101.44	3	1	1	1	1	1	10	1020	305	21	2	12	17	12	0	0	10	0	0	0	0	0	2.4	1.46	
36181	755	597	100.61-100.50	2	2	1	1	1	2	10	2120	402	67	1	0	17	0	0	0	10	0	0	0	0	0	1.3	0.45	
36181	755	597	100.61-100.50	2	2	2	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	4.1	4.26	
36517	772	583	100.04-99.96	9	7	1	1	1	2	10	1300	203	50	0	12	14	13	0	0	10	0	20	22/23	0	1	2.5	1.94	
36517	772	583	100.04-99.96	9	7	2	1	3	0	13	0	207	50	0	12	17	0	0	0	10	0	14	0	0	0	2.1	2.03	
36517	772	583	100.04-99.96	9	7	3	1	4	0	11	0	220	20	0	0	17	12	13	0	10	0	13	0	0	0	6.8	14.37	
36003	787.57	583.11	100.70	32	6	1	1	1	2	10	1300	220	17	2	10	16	12	0	0	10	0	0	0	0	0	5.9	1.66	
36319	759	559	104.24-104.14	7	4	1	1	2	1	10	1400	220	20	2	0	17	12	0	0	10	0	31	12	0	0	6.8	12.14	
35739	763	582	unknown	7	2	1	1	1	2	10	5210	221	11	1	10	11	12	0	0	0	0	0	0	0	0	2.3	0.14	
35739	763	582	unknown	7	2	2	1	1	2	10	2120	317	11	0	10	11	0	0	0	0	0	0	0	0	0	2	0.25	
35739	763	582	unknown	7	2	3	1	1	2	10	2120	931	11	0	10	11	0	0	0	0	0	0	0	0	0	1.9	0.1	
35735	763	582	unknown	7	2	1	1	1	1	20	1120	105	12	0	10	12	12	0	0	10	0	31	C	0	1	2.8	1.89	
35381	760	583	100.54-100.49	1	1 screen	1	1	3	2	20	2111	413	12	2	10	12	0	0	0	10	0	0	0	0	0	3.5	0.21	
35522	779.47	573.03	100.98	113	3	1	1	1	1	10	1020	203	51	0	10	16	12	15	0	10	0	31	3	0	2	6.1	19.34	
36440	787	571	101.01-100.81	24	9	1	1	1	2	10	5220	433	17	2	10	14	0	0	0	10	0	0	0	0	0	2.4	0.12	
36069	792	581	screen	32	4	1	1	2	1	10	1020	203	50	0	12	15	0	0	0	10	0	26	3.1	0	4	7.2	21.73	0.9275
35589	780	573	100.99-101.08	1	1 screen	1	1	1	1	10	1020	303	20	1	0	17	12	13	0	10	0	15	13	0	4	9.1	33.23	
36542	760	582	100.49-100.44	4	2	1	1	1	1	20	1120	302	12	2	10	12	12	0	0	10	0	14	0	0	0	4.4	0.38	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
36784	779	573	101.02-100.97	78	3	1	1	1	1	20	1120	530	12	2	10	12	12	0	0	10	0	0	0	0	0	4.5	1.14	
35697	763.95	582.58	104.76	48B	2	1	1	1	2	10	2110	204	53	0	10	14	0	0	0	10	0	0	0	0	0	1	0.13	
36853	791	583	100.96	38	8	1	1	1	1	10	1020	205	51	0	12	17	0	0	0	10	0	26	6.1	0	1	8.4	21.34	0.772
35252	771	573	100.70	9	3	1	1	1	1	10	1020	206	51	0	12	15	12	0	0	10	0	26	11	0	4	3.7	5.72	
36173	755	597	unknown	13	8	1	1	1	2	50	2000	207	50	0	0	12	0	0	0	10	0	0	0	0	0	1.9	0.09	
36308	780	593	103.82-103.62	2	1	1	1	1	2	20	2111	302	20	1	0	15	12	13	0	10	0	0	0	0	0	3.5	0.25	
36439	787	571	102.53-102.43	23	8	1	1	18	0	13	1000	302	41	2	0	15	12	13	0	10	0	0	0	0	0	8.9	17.16	
36448	760	582	101.54-101.44	3	1	1	1	1	0	11	1000	304	26	1	12	17	12	0	0	10	0	0	0	0	0	3.2	2.76	
36448	760	582	101.54-101.44	3	1	2	1	1	0	13	0	302	40	0	0	17	12	17	0	10	0	14	2	0	2	2.5	1.1	
36448	760	582	101.54-101.44	3	1	3	1	1	0	11	0	0	28	0	12	17	12	0	0	10	0	0	0	0	0	3.3	2.82	
35448	760	582	101.54-101.44	3	1	4	1	1	0	11	0	0	28	0	12	17	0	0	0	10	0	0	0	0	0	3	1.72	
958	779	573	101.02-100.97	77	3	1	1	1	2	50	2000	207	50	0	0	14	15	0	0	10	0	0	0	0	0	1.6	0.15	
37031	755	596.5	99.5	23	14	1	1	1	2	10	3132	220	11	1	10	11	0	0	0	0	0	0	0	0	0	2.4	0.15	
37031	755	596.5	99.5	23	14	2	1	1	2	40	1000	750	20	0	0	14	0	0	0	10	0	0	0	0	0	2.1	0.11	
37031	755	596.5	99.5	23	14	3	1	3	0	0	0	0	0	0	0	17	0	0	0	10	0	0	0	0	0	1.1	0.05	
36844	791	583	100.96	38	8	1	1	1	2	10	1300	438	11	2	10	11	12	0	0	0	0	0	0	0	0	3.4	11.81	
35416	793	581	104.01	2	2	1	1	1	1	10	1400	174	12	1	worn tc	12	0	0	0	10	0	0	0	0	0	1.5	0.67	
36314	780	594	103.70-103.46		1	1	1	1	2	20	2110	303	20	1	0	15	12	0	0	10	0	0	0	0	0	6.8	1.15	
36314	780	594	103.70-103.46		1	2	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	3.4	0.93	
36560	773	583	100.95-99.92	9	7	1	1	1	0	13	0	950	20	0	0	17	0	0	0	10	0	26	13	0	1	3	3.27	0.3975
35608	763.88	582.27	104.76	2	1	1	1	1	1	10	1020	203	55	0	10	17	0	0	0	10	0	31	3	0	0	4.2	8.74	
35400	793.0	581.41	103.92	6	2	1	1	1	0	10	1020	205	51	0	10	17	0	0	0	10	0	41	6	0	0	7.6	43.64	
35707	763.82	582.16	104.76	39	2	1	1	4	1	10	1020	203	50	0	12	15	12	0	0	10	0	31	3	0	2	8.3	16.29	
35707	763.82	582.16	104.76	39	2	2	1	1	2	10	5210	305	12	1	10	12	0	0	0	10	0	0	0	0	0	3.9	0.49	
35620	752.26-.2	560.84-.86	191.4-101.3	11	2	1	1	1	2	50	2000	207	50	0	0	12	0	0	0	10	0	0	0	0	0	3.5	0.73	
35486	763.25	582.04	104.75	15	2	1	1	1	1	10	1020	203	41	1	0	17	12	0	0	30	0	0	0	0	0	7.6	12.97	
36416	792	580	103.98-103.90		3	1	1	1	1	20	1120	305	20	2	0	15	12	0	0	10	0	14	0	0	1	3.3	0.6	
36848	791	583	100.96	38	8	1	1	1	2	10	1300	312	11	1	10	11	12	0	0	0	0	0	0	0	0	1.8	1.47	
37042	755	597	99.81-99.21	19	10	1	1	1	2	50	1000	207	12	0	0	12	0	0	0	10	0	0	0	0	0	0.7	0.12	
37042	755	597	99.81-99.21	19	10	2	1	1	2	50	2000	207	12	0	0	12	0	0	0	10	0	0	0	0	0	1.1	0.09	
37339	780	573	20 cm	27	3	1	1	3	0	23	0	220	20	0	0	17	0	0	0	10	0	0	0	0	0	2.8	0.18	
37339	780	573	20 cm	27	3	2	1	1	2	20	2111	302	17	1	10	16	0	0	0	10	0	0	0	0	0	1.4	0.1	
37339	780	573	20 cm	27	3	3	1	1	2	20	2111	531	11	2	10	11	12	0	0	0	0	0	0	0	0	3.6	0.31	
36828	797	583	101.00-100.95	14	8	1	1	1	0	23	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1	0.08	
35485	763.15	582.84	104.77	11	2	1	1	11	2	50	2000	100	0	0	0	16	0	0	0	10	0	0	0	0	0	8.1	2.12	
36845	791	583	100.96	38	8	1	1	1	2	10	1300	433	24	2	10	17	12	0	0	10	0	25	0	0	1	4.1	12.21	
36523	772	583	100.29-100.24	7	4	1	1	2	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	0	1	3.1	2.62	
36523	772	583	100.29-100.24	7	4	2	1	3	1	10	1020	203	50	0	12	17	12	20	0	10	0	31	2/3	0	2	6.4	14.4	
35265	771.98	573.31-573	100.3-100.48	20	7	1	4	4	2	50	2000	207	12	0	0	12	15	0	0	10	0	0	0	0	0	2.8	0.33	
35265	771.98	573.31-573	100.3-100.48	20	7	2	1	1	2	50	2000	100	12	0	0	12	0	0	0	0	0	0	0	0	0	1	0.16	
35265	771.98	573.31-573	100.3-100.48	20	7	3	1	2	2	50	2000	100	12	0	0	12	12	0	0	10	0	0	0	0	0	2.3	0.26	
35265	771.98	573.31-573	100.3-100.48	20	7	4	1	3	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1.9	0.63	
36427	787	571	101.50	1	1	1	1	1	1	10	1020	308	11	2	10	11	12	13	0	10	0	0	0	0	0	4.8	26.38	
36967	754	596.5	99.83-99.73	20	10	1	2	2	2	50	4010	980	11	0	0	11	0	0	0	10	0	0	0	0	0	2.6	0.39	
36967	754	596.5	99.83-99.73	20	10	1	10	10	2	50	2000	207	12	0	0	12	15	0	0	10	0	0	0	0	0	1.8	2.32	
36032	792.20	581.99	104.02		4	1	1	3	1	10	1020	204	50	1	12	14	12	20	0	10	0	41	6.1	0	4	10.8	21.75	0.944
35496	763	582	105.14	7	2	1	1	1	2	20	2111	531	11	1	10	11	12	0	0	0	0	0	0	0	0	5.1	0.88	
35496	763	582	105.14	7	2	2	1	1	2	20	2111	305	11	1	10	11	12	0	0	0	0	0	0	0	0	6	0.68	
35496	763	582	105.14	7	2	3	1	2	2	23	0	105	72	0	0	17	12	0	0	10	0	0	0	0	0	2.2	0.66	
35496	763	582	105.14	7	2	4	1	1	2	20	2111	304	12	2	10	12	12	0	0	10	0	0	0	0	0	5.1	0.25	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35496	763	582	105.14	7	2	5	1	1	2	20	2111	531	11	2	40	11	12	0	0	0	0	0	0	0	0	3.5	0.3	
35496	763	582	105.14	7	2	6	1	1	2	10	2110	204	52	0	10	15	0	0	0	10	0	0	0	0	0	0.8	0.07	
35496	763	582	105.14	7	2	7	1	1	2	20	2111	932	11	1	10	11	0	0	0	0	0	0	0	0	0	1.9	0.19	
35496	763	582	105.14	7	2	8	1	1	2	20	2111	302	17	2	10	16	12	0	0	10	0	0	0	0	0	2.2	0.13	
35496	763	582	105.14	7	2	9	1	1	2	23	0	0	0	0	0	0		0	0	10	0	14	0	0	0	0.09	0.1	
35525	779.49	573.80	100.97	98	3	1	1	1	1	20	1120	433	11	2	10	11	12	20	0	0	0	0	0	0	0	7.4	3.36	
37041	755	597	99.81-99.21	19	10	1	1	1	2	50	4010	980	12	0	0	12	0	0	0	10	0	0	0	0	0	1.9	0.13	
35559	780	573	100.97-101.08	1	1 screen	1	1	1	2	50	2000	207	50	0	0	12	12	15	0	10	0	0	0	0	0	2.6	0.11	
35773	762	582	103.66-0.56	23	3	1	1	1	1	10	1020	312	11	2	11	11	12	0	0	0	0	0	0	0	0	3.8	8.75	
36154	755	597	99.84	17	9	1	1	1	1	10	1020	433	20	0	0	16	0	0	0	10	0	26	13	1	1	11.5	159.69	
37086	755	596.5	99.76-99.54	17	11	1	1	1	2	40	1000	750	20	0	0	15	0	0	0	10	0	0	0	0	0	2.5	0.06	
37086	755	596.5	99.76-99.54	17	11	1	1	1	2	40	1000	433	20	0	0	14	0	0	0	10	0	0	0	0	0	3.4	0.18	
37064	755	596.5	100.40-100.30	7	5	1	1	2	2	40	1000	750	20	0	0	14	15	0	0	10	0	0	0	0	0	2	0.15	
36529	760	584	99.90-99.82	2	2	1	1	1	2	10	2120	305	17	2	10	16	0	0	0	10	0	0	0	0	0	2.1	0.45	
36529	760	584	99.90-99.82	2	2	2	1	1	2	10	2120	900	24	0	10	16	0	0	0	10	0	0	0	0	0	2.1	0.3	
36529	760	584	99.90-99.82	2	2	3	1	1	0	13	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	2	0.45	
36529	760	584	99.90-99.82	2	2	4	1	1	0	12	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	4.2	0.67	
36529	760	584	99.90-99.82	2	2	5	1	2	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	4.2	1.73	
36529	760	584	99.90-99.82	2	2	6	1	12	0	11	0	207	50	0	0	17	12	13	0	10	0	0	0	0	0	5.4	9.55	
36529	760	584	99.90-99.82	2	2	7	1	1	0	11	0	950	30	0	0	17	12	13	0	10	0	0	0	0	0	3.5	5.31	
36529	760	584	99.90-99.82	2	2	8	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	14	12	0	0	3.9	2.42	
36529	760	584	99.90-99.82	2	2	9	2	3	0	11	0	0	0	0	0	17	12	0	0	10	0	25	0	0	1	2.7	2.71	
35516	779.76	573.30	101.02	116	3	1	1	1	0	11	0	433	22	1	30	17	13	15	0	10	0	0	0	0	0	3.5	2.23	
35516	779.76	573.30	101.02	116	3	1	1	1	0	11	0	303	20	0	30	16	13	15	0	10	0	0	0	0	0	6.2	5.44	
37144	780	572	130.14-133.114	23	3	1	2	2	1	10	1020	220	20	1	0	16	12	0	0	10	0	14	12	0	0	10.3	48.49	
37144	780	572	130.14-133.114	23	3	2	1	1	0	13	1000	434	12	2	10	12	12	13	0	10	0	0	0	0	0	4.1	8.86	
37144	780	572	130.14-133.114	23	3	3	1	1	1	10	1020	220	20	2	0	17	12	0	0	10	0	26	12.1	0	1	7.8	12.45	0.8085
37144	780	572	130.14-133.114	23	3	4	1	1	1	10	1020	204	50	0	0	17	12	0	0	10	0	26	4	0	4	4.9	7.31	0.752
37144	780	572	130.14-133.114	23	3	4	1	2	0	11	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	5	8.19	
36104	755	597	unknown	26	11	1	1	1	1	10	1020	403	64	1	12	17	0	0	0	10	0	25	7	0	1	11.3	33	
36104	755	597	unknown	26	11	2	1	1	0	11	0	401	67	0	0	17	0	0	0	10	0	41	7	0	0	4.8	17.6	
36104	755	597	unknown	26	11	3	1	2	1	10	1020	202	51	0	12	16	12	0	0	10	0	41	1	0	4	7.4	25.11	
36104	755	597	unknown	26	11	4	1	9	0	11	0	950	30	0	0	17	20	0	0	10	0	14	13	0	0	8.4	85.34	
36104	755	597	unknown	26	11	5	1	9	0	11	0	207	51	0	12	17	0	0	0	10	0	12	14	0	0	4.6	10.23	
36104	755	597	unknown	26	11	6	1	1	1	10	1020	222	51	0	0	12	0	0	0	10	0	31	4	2	1	11.9	34.75	
36104	755	597	unknown	26	11	7	1	1	1	10	1020	222	51	0	0	17	0	0	0	10	0	21	4	0	1	5.2	4.93	
36104	755	597	unknown	26	11	8	1	3	1	10	1020	223	51	0	0	15	0	0	0	10	0	32	4	1	4	5	35.64	
36104	755	597	unknown	26	11	9	1	1	1	10	1020	203	53	2	0	15	12	20	0	10	0	42	2/3	2	1	12.2	36.04	
36104	755	597	unknown	26	11	10	1	1	1	10	1020	220	24	2	0	15	0	0	0	10	0	31	12	2	1	10.8	18.14	
36104	755	597	unknown	26	11	11	1	1	1	10	1020	220	24	2	0	17	0	0	0	10	0	31	12	0	1	5.4	9.09	
36104	755	597	unknown	26	11	12	1	1	1	10	1020	220	20	1	0	15	0	0	0	10	0	42	12	0	1	12.1	29	
35394	760	583	100.42-100.37	4	2 screen	1	1	2	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	4	2.27	
35394	760	583	100.42-100.37	4	2 screen	2	1	2	1	10	1020	305	21	0	12	17	12	0	0	10	0	0	0	0	0	2.3	3.3	
35394	760	583	100.42-100.37	4	2 screen	3	1	20	0	11	0	302	41	0	0	17	12	13	0	10	0	14	0	0	0	3.8	13.2	
36449	760	582	101.4-101.44	3	1	1	1	3	0	11	0	0	0	0	0	17	12	0	0	10	0	14	0	0	0	2.8	3.66	
36449	760	582	101.4-101.44	3	1	2	1	1	0	11	0	950	3	0	0	17	12	13	0	10	11	0	0	0	0	4.5	13.48	
36449	760	582	101.4-101.44	3	1	3	1	13	0	11	0	960	0	0	0	0	12	13	0	10	0	0	0	0	0	7.4	26.56	
36449	760	582	101.4-101.44	3	1	4	1	13	0	11	0	207	50	0	12	17	12	0	0	30	0	31	14	0	0	5.8	27.27	
36449	760	582	101.4-101.44	3	1	5	1	4	0	12	0	303	74	0	0	17	12	0	0	10	0	0	0	0	0	3	8.05	
36449	760	582	101.4-101.44	3	1	6	1	36	0	12	0	960	0	0	0	0	12	13	0	30	0	0	0	0	0	3.4	16.06	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
36449	760	582	101.4-101.44	3	1	7	1	1	0	23	0	220	24	2	0	15	12	0	0	10	0	0	0	0	0	3.8	0.16	
36449	760	582	101.4-101.44	3	1	8	1	3	0	12	0	950	30	0	12	17	12	0	0	10	0	0	0	0	0	6.6	8.45	
36545	760	582	100.49-100.44	4	2	1	1	2	0	13	0	220	24	0	40	17	0	0	0	10	0	41	12	0	4	4	1.09	
36545	760	582	100.49-100.44	4	2	2	1	2	0	12	0	207	28	0	12	17	0	0	0	10	0	0	0	0	0	2.2	0.89	
36545	760	582	100.49-100.44	4	2	3	1	1	0	12	0	401	73	0	12	17	12	0	0	10	0	41	0	1	0	4.5	5.14	
36545	760	582	100.49-100.44	4	2	4	2	5	0	11	0	203	53	0	12	17	12	0	0	30	0	32	2/3	0	1	3.3	7.67	
36545	760	582	100.49-100.44	4	2	5	2	14	0	11	0	950	30	0	0	17	12	0	0	10	0	32	13	1	1	6.9	57.8	
36545	760	582	100.49-100.44	4	2	6	1	1	0	11	0	207	51	0	12	17	0	0	0	10	0	25	14	0	1	2.8	1.75	
36545	760	582	100.49-100.44	4	2	7	1	4	0	12	0	0	0	0	0	17	12	0	0	10	0	14	0	0	0	5.4	4.79	
36545	760	582	100.49-100.44	4	2	8	1	8	0	11	0	303	30	2	12	17	0	0	0	10	0	14	5	0	1	4.1	19.06	
36545	760	582	100.49-100.44	4	2	9	1	7	0	11	0	204	51	0	12	17	12	0	0	10	0	25	6	0	0	4.3	12.4	
36545	760	582	100.49-100.44	4	2	10	1	1	0	12	0	0	74	0	10	17	0	0	0	30	0	25	0	0	0	2.2	1.19	
36545	760	582	100.49-100.44	4	2	11	2	56	0	12	0	0	0	0	0	17	13	20	0	30	0	25	0	0	0	3.1	22.36	
56607	763.58	582.66	104.79	5	1	1	1	1	2	20	2111	531	11	2	10	11	12	0	0	0	0	0	0	0	0	5.3	0.71	
56607	763.58	582.66	104.79	5	1	2	1	1	2	20	2111	304	11	2	10	11	12	0	0	0	0	0	0	0	0	7	0.46	
56607	763.58	582.66	104.79	5	1	3	1	1	2	20	2111	305	11	2	10	11	12	0	0	0	0	0	0	0	0	7.7	1.18	
56607	763.58	582.66	104.79	5	1	4	1	1	2	20	2111	309	11	2	10	11	12	0	0	0	0	0	0	0	0	1	0.09	
36850	791	583	100.96	38	8	1	1	2	2	10	1300	203	12	0	12	12	12	0	0	10	0	31	3	0	1	5.2		
37068	755	596.5	100.30-100.20	8	6	1	1	1	2	40	1000	750	12	0	0	12	12	15	0	10	0	0	0	0	0	4.1	0.23	
36929	754	596.5	100.12-100.03	11	7	1	1	1	1	10	1020	204	51	0	10	17	0	0	0	10	0	32	6	0	4	4	6.74	
36966	754	596.5	99.98-99.73	20	10	1	1	1	2	10	2110	459	22	0	18	12	0	0	0	0	0	0	0	0	0	2.8	0.16	
36966	754	596.5	99.98-99.73	20	10	1	1	1	2	10	2110	459	22	0	18	12	0	0	0	0	0	0	0	0	0	2.8	0.19	
36685	779	573	101.02	55	2	1	1	1	1	20	1120	530	12	2	10	12	12	0	0	10	0	0	0	0	0	4.9	1.11	
37049	755	597	99.81-99.21	19	10	1	1	1	1	10	1400	203	50	0	12	14	12	0	0	10	0	43	33	0	2	4.7	10.14	
37049	755	597	99.81-99.21	19	10	2	1	1	1	10	1400	204	55	0	0	17	13	0	0	10	0	31	36	0	2	4.2	3.6	
37049	755	597	99.81-99.21	19	10	3	1	1	0	11	0	205	51	0	12	17	0	0	0	10	0	25	6	0	2	5.2	7.23	
35506	779.40	573.35	100.98	93	3	1	1	3	1	10	1020	403	64	2	12	17	12	13	0	10	0	31	7	0	1	13.7	105.58	
36852	791	583	100.96	38	8	1	1	1	0	11	1000	433	22	0	12	15	12	13	0	10	0	15	8	0	1	8.1	18.86	
35712	763.66	582.05	104.78	35	2	1	1	1	1	10	1020	433	20	2	0	17	12	0	0	10	0	26	13.1	0	1	7.1	83.89	2.3155
35771	762.02	582.14	103.66-0,56	21	3	1	1	2	1	10	1400	304	12	1	18	12	12	20	0	30	0	0	0	0	0	10.8	26.56	
35545	779.67	573.07	100.98	91	3	1	1	1	1	10	1020	302	41	2	0	17	12	0	0	10	0	15	2.1	2	1	10.8	76.47	1.3565
35457	763.90	582.30	104.48	3	1	1	1	1	1	10	1400	220	17	1	12	15	12	0	0	10	0	0	0	0	0	8.1	2.58	
35692	763.95	582.58	104.75	48A	2	1	4	4	2	10	2120	317	11	0	10	11	12	0	0	0	0	0	0	0	0	2.8	0.87	
35692	763.95	582.58	104.75	48A	2	2	4	4	2	10	2120	931	11	0	10	11	12	0	0	0	0	0	0	0	0	1.2	0.38	
35692	763.95	582.58	104.75	48A	2	3	3	3	2	10	2120	932	11	0	10	11	12	0	0	0	0	0	0	0	0	0.07	0.17	
35692	763.95	582.58	104.75	48A	2	4	2	2	2	10	2120	933	11	0	10	11	12	0	0	0	0	0	0	0	0	1.1	0.08	
35692	763.95	582.58	104.75	48A	2	5	3	3	2	10	2120	304	11	1	10	17	12	0	0	10	0	14	0	0	0	2.7	0.58	
35692	763.95	582.58	104.75	48A	2	6	3	3	2	10	2120	303	11	1	10	17	12	0	0	10	0	14	0	0	0	2.7	0.11	
35692	763.95	582.58	104.75	48A	2	7	16	16	2	10	2120	970	11	0	10	11	12	0	0	0	0	0	0	0	0	0.07	0.35	
35980	755	597	unknown	42	15	1	1	1	1	20	1120	931	17	0	10	15	12	0	10	10	0	0	0	0	0	1.3	0.13	
35473	763	582	105.14	1	1	1	1	1	2	20	1151	531	11	1	10	11	12	0	0	0	0	0	0	0	0	3.6	0.53	
35473	763	582	105.14	1	1	2	1	1	2	50	0	831	12	0	0	12	12	0	0	10	0	0	0	0	0	3.8	0.3	
36928	754	596.5	100.12-100.03	11	7	1	1	1	1	10	1020	202	57	0	0	17	12	13	0	10	0	43	1	1	4	3.8	14.05	
35701	763.95	582.58	104.75	48C	2	1	1	1	1	10	1020	220	24	2	0	17	12	0	0	10	0	31	12	0	1	4.1	6.94	
35701	763.95	582.58	104.75	48C	2	2	1	1	1	10	1020	205	56	0	0	17	0	0	0	10	0	20	6	0	2	6.1	15.39	
35701	763.95	582.58	104.75	48C	2	3	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	6.3	1.82	
35701	763.95	582.58	104.75	48C	2	4	1	1	0	11	0	0	0	0	0	17	0	0	0	10	0	0	0	0	0	1.8	0.4	
35789	763.82	582.05	104.74	54	3	1	1	13	2	50	2010	100	12	0	0	12	12	15	0	10	0	0	0	0	0	6	5.92	
35789	763.82	582.05	104.74	54	3	2	1	1	2	50	2010	989	12	1	0	12	12	15	0	10	0	0	0	0	0	0.13	2	
35789	763.82	582.05	104.74	54	3	3	1	1	2	50	2010	989	12	2	0	12	12	15	0	10	0	0	0	0	0	0.13	2.1	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35789	763.82	582.05	104.74	54	3	4	2	2	2	50	2010	220	12	0	0	12	12	15	0	10	0	0	0	0	0	3.8	0.21	
35789	763.82	582.05	104.74	54	3	5	1	1	2	50	2010	990	12	0	0	12	12	15	0	10	0	0	0	0	0	3.7	0.69	
35789	763.82	582.05	104.74	54	3	6	1	1	2	50	2010	981	12	2	0	12	12	15	0	10	0	0	0	0	0	3.3	0.42	
35789	763.82	582.05	104.74	54	3	7	1	1	2	50	2010	981	12	1	0	12	12	15	0	10	0	0	0	0	0	2.8	0.39	
35789	763.82	582.05	104.74	54	3	8	1	1	2	50	2010	986	12	1	0	12	12	15	0	10	0	0	0	0	0	3.5	0.92	
35789	763.82	582.05	104.74	54	3	9	1	1	2	50	2010	982	12	2	0	12	12	15	0	10	0	0	0	0	0	3.2	0.51	
35789	763.82	582.05	104.74	54	3	10	1	1	2	50	2010	982	12	1	0	12	12	15	0	10	0	20	fish	0	1	2.8	0.68	
35789	763.82	582.05	104.74	54	3	11	1	1	2	50	2010	983	12	2	0	12	12	15	0	10	0	0	0	0	0	1.4	0.23	
35789	763.82	582.05	104.74	54	3	12	1	1	2	50	2010	983 / 98	12	1	0	12	12	15	0	10	0	0	0	0	0	3	0.51	
36843	791	583	100.96	36	8	1	1	1	2	10	1300	439	11	2	10	11	12	0	0	0	0	0	0	0	0	7.1	15.72	
35740	763	582	unknown	7	2	1	1	1	2	10	5210	221	12	1	10	12	0	0	0	10	0	0	0	0	0	2	0.11	
35740	763	582	unknown	7	2	1	1	2	2	10	5210	302	40	2	10	15	0	0	0	10	0	14	rodent	0	2	0.08	0.07	
35708	763.95	582.15	105.11	31	2	1	1	1	2	20	1130	202	51	0	10	15	12	0	0	10	0	14	turkey	0	1	3.3	1.06	
35987	755	597	unknown	38	14	1	1	1	1	10	1400	203	12	0	30	12	0	0	0	0	0	0	0	0	0	3.8	3.21	
35737	763	582	unknown	7	2	1	1	1	2	13	0	203	50	1	30	16	0	0	0	0	0	25	2/3	0	2	3	2.61	
37434	755	574	screen	11	6	1	1	1	2	20	2111	520	11	0	10	11	12	0	0	0	0	0	0	0	0	4.1	0.83	
37434	755	574	screen	11	6	2	1	1	0	11	0	207	57	0	0	17	0	0	0	0	0	0	0	0	31	3.2	8.48	
37434	755	574	screen	11	6	3	1	1	0	11	0	0	0	0	0	0	12	0	0	0	0	0	0	0	0	6.9	5.48	
35700	763.76	582.70	104.87	32	2	1	1	1	2	10	1300	202	64	0	10	15	12	0	0	30	0	29	1	0	1	3.8	19.89	
35700	763.76	582.70	104.87	32	2	2	1	2	2	10	1300	202	11	0	10	11	12	0	0	30	0	0	1	0	0	6.2	24.09	
35700	763.76	582.70	104.87	32	2	3	1	1	2	10	1300	202	65	0	10	16	12	0	0	30	0	29	1	0	1	3.8	13.37	
37190	780	573		22	2	1	1	2	1	10	1020	433	21	2	12	17	12	0	0	10	0	26	8	0	1	9.2	176.94	
35491	763.15	582.82	104.78	12	2	1	1	1	1	10	1400	203	60	0	12	15	12	0	0	10	0	14	32/33	0	2	13.9	13.46	
35491	763.15	582.82	104.78	12	2	2	1	2	1	10	1400	203	60	0	12	15	12	20	0	10	0	14	32/33	0	2	6.8	6.5	
35491	763.15	582.82	104.78	12	2	3	1	2	1	10	1400	203	60	0	12	15	12	0	0	10	0	14	32/33	0	2	2.2	3.39	
35686	763.75	582.13	104.82	30	2	1	1	1	1	13	0	220	20	0	0	17	12	0	0	10	0	15	12	2	1	4.9	2.64	
35686	763.75	582.13	104.82	30	2	2	3	3	1	10	1020	222	0	0	0	15	0	0	0	10	0	15	4	1	1	3.5	20.27	
35686	763.75	582.13	104.82	30	2	3	1	1	1	10	1020	220	24	1	12	15	12	20	0	10	0	25	12	0	1	15.1	20.83	
35686	763.75	582.13	104.82	30	2	4	1	5	1	11	0	0	0	0	0	17	12	0	0	10	0	31	0	0	0	5.6	12.89	
35686	763.75	582.13	104.82	30	2	5	1	1	1	20	2111	530	11	2	10	11	12	0	0	0	0	0	0	0	0	5.5	1.55	
35686	763.75	582.13	104.82	30	2	6	1	1	1	20	2111	537	11	0	10	11	12	0	0	0	0	0	0	0	0	1.8	0.06	
35774	762	582	103.66-0.56	23	3	1	1	1	0	13	0	0	0	0	0	0	12	0	0	10	0	0	25	0	3	4.4	1.94	
35774	762	582	103.66-0.56	23	3	2	1	1	0	13	0	220	20	0	0	17	0	0	0	10	0	31	12	0	1	5.3	3.48	
35774	762	582	103.66-0.56	23	3	3	1	1	0	13	0	0	0	0	12	17	0	0	0	10	0	20	0	1	0	1	0.76	
35774	762	582	103.66-0.56	23	3	4	4	4	0	13	0	222	0	0	0	0	0	0	0	10	0	15	4	0	1	1.7	3.07	
35774	762	582	103.66-0.56	23	3	5	1	1	0	13	0	0	0	0	12	17	0	0	0	10	0	14	0	0	0	1.4	0.59	
35774	762	582	103.66-0.56	23	3	6	1	1	0	13	0	0	0	0	0	17	12	0	0	10	0	14	0	0	0	2.1	0.61	
35774	762	582	103.66-0.56	23	3	7	1	1	0	13	0	207	51	0	0	17	0	0	0	10	0	14	0	0	2	2.6	1.79	
35774	762	582	103.66-0.56	23	3	8	1	2	0	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	5.7	11.88	
35774	762	582	103.66-0.56	23	3	9	1	4	0	11	0	220	20	0	0	17	12	0	0	10	0	14	12	0	1	4	4.19	
35774	762	582	103.66-0.56	23	3	10	1	2	0	13	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	6.5	2.13	
35774	762	582	103.66-0.56	23	3	11	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	15	12	0	1	5	0.67	
35774	762	582	103.66-0.56	23	3	12	1	1	0	13	0	0	0	0	12	17	12	0	0	10	0	14	0	0	0	2.2	0.62	
35774	762	582	103.66-0.56	23	3	13	1	6	0	13	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	3	4.6	
35774	762	582	103.66-0.56	23	3	14	1	1	0	11	0	950	74	0	10	17	0	0	0	10	0	31	0	0	0	4.3	6.15	
35774	762	582	103.66-0.56	23	3	15	1	1	2	50	3010	988	12	0	0	12	12	0	0	10	0	0	0	0	0	3.2	0.28	
35774	762	582	103.66-0.56	23	3	16	1	1	2	50	3000	987	12	0	0	12	12	0	0	10	0	0	0	0	0	1.99	0.14	
35774	762	582	103.66-0.56	23	3	17	1	1	2	50	3000	987	12	0	0	12	12	0	0	10	0	0	0	0	0	3.4	0.4	
35774	762	582	103.66-0.56	23	3	18	1	1	2	10	5210	165	0	2	0	15	12	0	0	10	0	0	0	0	0	3	0.99	
35774	762	582	103.66-0.56	23	3	19	1	1	2	10	5210	401	12	2	0	12	12	0	0	10	0	0	0	0	0	4.4	0.78	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
35774	762	582	103.66-0.56	23	3	20	1	1	2	10	2110	161	12	2	10	12	12	0	0	10	0	0	0	0	0	4.1	0.84	
35774	762	582	103.66-0.56	23	3	21	1	2	2	10	2110	163	0	1	10	16	12	0	0	10	0	0	0	0	0	1.9	0.27	
35774	762	582	103.66-0.56	23	3	22	1	1	2	10	2110	305	12	2	10	12	12	0	0	10	0	0	0	0	0	3.7	0.33	
35774	762	582	103.66-0.56	23	3	23	1	2	0	14	0	220	20	1	0	16	12	0	0	10	0	0	0	0	0	4.8	1.26	
35774	762	582	103.66-0.56	23	3	24	1	1	2	20	1150	531	12	1	0	12	12	0	0	10	0	0	0	0	0	3.7	0.46	
35774	762	582	103.66-0.56	23	3	25	1	1	2	20	1150	303	14	1	10	16	12	0	0	10	0	0	0	0	0	2	0.64	
35774	762	582	103.66-0.56	23	3	26	1	1	2	20	1150	530	14	2	10	16	12	0	0	10	0	0	0	0	0	2.2	0.33	
35774	762	582	103.66-0.56	23	3	27	1	1	2	20	1150	530	14	1	10	16	12	0	0	10	0	0	0	0	0	3	0.43	
35774	762	582	103.66-0.56	23	3	28	1	1	2	20	1150	302	14	1	10	17	12	0	0	10	0	0	0	0	0	2	0.21	
35774	762	582	103.66-0.56	23	3	29	1	1	2	20	1150	540	24	2	10	14	12	0	0	10	0	14	sage he	0	3	5.7	0.65	
35774	762	582	103.66-0.56	23	3	30	1	1	2	20	1150	540	24	1	10	14	12	0	0	10	0	0	0	0	0	4.8	0.66	
35774	762	582	103.66-0.56	23	3	31	1	1	2	20	1150	542	20	1	0	15	12	13	0	10	11	0	0	0	0	3.4	0.38	
35774	762	582	103.66-0.56	23	3	32	1	1	2	20	1150	411	0	2	10	16	12	0	0	10	0	0	0	0	0	3.6	0.81	
35774	762	582	103.66-0.56	23	3	33	1	1	2	20	1000	305	20	0	0	14	12	9	9	19	0	0	0	0	0	4.7	0.26	
35774	762	582	103.66-0.56	23	3	34	1	1	2	20	1000	950	20	0	0	17	12	0	0	10	0	0	0	0	0	3.2	0.23	
35774	762	582	103.66-0.56	23	3	35	1	1	2	50	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	2.2	0.04	
35774	762	582	103.66-0.56	23	3	36	1	1	2	50	1000	207	12	0	0	12	12	15	0	10	0	0	0	0	0	2.4	0.15	
35774	762	582	103.66-0.56	23	3	37	1	1	2	50	1000	985	12	1	0	12	12	0	0	10	0	0	0	0	0	2.2	0.12	
35774	762	582	103.66-0.56	23	3	38	1	1	2	50	1000	985	12	2	0	12	12	0	0	10	0	0	0	0	0	2.8	0.12	
35774	762	582	103.66-0.56	23	3	39	1	1	2	50	1000	984	12	0	0	12	12	0	0	10	0	0	0	0	0	1.9	0.12	
35722	763	582	unknown	7	2	1	1	1	2	50	3010	987	12	0	0	12	12	0	0	10	0	0	0	0	0	1.8	0.1	
35722	763	582	unknown	7	2	2	1	1	2	50	2010	986	12	0	0	12	12	0	0	10	0	0	0	0	0	3.5	0.96	
35722	763	582	unknown	7	2	3	1	1	2	50	1000	984	12	0	0	12	12	0	0	10	0	0	0	0	0	3.4	0.77	
35722	763	582	unknown	7	2	4	1	1	2	50	0	100	0	0	0	12	12	0	0	10	0	0	0	0	0	2.3	0.06	
35722	763	582	unknown	7	2	5	1	1	2	50	0	0	0	0	0	12	12	0	0	10	0	0	0	0	0	2.3	0.28	
35776	762.95	582.74	103.74-0.66	10	3	1	1	2	0	13	0	220	17	1	10	15	12	17	19	10	0	0	0	0	0	10.2	3.63	
35705	763.79	582.49	104.83	42	2	1	1	1	2	10	1300	434	11	1	10	11	12	0	0	0	0	0	0	0	0	3.1	8.06	
35391	760	583	100.54-100.49	1	1 screen	1	1	1	1	10	1020	314	12	1	10	12	12	13	0	30	0	0	0	0	0	3.8	17.27	
35530	779.87	573.85	100.98	121	3	1	1	1	2	20	2111	303	12	2	10	12	12	20	0	10	0	0	0	0	0	7.2	1.46	
9980	792	580	105.14	2	2	1	1	1	2	20	2111	520	0	0	10	15	12	0	0	10	0	0	0	0	0	3.2	0.25	
36683	779	573	101.04	53	2	1	1	1	0	13	0	950	20	0	0	0	12	0	0	10	0	15	0	0	1	8.3	4.14	
36846	791	583	100.96	38	8	1	1	1	2	10	1300	447	12	2	10	12	12	0	0	10	0	31	8	0	3	2.6	3.87	
35738	763	582	unknown	7	2	1	1	1	1	12	0	220	13	0	12	17	0	0	0	0	0	0	0	0	0	1.7	0.56	
36849	791	583	100.96	38	8	1	1	2	2	10	1300	203	12	0	12	12	12	0	0	10	0	31	0	2	1	4.6	4.42	
35795	763	582	unknown	unknow	3	1	1	1	2	10	1520	437	11	1	10	11	0	0	0	0	0	0	0	0	0	2	1.31	
35401	793.25	581.22	103.94	5	2	1	1	1	1	10	1020	434	12	2	10	12	12	0	0	10	0	29	8	0	1	5.8	42.64	
35999	755	597	unknown	26	11	1	2	2	2	50	1000	207	11	0	0	11	0	0	0	0	0	0	0	0	0	1.9	0.32	
35999	755	597	unknown	26	11	2	2	6	2	50	4010	980	12	0	0	12	0	0	0	10	0	0	0	0	0	2.9	0.74	
35667	752.28	560.20	101.3-101.2	32	3	1	1	3	1	10	1400	435	20	0	0	16	12	15	0	10	0	31	13	1	1	8.8	38.95	
35792	763.76	582.0	104.74	55	3	1	1	1	2	20	2111	304	12	1	10	12	12	0	0	0	0	0	0	0	0	7	0.61	
35792	763.76	582.0	104.74	55	3	2	1	1	2	20	2111	305	12	1	10	12	12	0	19	10	0	0	0	0	0	7.1	1.46	
35292	759.54	559.85	104.24	4	4	1	1	1	1	10	1400	202	51	0	12	16	12	13	0	30	0	31	0	0	0	4.6	5.37	
35801	793.72	580.24	104.04	4	2	1	1	3	1	10	1020	304 /305	24	1	12	16	0	0	0	10	0	25	20	0	1	11.6	179.36	
35801	793.72	580.24	104.04	4	2	2	1	1	1	10	1020	308	11	1	10	11	0	0	0	0	0	0	0	0	0	4.3	17.47	
35801	793.72	580.24	104.04	4	2	3	1	1	1	10	1020	307	11	1	10	11	0	0	0	0	0	0	0	0	0	4	19.16	
35801	793.72	580.24	104.04	4	2	4	1	1	1	10	1020	309	11	1	10	11	0	0	0	0	0	0	0	0	0	4.1	14.51	
35801	793.72	580.24	104.04	4	2	5	1	1	1	10	1020	314	11	1	10	11	0	0	0	0	0	0	0	0	0	2.4	7.32	
35691	763.72	582.20	104.72	40	2	1	1	1	0	13	0	220	24	1	0	16	12	0	0	10	0	31	12	2	1	6.2	2.51	
35691	763.72	582.20	104.72	40	2	2	1	1	0	13	0	222	0	0	0	14	0	0	0	30	0	0	0	0	0	4.9	1.28	
36921	754	596.5	100.04-99.92	12	8	1	1	2	1	10	1400	170	0	1	10	17	11	13	0	10	0	14	M	0	2	4.2	8.99	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
36544	760	582	100.49-100.44	4	2	1	1	1	1	12	0	0	0	0	0	17	12	0	0	30	0	26	14	1	1	3	7.59	1.166
36467	761	582	100.48-100.46	10	3	1	1	1	1	10	1020	434	12	1	10	12	12	0	0	10	0	29	8	0	1	4.5	38.44	
36329	755.60	572.83	101.11	4	2	1	1	6	1	10	1020	303	21	1	10	17	12	13	0	10	0	14	5	5	3	4.6	29.92	
36468	761	582	100.48-100.46	10	2	1	1	1	1	10	1020	175	12	0	0	12	12	0	0	10	0	0	0	0	0	4.9	14.56	
36468	761	582	100.48-100.46	10	2	2	1	1	0	13	0	207	51	0	0	17	12	0	0	10	0	15	14	0	1	3	1.37	
36468	761	582	100.48-100.46	10	2	3	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	5.2	2.11	
36468	761	582	100.48-100.46	10	2	4	1	1	0	12	0	207	51	0	0	17	11	12	0	10	0	15	0	0	0	2.5	5.1	
36468	761	582	100.48-100.46	10	2	5	1	1	0	11	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	6.2	5.25	
36468	761	582	100.48-100.46	10	2	6	1	1	0	12	0	950	0	0	0	17	12	0	0	10	0	0	0	0	0	3.2	2.51	
36468	761	582	100.48-100.46	10	2	7	3	3	0	10	1020	222	0	0	0	15	20	0	0	10	0	14	4	1	0	5.8	14.6	
36468	761	582	100.48-100.46	10	2	8	1	1	0	10	1020	401	67	0	0	17	12	20	0	10	0	15	6	3	2	13.3	48.49	
37405	755	566			wall clea	1	1	1	2	10	1300	435	20	2	0	17	12	0	0	30	0	13	8	0	1	5.5	10.32	
37405	755	566			wall clea	2	1	3	2	10	1300	202	12	0	12	12	12	0	0	30	0	14	1	0	2	4.1	8.53	
37405	755	566			wall clea	3	1	4	2	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.5	0.92	
37405	755	566			wall clea	4	1	4	2	10	1300	143	0	0	0	17	12	13	0	30	0	0	0	0	0	4.3	5.97	
37405	755	566			wall clea	5	1	1	2	10	1300	161	11	1	40	11	12	13	0	0	0	0	0	0	0	17	18.77	
35991	755	597	unknown	38	14	1	1	1	1	10	1400	161	12	1	40	12	0	0	0	10	0	14	M	0	2	12.5	21.06	
35991	755	597	unknown	38	14	2	1	18	1	10	1400	103	comment:	0	40	17	0	0	0	10	0	0	0	0	0	4.8	35.84	
35991	755	597	unknown	38	14	3	1	2	1	10	1400	202	12	0	30	12	0	0	0	0	0	0	0	0	0	2.8	4.18	
35991	755	597	unknown	38	14	4	1	2	1	10	1020	220	24	1	0	16	0	0	0	10	0	0	0	0	0	13.5	27.06	
35991	755	597	unknown	38	14	4	1	1	1	10	1020	203	53	0	10	16	0	0	0	10	0	14	14	0	1	10.1	18.4	
35991	755	597	unknown	38	14	4	1	1	1	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	4.2	3.23	
35495	763	582	105.14	7	2	1	1	1	1	10	1020	434	14	1	10	16	12	0	0	10	0	25	8	0	1	3.3	6.1	
35495	763	582	105.14	7	2	2	1	1	0	11	0	220	20	0	0	17	0	0	0	10	0	0	0	0	1	3	2.49	
35495	763	582	105.14	7	2	3	1	1	0	11	0	207	51	0	0	17	12	0	0	10	0	26	14	1	4	3.1	5.96	0.991
35495	763	582	105.14	7	2	4	1	2	0	11	0	204	51	0	12	17	12	0	0	10	0	32	6	0	1	5.2	9.91	
35495	763	582	105.14	7	2	5	1	1	0	11	0	206	51	0	0	17	12	0	0	10	0	32	11	1	1	4.3	4.56	
35495	763	582	105.14	7	2	6	4	4	0	13	0	220	20	0	0	16	12	0	0	10	0	14	12	0	1	7.1	8.82	
35495	763	582	105.14	7	2	7	9	9	0	12	0	0	0	0	0	17	12	0	0	30	0	0	0	0	0	4.8	5.34	
35495	763	582	105.14	7	2	8	1	1	0	12	0	222	0	0	0	17	12	0	0	10	0	31	0	0	0	2.8	1.22	
35495	763	582	105.14	7	2	9	3	3	0	12	0	220	20	0	0	17	12	0	0	10	0	15	12	1	0	3.2	4.56	
36764	779	573	101.02-100197	77	3	1	1	1	1	20	1120	302	15	1	10	16	12	0	0	10	0	0	0	0	0	3.7	0.42	
36764	779	573	101.02-100197	77	3	1	1	1	1	20	1120	302	15	2	10	16	12	0	0	10	0	0	0	0	0	3.3	0.42	
36764	779	573	101.02-100197	77	3	1	1	1	1	20	1120	303	15	1	10	17	12	0	0	10	0	0	0	0	0	2	0.31	
37396	779-781	572-575	screen	132		1	1	4	0	11	0	207	51	0	12	17	12	0	0	10	12	31	14	0	1	2.8	9.7	
37396	779-781	572-575	screen	132		2	1	1	0	23	0	950	20	0	0	16	12	14	0	10	12	0	0	0	0	3.1	0.29	
37396	779-781	572-575	screen	132		3	2	2	0	23	0	950	20	0	0	17	12	14	0	10	12	0	0	0	0	2.4	0.17	
37396	779-781	572-575	screen	132		4	1	1	0	20	1120	530	20	1	0	15	12	14	0	10	12	0	0	0	0	3	0.36	
35517	779.44	573.82	100.96	92	3	1	1	1	1	20	1120	540	11	2	10	11	12	0	0	0	11	0	0	0	0	10.5	3.87	
35714	763.92	582.67	104.84	37B	2	1	1	1	1	20	1120	510	51	0	0	16	12	0	0	10	0	0	0	0	0	4.5	0.82	
35472	763	582	105.14	1	1	1	1	1	0	11	0	950	30	0	0	17	0	0	0	10	0	31	0	0	1	5.1	3.15	
35472	763	582	105.14	1	1	2	1	1	0	12	0	222	20	0	0	15	0	0	0	10	0	15	0	1	1	2.4	1.09	
35472	763	582	105.14	1	1	3	1	1	0	12	0	0	0	0	0	15	12	0	0	10	0	0	0	0	0	2.3	0.67	
35472	763	582	105.14	1	1	4	2	3	0	11	0	207	51	0	12	17	12	13	0	10	0	15	0	0	0	2.5	2.02	
35472	763	582	105.14	1	1	5	1	1	1	10	1020	220	13	0	12	17	12	0	0	0	0	0	0	0	0	2.4	1.41	
36155	755.40	597.60	99.81	16	9	1	1		1	10	1020	433	23	2	12	17	0	0	0	10	0	32	8	1	1	7.5	48.7	
36151	755	597	100.21-100.12	9	6	1	1	3	0	11	0	207	51	0	12	17	0	0	0	10	0	15	14	0	4	4.1	7.94	
36151	755	597	100.21-100.12	9	6	2	5	3	0	11	0	203	57	0	0	17	11	13	0	10	0	14	1	0	1	3.4	6.43	
36151	755	597	100.21-100.12	9	6	3	1	3	0	11	0	0	0	0	10	17	12	0	0	10	0	26	0	0	4	6.8	16.57	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY FROM THE BAG	Quantity	# of pieces	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	Nat. Mod. 1	Nat. Mod. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
36170	755	597	unknown	13	8	1	1	1	1	10	1020	433	20	2	0	17	12	13	0	10	0	26	8	1	1	7.8	90.96	7.8
36170	755	597	unknown	13	8	2	1	1	1	10	1020	433	20	2	0	17	12	13	0	10	0	26	8	1	1	5.2	30.58	5.2
36170	755	597	unknown	13	8	3	1	1	2	10	1020	203	51	0	12	17	12	0	0	10	0	32	14	0	4	4.1	12.36	
36170	755	597	unknown	13	8	4	1	2	1	10	1020	402	66	1	10	17	0	0	0	0	0	0	0	0	0	7	17.3	
36170	755	597	unknown	13	8	5	1	20	1	11	0	950	30	0	0	17	0	0	0	10	0	0	0	0	0	5.7	88.86	
36170	755	597	unknown	13	8	6	1	1	1	11	0	207	51	0	0	17	0	0	0	10	0	14	14	0	0	3.2	2.59	
36170	755	597	unknown	13	8	7	22	22	1	11	0	0	0	0	0	17	0	0	0	10	0	0	0	0	0	4.1	18.61	
36170	755	597	unknown	13	8	8	1	1	1	13	0	220	20	0	0	17	0	0	0	10	0	14	12	0	1	3.5	1.92	

APPENDIX D – OLD BEDLAM CELLARS – OFFICERS

SITE #: 48G01 Excavation Year: 1998 Access #: 893-1998

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28312	821	416	surface 104.89	2	1	1	1	1	1	10	1020	402	66	1	12	17	12	0	0	10	0	26	6	0	5	23.4	141.7	
28312	821	416	surface 104.89	2	1	2	1	1	1	10	1020	402	67	2	12	17	0	0	0	10	0	26	6.1	0	4	12.1	16.57	1.0675
28312	821	416	surface 104.89	2	1	3	1	1	1	10	1020	402	67	1	0	17	0	0	0	10	0	26	6.1	0	5	9.9	32.07	0.8875
28312	821	416	surface 104.89	2	1	4	1	1	1	10	1020	402	67	1	0	17	0	0	0	10	0	26	6.1	0	5	6.8	26.24	0.8795
28312	821	416	surface 104.89	2	1	5	1	1	1	10	1020	402	67	2	0	17	0	0	0	10	0	26	6.1	0	5	8.4	5.42	5.42
28312	821	416	surface 104.89	2	1	6	1	1	1	10	1020	402	67	1	0	17	0	0	0	10	0	26	6.1	0	5	7.2	18.53	0.648
28312	821	416	surface 104.89	2	1	7	1	1	1	10	1020	204	50	0	10	17	20	0	0	10	0	26	6.1	0	5	7.1	17.03	1.2325
28312	821	416	surface 104.89	2	1	8	1	1	1	10	1020	204	50	0	0	17	0	0	0	10	0	26	6.1	0	5	8.7	26.02	1.365
28312	821	416	surface 104.89	2	1	9	1	1	1	10	1020	204	55	0	0	17	0	0	0	10	0	14	6	0	5	2.4	6.49	
28312	821	416	surface 104.89	2	1	10	1	1	1	10	1020	204	55	0	0	17	0	0	0	10	0	14	6	0	5	3.7	8	
28312	821	416	surface 104.89	2	1	11	1	1	1	10	1020	204	55	0	0	17	0	0	0	10	0	15	6	0	5	4.1	5.26	
28312	821	416	surface 104.89	2	1	12	1	1	1	10	1020	204	54	1	0	17	0	0	0	10	0	14	6	0	5	4.6	1.21	
28312	821	416	surface 104.89	2	1	13	1	1	1	10	1020	204	54	1	0	17	0	0	0	30	0	0	0	0	0	5.4	3.52	
28312	821	416	surface 104.89	2	1	14	1	1	1	10	1020	205	51	1	12	17	0	0	0	10	0	26	6.1	0	5	11.1	43.06	0.9905
28312	821	416	surface 104.89	2	1	15	1	1	1	10	1020	205	51	1	12	17	0	0	0	10	0	32	6	0	5	4.5	16.03	
28312	821	416	surface 104.89	2	1	16	1	1	1	10	1020	205	51	1	0	17	0	0	0	10	0	26	6.1	0	5	6.6	12.9	0.8085
28312	821	416	surface 104.89	2	1	17	1	1	1	10	1020	205	51	1	11	17	0	0	0	10	0	26	6.1	0	5	7.8	16.83	1.202
28312	821	416	surface 104.89	2	1	18	1	1	1	10	1020	205	51	1	12	17	0	0	0	10	0	41	6	0	5	4.4	3.79	
28312	821	416	surface 104.89	2	1	19	1	1	1	10	1020	205	28	0	12	17	0	0	0	10	0	14	6	3	2	4.6	8.52	
28312	821	416	surface 104.89	2	1	20	1	1	1	10	1020	205	28	0	12	17	0	0	0	10	0	25	6	0	3	5.4	4.27	
28312	821	416	surface 104.89	2	1	13	1	1	1	10	1020	207	51	0	12	17	0	0	0	10	0	41	14	0	5	2.5	0.69	
28335	821	416	surface 104.89	5	2	1	1	1	1	10	1020	402	66	2	12	17	12	0	0	10	0	26	6.1	0	5	13.4	37.9	1.09
28335	821	416	surface 104.89	5	2	2	1	1	1	10	1020	402	67	2	12	17	0	0	17	10	0	26	6.1	4	5	12.5	41.59	1.1395
28335	821	416	surface 104.89	5	2	3	1	1	1	10	1020	402	67	1	12	17	0	0	0	10	0	26	6.1	2	5	7.7	50.83	1.2545
28336	821	416	surface 104.89	5	2	1	1	1	1	10	1020	204	51	0	0	17	0	0	0	10	0	26	6.1	0	5	7.8	18.52	1.1635
28336	821	416	surface 104.89	5	2	2	1	1	1	10	1020	204	51	0	12	17	0	0	0	10	0	26	6.1	0	5	8.8	20.27	1.031
28336	821	416	surface 104.89	5	2	3	2	2	1	10	1020	204	56	0	0	17	0	0	0	10	0	41	6	0	4	4.6	10.49	
28336	821	416	surface 104.89	5	2	4	1	1	1	10	1020	204	28	0	0	17	0	0	0	10	0	26	6	0	4	4.8	5.44	
28336	821	416	surface 104.89	5	2	5	1	1	1	10	1020	204	28	0	0	17	0	0	0	10	0	14	6	0	2	4.9	5.72	
28303	821	415		1	1	1	1	1	1	12	0	220	20	0	0	17	0	0	0	10	0	32	12	1	1	3.9	4.05	
28307	821	415	105.49-0.39	1	1	1	1	16	0	13	0	220	20	0	0	17	0	0	0	30	17	14	12	0	1	3.1	0.81	
28911	824	415	105.39-104.26	scree	1	1	1	22	0	70	0	0	0	0	0	17	15	0	0	30	0	0	0	0	0	1.1	0.22	
28838	824	414	105.48-104.52	1	1	1	1	1	2	10	2110	931	11	0	10	11	0	0	0	0	0	0	0	0	0	1.8	0.19	
28846	824	4141	104.52-0.18	5	2	1	2	5	1	10	1020	204	28	0	12	17	0	0	0	30	0	26	6	0	0	4.8	8.59	
28322	821	416	surface 104.49	3	1	1	1	1	0	14	0	220	20	1	0	17	0	0	0	10	0	0	0	0	0	3	0.7	
38302	821	415		1	1	1	1	1	0	11	0	302	41	0	0	17	12	0	0	30	0	26	2.1	0	0	6.4	7.31	0.8075
28329	821	416	surface 104.83	5	1	1	1	1	0	11	0	950	20	0	0	17	13	0	0	30	0	14	13	0	1	3.8	2.05	
28329	821	416	surface 104.83	5	1	2	1	3	0	11	0	0	0	0	0	17	0	0	0	30	0	0	0	0	0	3.2	1.71	
28840	824.10	414.40	104.47	3	2	1	1	1	1	10	1020	205	50	0	0	17	0	0	0	10	0	26	6.1	3	5	12.7	51.83	1.154
28313	821	416	surface 104.89	2	1	1	1	2	2	20	1130	510	61	0	0	14	12	0	0	30	0	14	0	0	2	10.8	11.21	
28313	821	416	surface 104.89	2	1	1	1	1	2	20	1130	202	51	0	0	15	12	0	0	30	0	0	0	0	0	2.3	0.69	
28313	821	416	surface 104.89	2	1	1	1	1	0	21	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	2.9	1.23	
28313	821	416	surface 104.89	2	1	1	1	1	1	10	1400	220	20	1	0	14	12	17	0	10	0	32	12	0	0	8.8	8.52	
28313	821	416	surface 104.89	2	1	1	2	2	0	13	1000	220	20	0	0	16	12	0	0	30	0	14	12	0	1	8.5	6.09	
28313	821	416	surface 104.89	2	1	1	1	1	0	11	0	207	28	0	12	17	0	0	0	10	0	14	14	0	2	3.8	2.48	
28313	821	416	surface 104.89	2	1	1	1	1	0	13	0	204	57	0	0	17	0	0	0	10	0	31	14	0	1	2.8	1.97	
28313	821	416	surface 104.89	2	1	1	1	1	0	13	0	0	0	0	0	0	12	13	0	10	0	31	0	0	0	3.9	2.74	
28313	821	416	surface 104.89	2	1	1	1	2	1	10	1020	433	17	1	12	17	12	0	0	10	0	31	7	0	1	6.1	17.6	
28839	824.15	414.40	104.47	2	2	1	1	1	1	10	1020	402	67	1	0	17	12	0	0	10	0	26	6.1	0	1	9.7	44.5	1.0655

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28331	821	416	surface 104.89	5	1	1	1	1	0	13	0	0	0	0	0	0	15	0	0	10	0	14	0	0	0	4	2	
28845	824	414	104.52-0.18	5	2	1	2	4	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	2.57	
28680	822	415	105.08-104.98	1	1	1	1	1	2	50	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.3	0.001	
28687	822	415	105.08-104.79	scree	6	1	1	1	1	10	1020	220	24	2	0	17	12	0	0	10	0	21	12	1	1	12.2	21.81	
28766	822	417	105.35-105.25	scree	3	1	1	1	0	12	0	207	51	0	12	17	12	0	0	10	0	32	14	0	4	3.2	2.81	
28710	822	416	104.49	2	2	1	1	2	0	12	0	222	0	0	0	0	0	0	0	10	0	15	4	0	1	3	4.55	
28669	822.16	415.17	105.28	10	3	1	1	2	0	21	0	0	0	0	0	0	12	0	0	30	0	0	0	0	0	2.6	0.57	
28700	822	415	104.57-104.40	scree	9	1	3	3	1	10	1020	203	50	0	12	15	12	0	0	10	0	32	2/3	0	5	10.5	34.38	
28700	822	415	104.57-104.40	scree	9	2	1	1	1	10	1020	203	53	0	0	16	12	0	0	10	0	31	2/3	0	5	6.8	12.69	
28700	822	415	104.57-104.40	scree	9	3	4	4	1	10	1020	203	28	0	12	17	12	0	0	10	0	4	2/3	0	2	4.7	10.38	
28700	822	415	104.57-104.40	scree	9	4	2	2	1	10	1020	204	51	0	12	16	12	0	0	10	0	32	6	0	5	6.8	10.34	
28700	822	415	104.57-104.40	scree	9	5	2	2	1	10	1020	204	57	0	0	17	12	0	0	10	0	32	6	0	5	4.5	20.65	
28700	822	415	104.57-104.40	scree	9	6	1	1	1	10	1020	202	50	0	12	15	12	0	0	10	0	31	1	0	5	9	37.97	
28700	822	415	104.57-104.40	scree	9	7	4	4	1	10	1020	207	28	0	12	17	12	0	0	10	0	15	14	0	5	3.8	8.92	
28700	822	415	104.57-104.40	scree	9	8	1	4	0	12	0	207	50	0	12	17	12	0	0	10	0	31	14	0	5	3	3.91	
28700	822	415	104.57-104.40	scree	9	9	2	2	1	10	1020	220	13	0	12	17	12	0	0	10	0	0	0	0	0	2.1	2.36	
28700	822	415	104.57-104.40	scree	9	10	2	2	0	13	0	207	53	0	0	17	12	0	0	10	0	15	14	1	1	2.1	3.71	
28778	822	417	104.37	scree	5	1	1	1	1	10	1020	203	51	0	12	15	0	0	0	10	0	41	3	0	4	7.2	33.72	
28778	822	417	104.37	scree	5	2	1	1	1	10	1020	203	51	0	12	17	0	0	0	10	0	41	3	0	4	5.2	11.8	
28778	822	417	104.37	scree	5	3	1	2	0	12	0	0	0	0	0	0	13	0	0	10	17	0	0	0	0	2.1	1.06	
28693	822	415	104.57-104.40	scree	9	1	13	13	0	10	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	3.4	3.69	
28693	822	415	104.57-104.40	scree	9	1	3	3	1	10	1020	203	51	0	12	16	0	0	0	10	0	32	2/3	2 total	4	5.9	21.87	
28681	822	415	105.08-104.98	scree	5	1	1	1	1	10	1400	305	17	2	12	16	12	0	0	10	0	14	35	0	1	3.1	1.3	
28681	822	415	105.08-104.98	scree	5	1	2	1	1	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1.9	1.17	
28662	822.56	415.12	105.30	5	2	1	1	1	0	13	0	207	51	0	0	17	12	0	0	10	0	32	14	0	1	3.2	3.88	
30243	822	415	105.48-105.38	scree	1	1	1	2	0	14	0	0	0	0	0	17	13	0	0	10	0	26	0	0	1	1.7	0.76	
28774	822.50	417.59	105.18	21	4	1	1	1	1	10	1020	207	51	0	12	17	0	0	0	10	0	31	14	0	4	4.3	5.72	
28650	822	416	104.49	2	2	1	1	4	0	13	0	0	0	0	0	0	13	0	0	30	16	0	0	0	0	2.9	3.23	
28647	822	416	105.5-104.38	1	1	1	1	1	1	10	1020	202	57	0	0	17	12	0	0	10	0	41	1	0	4	3.9	9.96	
28826	823	417		1	1	1	1	2	1	10	1020	222	12	0	0	12	0	0	0	10	0	14	4	0	1	10.1	37.2	
28811	823.50	415.40	104.26	5	2	1	1	5	1	10	1020	203	50	0	12	15	0	0	0	10	0	15	3	0	4	8.5	55.03	
28832	823	417		2	2	1	1	1	1	10	1020	223	51	0	0	15	0	0	0	10	0	22	4	0	4	7.3	30.17	
28586	822.52	406.49	105.17	10	2	1	1	2	0	12	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	4.1	2.71	
28874	823	416		scree	1	1	1	5	1	10	1020	203	50	0	11	15	12	0	0	10	0	43	3	1	0	13.7	95.73	
28824	823	417		1	1	1	1	1	1	10	1020	204	57	0	0	17	0	0	0	10	0	25	6	0	1	4.2	5.9	
28876	823	416		scree	1	1	1	4	0	11	0	220	20	0	0	17	12	0	0	30	0	14	12	0	1	5.4	7.52	
28876	823	416		scree	1	2	1	1	0	14	0	950	20	0	0	17	12	0	0	10	0	32	0	0	1	3	1.89	
28876	823	416		scree	1	3	1	1	0	13	0	0	0	0	0	0	0	0	0	10	0	25	0	0	0	2.6	0.73	
28876	823	416		scree	1	4	1	1	1	0	1400	305	17	1	12	17	12	0	0	20	0	0	0	0	0	4.6	3.22	
28825	823	419		1	1	1	1	1	0	13	0	0	0	0	0	0	12	0	0	30	0	14	0	0	0	3.1	0.92	
28805	823	415	104.34-0.20	2	2	1	1	3	0	14	0	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.7	0.28	
28808	823	415	104.37-0.20	2	2	1	1	89	0	70	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	1.2	2.43	
28904	823	416	104.40	scree	2	1	1	1	0	60	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0.3	0.0001	
28859	823	414	104.51-104.19	scree	2	1	1	43	0	70	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	0.7	0.71	
28803	823	415	104.34-0.20	2	2	1	1	1	0	11	0	207	28	0	12	17	0	0	0	10	0	15	14	0	5	3.4	1.98	
28803	823	415	104.34-0.20	2	2	2	1	9	0	11	0	0	0	0	0	17	0	0	0	10	0	14	0	1	0	3.3	4.23	
28803	823	415	104.34-0.20	2	2	3	1	1	0	13	0	0	0	0	0	0	0	0	0	10	31	0	0	0	0	2.2	0.75	
28830	823	417		2	2	1	1	67	0	70	0	0	0	0	0	0	15	0	0	30	0	0	0	0	0	0.8	0.53	
28823	823	417		1	1	1	1	1	0	13	0	0	0	0	0	17	12	0	0	10	0	31	0	0	1	5.1	3.41	
28815	823.70	415.15	104.34	10	2	1	1	1	1	10	1020	223	51	0	0	15	0	0	0	10	0	14	4	0	2	7.4	28.06	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28854	823	414	104.51-104.19	scree	2	1	1	2	2	10	2110	181	12	0	0	12	0	0	0	10	0	0	0	0	0	0.9	0.001	
28814	823.50	415.65	104.26	9	2	1	1	5	1	10	1020	204	50	0	11	16	0	0	0	30	0	31	6	1	1	4.9	24.76	
28813	823.70	415.40	104.24	7	2	1	1	1	1	10	1020	220	20	2	0	16	0	0	0	10	0	32	12	0	1	3.8	24.41	
28883	823	416		scree	1	1	1	41	0	70	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0.51	
28851	823	414	104.51-104.19	scree	2	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	32	12	0	1	4.4	3.68	
28851	823	414	104.51-104.19	scree	2	2	1	1	0	13	0	220	20	0	0	17	12	0	0	10	0	32	12	0	1	6.4	5.42	
28851	823	414	104.51-104.19	scree	2	3	1	1	0	14	0	220	20	0	0	17	12	0	0	10	0	32	12	0	1	4.9	1.7	
28851	823	414	104.51-104.19	scree	2	4	1	1	0	0	0	0	0	0	0	17	12	0	0	10	13	0	0	0	0	1.9	0.36	
28851	823	414	104.51-104.19	scree	2	5	1	1	0	11	0	204	56	0	0	17	12	0	0	10	0	31	6	0	0	2.2	1.43	
28851	823	414	104.51-104.19	scree	2	6	1	2	0	14	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	1.9	0.32	
28851	823	414	104.51-104.19	scree	2	7	1	2	0	14	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	4.4	2.22	
28864	823.95	414.65	104.27	5	2	1	1	1	1	10	1020	204	51	0	12	17	0	0	0	10	0	41	6	1	2	4.8	16.36	
28812	923.60	415.45	104.28	6	2	1	1	1	1	10	1020	204	51	0	11	16	0	0	0	10	0	32	6	0	4	5.1	17.26	
28891	823	416	104.40	scree	2	1	1	4	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.4	1.92	
28792	823	414	105.51-104.51	scree	1	1	1	49	0	70	0	0	0	0	0	0	15	0	0	30	0	0	0	0	0	1.8	0.6	
28749	823	415	105.48-104.39	1	1	1	2	2	0	11	0	207	51	0	12	17	12	0	0	10	0	31	14	0	0	4.1	5.29	
28749	823	415	105.48-104.39	1	1	2	1	2	0	11	0	220	24	0	0	17	0	0	0	10	0	32	12	0	1	5.6	6.94	
28788	823	414	105.51-104.51	scree	1	1	1	12	0	14	0	0	0	0	0	17	11	13	0	30	0	0	0	0	0	1.8	1.27	
28788	823	414	105.51-104.51	scree	1	1	1	2	0	14	0	222	0	0	0	0	0	0	0	10	0	0	0	0	0	2.4	0.2	
28788	823	414	105.51-104.51	scree	1	1	1	2	0	10	5000	2000	20	0	0	12	0	0	0	10	0	0	0	0	0	2.2	0.07	
28788	823	414	105.51-104.51	scree	1	1	1	1	0	13	0	0	0	0	0	0	0	0	0	10	0	32	0	0	0	4.6	1.04	
28788	823	414	105.51-104.51	scree	1	1	2	2	0	13	0	0	28	0	12	0	0	0	0	10	0	0	0	0	0	4.2	2.81	
28372	823	425		scree	1	1	1	1	1	10	1400	200	17	1	10	15	12	0	0	10	0	31	12	0	1	8.2	6.56	
28371	823	425		scree	1	1	1	1	1	20	1112	305	20	2	40	15	0	0	0	10	0	13	chicken	0	1	4.8	0.9	
28493	823	426		scree	2	1	1	1	1	10	1400	305	20	1	0	14	0	0	0	10	0	21	35	0	0	9.6	4.66	
28435	823	428		7	2	1	1	1	1	20	1120	540	24	2	0	14	12	9	9	19	9	0	0	0	0	10.6	3.05	
28422	823	427			2	1	1	1	2	20	1130	305	11	2	10	11	12	0	0	0	0	0	0	0	0	10.6	4.14	
28369	823	425		scree	1	1	1	1	2	20	1130	202	51	0	10	14	0	0	0	10	0	0	0	0	0	2.2	0.36	
28431	823	427		24	2	1	1	3	1	20	1120	100	12	0	10	12	12	0	0	10	0	31	0	0	1	4.1	2.52	
28370	823	425		scree	1	1	1	1	2	20	2112	531	11	1	10	11	12	0	0	0	0	0	0	0	0	3.3	0.24	
28434	823	428		7	2	1	1	1	2	25	0	540	24	1	10	15	0	0	0	10	0	0	0	0	0	3.4	0.11	
28421	823	427		2	2	1	1	1	2	20	1130	530	11	1	40	11	0	0	0	0	0	0	0	0	0	8.4	6.3	
28335	821	416	surface 104.89	5	2	1	1	1	1	10	1020	304/305	24	2	10	17	0	0	0	10	0	41	5	0	4	6.3	31.45	
28312	821	416	surface 104.89	2	1		1	2	1	10	1020	304/305	24	2	10	17	0	0	0	10	0	41	5	0	4	7.4	22.58	
28312	821	416	surface 104.89	2	1		1	1	1	10	1020	308	11	2	10	11	0	0	0	0	0	41	5	0	0	3.9	15.12	
28312	821	416	surface 104.89	2	1		1	1	1	10	1020	307	0	2	10	15	0	0	0	10	0	31	5	0	2	3.3	9.14	
28312	821	416	surface 104.89	2	1		1	1	1	10	1400	203	50	0	30	15	0	0	0	10	0	14	14	0	2	2.3	1.97	
28549	822.28	411.89-.9	105.49	4	1	1	1	1	1	20	1120	530	12	2	0	12	12	0	0	10	0	0	0	0	0	5.5	0.96	
28606	822	409	105.43-0.33	8	2	1	1	1	0	23	0	950	20	0	0	16	12	0	0	10	0	0	0	0	0	2.1	0.14	
30237	822	411	105.46-105.36	scree	2	1	1	1	0	23	0	950	20	0	0	16	12	0	0	10	0	0	0	0	0	3.5	0.4	
28601	822	409		1	1	1	1	1	1	20	1120	202	50	0	10	14	12	0	0	10	0	0	0	0	0	1.8	0.33	
28684	822.28	415.03	105.05	19	5	1	1	3	1	10	1020	434	51	1	10	16	0	0	0	10	0	31	8	0	3	6.1	15.44	
28585	822.46	406.48	105.11	9	2	1	1	1	0	13	1000	220	20	2	0	16	12	0	0	10	0	32	12	0	1	8.8	5.21	
28652	822.77	411.53-0.5	105.44	7	1	1	1	1	1	10	1020	403	67	2	0	17	12	13	0	10	0	26	6.1	7	1	6.6	41.27	1.1605
28653	822.85	411.65-0.7	105.46	7	1	1	1	4	1	10	1020	205	51	0	0	17	12	13	0	10	0	43	6.1	0	1	6.2		0.9415
28498	822	402	105.06	scree	3	1	1	1	2	10	2110	204	12	0	10	12	12	0	0	10	0	0	0	0	0	2.5	0.85	
28698	822	415	104.57-104.40	scree	9	1	1	1	1	10	1020	433	20	2	0	17	12	0	0	10	0	31	7	3	1	7.7	93.58	
28715	822.90	416.55	104.29	4	1	1	1	2	1	10	1020	204	55	0	0	17	0	0	0	10	0	32	6	0	2	5.8	10.58	
28670	822.45	415.22	105.20	11	3	1	1	1	1	10	1112	403	67	1	0	17	0	0	0	10	0	42	27	0	0	5.2	4.36	
28685	822.40	415.94	105.06	20	5	1	1	1	1	10	1400	459	17	0	10	15	0	0	0	10	0	22	39	0	1	4.8	5.02	

A	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB	AC	AD	AE	AF	AH
CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28676	822	415		scree	4	1	1	1	2	20	2111	302	17	1	10	16	0	0	0	10	0	0	0	0	0	2.6	0.44	
28676	822	415		scree	4	2	1	1	2	20	2111	530	24	1	10	16	0	0	0	10	0	0	0	0	0	1.9	0.37	
28764	822	417	105.45-105.35	scree	2	1	1	1	2	20	1130	510	61	0	0	17	0	0	0	10	0	14	breast	0	1	3.6	1.4	
28764	822	417	105.45-105.35	scree	2	2	1	1	2	20	1130	202	51	0	0	17	0	0	0	10	0	0	0	0	0	1.2	0.34	
28724	822.53	416.80	104.26	14	2	1	1	1	1	10	1020	204	55	0	0	17	12	0	0	10	0	25	6	0	3	7.1	4.08	
28675	822	415		scree	4	1	1	1	2	40	1000	750	20	0	0	14	0	0	0	10	0	0	0	0	0	3.3	0.31	
28784	822	417	104.37	scree	5	1	1	1	1	10	1020	308	11	2	10	11	0	0	0	0	0	0	0	0	0	3.1	12.91	
28784	822	417	104.37	scree	5	2	1	1	1	10	1020	307	11	2	10	11	0	0	0	0	0	0	0	0	0	3.7	13.25	
30248	822	415	105.36-105.27	scree	2	1	1	1	0	15	0	220	20	0	0	15	12	0	0	10	0	0	0	0	0	3.8	0.25	
30250	822	415	105.36-105.27	scree	2	1	1	1	2	50	1000	207	51	0	0	14	15	0	0	10	0	0	0	0	0	0.7	0.12	
28668	822	415	105.28-105.18	scree	3	1	1	3	2	50	1000	100	0	0	0	17	0	0	0	10	0	0	0	0	0	3.2	0.38	
28668	822	415	105.28-105.18	scree	3	1	1	1	2	50	1000	161	17	2	0	15	0	0	0	10	0	0	0	0	0	1.3	0.1	
28751	822	415	104.57-104.40	scree	9	1	1	9	0	12	0	222	51	0	0	15	0	0	0	10	0	15	4	0	0	2.2	11.68	
28743	822	416.57	104.19	33	2	1	1	1	1	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.9	0.24	
28743	822	416.57	104.19	33	2	1	1	1	2	20	5111	304	11	1	10	11	12	0	0	0	0	0	0	0	0	4.4	0.19	
28743	822	416.57	104.19	33	2	2	1	1	2	20	5111	305	11	1	10	11	12	0	0	0	0	0	0	0	0	4.9	0.51	
28743	822	416.57	104.19	33	2	3	1	1	2	20	5111	531	11	1	10	11	12	0	0	0	0	0	0	0	0	3.3	0.32	
28743	822	416.57	104.19	33	2	4	1	4	2	20	5111	510	61	1	10	16	12	0	0	0	0	0	0	0	0	3.6	1.13	
28453	822.41	408.47	105.32	8	3	1	1	1	0	13	0	950	20	0	0	17	12	0	0	0	0	31	0	0	1	5.9	3.11	
30236	822	411	105.46-105.36	scree	2	1	1	6	0	11	0	203	53	0	0	17	12	0	0	30	0	14	2/3	0	3	7.1	7.86	
28595	822.12	406.46	105.20	19	2	1	1	2	1	10	1020	220	20	1	0	17	12	0	0	10	0	32	12	0	1	10.3	22.03	
28725	822.12	416.25	104.18	15	2	1	1	1	1	10	1020	220	20	0	0	17	20	0	0	10	0	15	12	2	1	9.4	13.84	
28536	822	407		scree	3	1	1	16	0	12	0	0	0	0	0	0	12	20	0	10	0	15	0	0	0	4.9	12.9	
28523	822	407		scree	3	1	1	156	0	12	0	0	0	0	0	0	12	13	0	10	0	15	0	2	0	2.1	39.83	
28443	822.19	405.0	105.38	3	1	1	1	10	0	13	0	0	0	0	0	17	12	0	0	30	0	0	0	0	0	3.5	2.6	
28515	822.57	407.67	105.25	12	3	1	1	1	0	11	0	950	30	0	0	17	0	0	0	10	0	31	13	1	0	4.9	5.2	
28768	822.66	417.80	105.32	15	3	1	6	26	0	13	0	207	50	0	30	15	12	0	0	30	0	0	0	0	0	1.8	5.46	
30235	822	411	105.46-105.36	scree	2	1	1	1	1	10	1020	203	28	0	12	17	12	0	0	10	0	14	0	0	0	3.9	3.08	
28589	822.50	406.99	105.23	14	2	1	1	2	1	10	1020	110	10	0	0	17	12	0	0	10	0	15	12	0	0	6.4	9.51	
28532	822.50	407.4	105.21	28	3	1	1	1	1	10	1020	203	53	0	0	17	12	0	0	10	0	31	2/3	0	0	9.9	13.93	
28663	822.30	415.71	105.29	6	2	1	1	1	0	13	0	0	74	0	0	17	0	0	0	10	0	14	0	0	0	2.5	1.57	
28581	822	406		4	2	1	1	73	0	12	0	0	51	0	0	17	12	0	0	30	0	15	0	0	0	3.1	91.61	
28581	822	406		4	2	2	1	5	0	13	0	207	0	0	12	17	0	0	0	10	0	15	0	0	0	2.7	4.03	
28581	822	406		4	2	3	1	3	0	13	0	220	20	0	0	17	0	0	0	30	0	15	0	0	0	3.1	5.59	
28581	822	406		4	2	4	1	2	0	13	0	0	0	0	30	17	0	0	0	10	0	14	0	0	0	2.2	1.67	
28581	822	406		4	2	5	1	1	0	12	0	222	0	0	0	16	0	0	0	10	0	15	4	0	1	2.9	4	
28581	822	406		4	2	6	1	2	0	11	0	203	53	0	0	17	0	0	0	10	0	15	2/3	0	1	9.8	23.84	
28581	822	406		4	2	7	1	1	0	25	0	220	20	0	0	17	0	0	0	10	0	0	0	0	0	2.3	0.15	
28581	822	406		4	2	8	1	1	2	10	2110	304	20	0	0	16	0	0	0	10	0	0	0	0	0	4.4	0.82	
28581	822	406		4	2	9	1	1	2	40	1000	402	0	1	0	15	0	0	0	10	0	0	0	0	0	2.8	0.16	
28373	823	425		scree	2	1	1	1	1	10	1020	206	12	0	10	12	0	0	0	10	0	14	11	0	2	4.4	4.09	
301296	823	426		scree	2	1	1	2	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2	0.46	
28374	823	425		scree	2	1	1	2	0	13	0	950	0	0	0	17	0	0	0	10	0	31		19	1	5.4	0.42	
28423	823	427		24	2	1	1	1	0	13	0	207	51	0	0	17	0	0	0	10	0	15	12	0	2	2.9	2.29	
28424	823	427		24	2	1	1	1	1	10	1020	204	13	0	12	17	0	0	0	10	0	20	6	0	0	3	2.86	
28425	823	427		24	2	1	1	1	1	10	1020	204	51	0	0	17	0	0	0	10	0	15	6	0	0	5.3	7.49	
28336	821	416	surface 104.89	5	2	1	1	1	1	10	1400	204	52	0	0	16	0	0	0	10	0	41	36	0	0	8.1	9.86	
28647	822	416	105.5-104.38	1	1		3	3	1	10	1020	203	53	0	0	17	12	0	0	10	0	26	2/3	0	0	8.5	15.34	
28647	822	416	105.5-104.38	1	1		3	1	1	10	1300	55	0	0	0	17	20	0	0	10	0	31	6	0	0	5.8	1.97	
28647	822	416	105.5-104.38	1	1		3	1	1	10	1020	206	12	0	12	12	12	0	0	10	0	31	11	1	0	3.8	13.09	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28647	822	416	105.5-104.38	1	1		3	1	1	13	1000	206	12	0	11	12	20	0	0	10	0	0	0	0	0	2.1	0.5	
28820	823	417		1	1	1	1	2	0	24	0	220	20	0	0	17	12	0	0	0	0	0	0	0	0	1.3	0.07	
28820	823	417		1	1	2	1	1	2	20	6100	522	11	0	10	11	12	0	0	0	0	0	0	0	0	2.9	0.13	
28820	823	417		1	1	3	1	1	2	20	1120	530	12	1	30	12	0	0	0	0	0	0	0	0	0	3.7	0.49	
28820	823	417		1	1	4	1	1	2	20	1120	540	14	1	10	16	0	0	0	0	0	0	0	0	0	2	0.3	
28820	823	417		1	1	5	1	1	2	20	5111	303	11	2	10	11	12	0	0	0	0	0	0	0	0	4.6	0.8	
28820	823	417		1	1	6	1	1	2	20	5111	433	11	1	10	11	12	0	0	0	0	0	0	0	0	3.8	0.41	
28820	823	417		1	1	7	1	1	2	20	5111	433	11	2	30	11	12	0	0	0	0	0	0	0	0	3.9	0.26	
28820	823	417		1	1	8	1	1	2	20	5111	433	11	2	10	11	12	0	0	0	0	0	0	0	0	3.6	0.34	
28820	823	417		1	1	9	1	1	2	20	5111	540	11	1	10	12	12	0	0	0	0	0	0	0	0	4.5	0.37	
28820	823	417		1	1	10	1	1	2	20	5111	304	11	2	10	11	12	0	0	0	0	0	0	0	0	4.6	0.31	
28820	823	417		1	1	11	1	1	2	20	5111	202	11	0	10	11	12	0	0	0	0	0	0	0	0	0.8	0.07	
28820	823	417		1	1	12	1	7	2	20	5111	220	12	0	10	12	12	0	0	0	0	0	0	0	0	2.1	0.15	
28817	823.80	415.55	104.25	8	2	1	1	7	0	24	0	205	51	0	0	17	12	0	0	0	0	0	0	0	0	1.9	0.37	
28817	823.80	415.55	104.25	8	2	2	2	2	0	24	0	203	11	0	0	11	12	0	0	0	0	0	0	0	0	0.7	0.14	
28855	823	414	104.51-104.19	scree	2	1	1	1	2	50	1000	207	11	0	0	11	15	0	0	0	0	0	0	0	0	2.4	0.32	
28855	823	414	104.51-104.19	scree	2	2	1	1	0	24	0	203	51	0	0	14	12	0	0	0	0	0	0	0	0	0.8	0.06	
28858	823	414	104.51-104.19	scree	2	1	1	1	0	23	0	22	20	0	0	14	12	0	0	0	0	0	0	0	0	4.9	0.27	
28866	823.52	414.75	104.22	7	2	1	1	1	1	10	1400	202	66	2	12	15	12	0	0	0	0	0	0	0	0	6.3	7.56	
28868	823.90	414.95	104.27	9	2	1	1	9	2	50	1000	100	0	0	0	15	15	0	0	10	0	0	0	0	0	3.8	1.11	
28868	823.90	414.95	104.27	9	2	2	1	20	2	50	1000	220	12	0	0	12	15	0	0	10	0	0	0	0	0	2.4	0.68	
28868	823.90	414.95	104.27	9	2	3	1	2	2	50	1000	999	0	0	0	12	15	0	0	10	0	0	0	0	0	1	0.001	
28868	823.90	414.95	104.27	9	2	4	1	9	2	50	1000	986	12	1	0	12	15	0	0	10	0	0	0	0	0	1.9	0.14	
28868	823.90	414.95	104.27	9	2	5	1	1	2	50	1000	986	12	2	0	12	15	0	0	10	0	0	0	0	0	1.8	0.17	
28868	823.90	414.95	104.27	9	2	6	1	1	2	50	1000	988	12	2	0	12	15	0	0	10	0	0	0	0	0	3.2	0.21	
28868	823.90	414.95	104.27	9	2	7	1	1	2	50	1000	983	12	2	0	12	15	0	0	10	0	0	0	0	0	1.6	0.13	
28868	823.90	414.95	104.27	9	2	8	1	1	2	50	1000	983	12	1	0	12	15	0	0	10	0	0	0	0	0	1.5	0.15	
28868	823.90	414.95	104.27	9	2	9	1	1	2	50	1000	982	12	2	0	12	15	0	0	10	0	0	0	0	0	3.1	0.28	
28868	823.90	414.95	104.27	9	2	10	1	1	2	50	1000	988	12	1	0	12	15	0	0	10	0	0	0	0	0	3.2	0.23	
28868	823.90	414.95	104.27	9	2	11	1	1	2	50	1000	987	12	0	0	12	15	0	0	10	0	0	0	0	0	2.3	0.2	
28868	823.90	414.95	104.27	9	2	12	1	1	2	50	1000	991	12	0	0	12	15	0	0	10	0	0	0	0	0	1.9	0.001	
28868	823.90	414.95	104.27	9	2	13	1	2	2	50	1000	992	12	0	0	12	15	0	0	10	0	0	0	0	0	3.5	0.41	
28868	823.90	414.95	104.27	9	2	14	1	9	2	50	1000	207	12	0	0	12	15	0	0	10	0	0	0	0	0	1.4	0.001	
28868	823.90	414.95	104.27	9	2	15	1	9	2	50	1000	999	0	0	0	16	15	0	0	10	0	0	0	0	0	2.4	0.001	
28868	823.90	414.95	104.27	9	2	16	1	20	2	50	1000	980	0	0	0	15	15	0	0	10	0	0	0	0	0	2	0.35	
28868	823.90	414.95	104.27	9	2	17	1	4	2	50	1000	981	0	0	0	15	15	0	0	10	0	0	0	0	0	1.8	0.001	
28877	823	416			1	1	2	2	2	20	5111	203	11	0	10	11	0	0	0	0	0	0	0	0	0	1.1	0.13	
28856	823	414	104.51-104.19	scree	2	1	1	1	2	50	2000	982	11	2	0	11	15	0	0	0	0	0	0	0	0	2.3	0.33	
28810	823.50	415.75	104.31	4	2	2	1	1	2	20	5111	303	11	1	10	11	12	0	0	0	0	0	0	0	0	4.5	0.75	
28810	823.50	415.75	104.31	4	2	3	1	1	2	20	5111	540	11	1	10	11	12	0	0	0	0	0	0	0	0	5.2	0.56	
28810	823.50	415.75	104.31	4	2	4	1	1	2	20	5111	433	11	1	10	11	12	0	0	0	0	0	0	0	0	3.8	0.42	
28810	823.50	415.75	104.31	4	2	5	1	1	2	20	5111	531	11	1	10	11	12	0	0	0	0	0	0	0	0	3.1	0.36	
28810	823.50	415.75	104.31	4	2	6	1	1	2	20	5111	304	11	1	30	11	12	0	0	0	0	0	0	0	0	4.4	0.31	
28810	823.50	415.75	104.31	4	2	7	1	1	2	20	5111	533	11	1	10	11	12	0	0	0	0	0	0	0	0	1.8	0.13	
28810	823.50	415.75	104.31	4	2	8	1	1	2	20	5111	534	11	1	10	11	12	0	0	0	0	0	0	0	0	1.1	0.001	
28810	823.50	415.75	104.31	4	2	9	1	1	2	20	5111	520	11	1	10	11	12	0	0	0	0	0	0	0	0	3.2	0.12	
28810	823.50	415.75	104.31	4	2	1	1	1	2	20	5111	0	11	1	10	11	12	0	0	0	0	0	0	0	0	0.09	0.001	
28804	823	415	104.37-0.20	2	2	1	2	2	2	20	5111	202	12	0	10	12	12	0	0	0	0	0	0	0	0	1	0.11	
28804	823	415	104.37-0.20	2	2	2	2	3	2	20	5111	203	12	0	10	12	12	0	0	0	0	0	0	0	0	0.6	0.12	
28804	823	415	104.37-0.20	2	2	3	2	2	2	50	2000	207	12	0	0	12	15	0	0	0	0	0	0	0	0	1.6	0.22	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28903	823	416	104.40	scree	2	1	1	1	2	40	1000	402	12	1	0	12	0	0	0	10	0	14	frog's le	0	0	3.6	0.3	
28903	823	416	104.40	scree	2	2	1	3	0	13	1000	204	50	0	12	15	12	0	15	10	0	0	6	0	0	2.8	2.17	
28903	823	416	104.40	scree	2	3	1	3	0	11	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	2.01	
28679	822	415	105.08-104.98	scree	5	1	2	2	2	50	3010	207	12	0	0	12	0	0	0	10	0	0	0	0	0	1.7	0.32	
28712	822	416	104.49	2	2	1	1	1	0	13	1000	207	55	0	0	17	20	0	0	10	0	32	14	0	5	2.9	1.63	
28712	822	416	104.49	2	2	2	1	11	0	13	1000	401	12	2	10	16	20	0	0	10	0	15	6	0	3	0.7	6.3	
28712	822	416	104.49	2	2	3	1	1	0	10	1020	223	51	0	0	12	0	0	0	10	0	31	4	0	3	5.2	5.39	
28695	822	415	104.57-104.40	scree	9	1	1	1	2	20	2111	162	0	1	0	15	12	0	0	10	0	0	0	0	0	6.1	0.42	
28742	822.5	416.60	104.20	32	2	1	1	1	1	10	1020	434	11	1	10	11	12	0	0	0	0	31	8	0	1	5.2	33.77	
28765	822	417	105.35-105.45	scree	2	1	1	4	0	14	0	0	0	0	0	17	12	0	0	10	0	14	0	0	0	3.8	0.48	
28765	822	417	105.35-105.45	scree	2	2	1	1	2	20	2111	530	24	2	10	15	12	0	0	10	0	0	0	0	0	2.6	0.41	
28697	822	415	104.57-104.40	scree	9	1	1	1	2	20	5111	510	12	0	10	12	12	0	0	10	0	0	0	0	0	5.6	0.86	
28753	822.54	417.67	105.37	2	2	1	1	1	1	10	1120	202	51	0	10	12	12	0	0	10	0	0	0	0	0	1.9	0.66	
28722	822.24	416.56-10	104.17	12	2	1	1	1	2	10	1510	303	20	2	0	16	12	0	0	10	0	32	13	0	1	11.1	124.99	
28688	822	415	105.08-104.79	scree	6	1	1	1	2	20	2111	304	11	2	10	11	12	0	0	0	0	0	0	0	0	6.1	0.48	
28694	822	415	104.57-104.40	scree	9	1	1	1	2	20	5111	303	17	1	10	15	12	0	0	10	0	0	0	0	0	3.5	0.65	
28694	822	415	104.57-104.40	scree	9	2	1	1	2	20	5111	305	24	1	10	15	12	0	0	10	0	0	0	0	0	4.3	0.43	
28694	822	415	104.57-104.40	scree	9	3	1	1	2	20	5111	304	24	1	10	15	12	0	0	10	0	0	0	0	0	3.6	0.23	
28694	822	415	104.57-104.40	scree	9	4	1	1	2	20	24	950	20	0	10	15	12	0	0	10	0	0	0	0	0	1.7	0.18	
28550	822.54	411.48-0.	105.46	5	1	1	1	4	1	10	1020	402	20	0	0	17	12	13	0	10	0	21	6.1	0	1	5.2	14.86	1.098
28499	822	402	105.06		3	1	1	1	0	15	0	950	19	0	30	12	12	0	0	10	0	0	0	0	0	1.8	0.11	
28581	822.59	406.49-0.	105.12	5	2	1	1	1	2	2	2120	435	20	1	0	16	12	0	0	10	0	0	0	0	0	5.9	2.67	
28607	822	409	105.43-0.33	8	2	1	1	2	2	20	7111	303	17	2	10	14	12	0	0	10	0	0	0	0	0	2.4	0.14	
30238	822	411	105.36-105.26	scree	3	1	1	1	0	23	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.1	0.41	
28535	822	407		scree	3	1	1	1	2	10	2110	164	0	2	10	15	0	0	0	10	0	0	0	0	0	2.3	0.34	
28592	822.41	406.94	105.01	16	2	1	1	2	0	11	0	203	53	0	0	17	12	0	0	10	0	32	2/3	0	3	7.2	10.59	
28600	822	409		1	1	1	1	1	0	23	0	202	12	0	10	12	12	0	0	30	0	0	0	0	0	1.9	0.49	
28517	822.25	407.19	105.22	14	3	1	1	1	1	11	0	220	20	1	0	15	12	0	0	10	0	32	12	0	1	11.4	31.27	
28548	822.71	411.27-0.	105.47	3	1	1	1	1	1	10	1112	410	0	2	0	15	12	0	0	10	0	32	26	2	1	14.6	27.84	
28514	822.82	407.52	105.22	11	3	1	1	6	1	10	1020	302	41	2	0	17	12	0	0	10	0	41	2	0	1	12.6	88.62	
28612	822.32	409.69	105.32	7	2	1	1	1	0	11	0	207	51	0	10	17	12	0	0	10	0	32	14	0	4	4.1	9.33	
28656	822.52	411.64-0.	105.45	11	1	1	1	1	0	10	1101	438	0	1	10	15	12	13	0	30	0	31	0	0	2	7.8	86.78	
28570	822	405		19	2	1	1	1	1	20	1120	530	17	2	0	15	12	0	0	20	0	0	0	0	0	3	0.62	
28570	822	405		19	2	2	1	1	1	20	1120	531	17	2	0	15	12	0	0	20	0	0	0	0	0	1.5	0.32	
28547	822.42	411.43-0.	105.44	2	1	1	1	1	0	11	0	433	20	0	0	17	12	0	0	10	0	26	13	0	0	7.8	136.27	2.739
28545	822.29	408.89-0.	105.28	10	3	1	1	1	1	10	1400	435	20	2	0	17	12	13	0	10	0	32	37	0	0	6.4	17.21	1.645
28774	822.0	416.69	104.19	34	2	1	1	3	1	10	1020	203	51	0	12	16	12	0	0	10	0	31	3	0	4	13.2	60.31	
28774	822.0	416.69	104.19	34	2	2	1	3	1	10	1020	203	56	0	12	17	12	0	0	10	0	32	3	0	4	5.6	3.66	
28640	822	416	105.5-104.38	1	1	1	1	1	1	10	1020	220	20	1	0	16	12	0	0	10	0	41	12	1	1	10.4	16.3	
822.19	822.19	415.37	105.12	15	4	1	1	1	1	10	1020	220	20	1	0	16	12	0	0	10	0	32	12	1	1	7.8	14.87	
28719	822.46	416.28-0.	104.23	9	2	1	1	2	1	10	1020	204	50	0	12	16	12	0	0	10	0	25	6	0	1	7.3	27.16	
28733	822.55	416.100	104.18	23	2	1	1	1	1	10	1020	220	20	1	0	16	12	0	0	10	0	32	12	1	1	11.7	24.44	
28735	822.30	416.71	104.19	25	2	1	1	1	1	10	1020	220	20	1	0	16	12	0	0	10	0	32	12	1	1	10.8	10.92	
28711	822	416	104.49	2	2	1	1	1	1	10	1020	204	51	0	12	17	12	0	0	10	0	41	6.1	0	3	5.1	5.91	1.085
28737	822.33	416.85	104.20	27	2	1	1	1	1	10	1020	220	20	1	0	15	12	0	0	10	0	32	12	2	1	12.1	41.74	
28671	822.85	415.89	105.23	12	3	1	1	1	0	11	0	950	20	0	0	17	12	0	0	10	0	31	13	0	1	8.6	26.57	
28645	822	416	105.5-104.38	1	1	1	1	2	0	12	0	220	20	1	0	16	12	0	0	10	0	15	12	0	5	8.8	9.32	
28645	822	416	105.5-104.38	1	1	2	1	2	0	10	1020	203	56	0	12	17	12	0	0	10	0	32	3	0	4	3.2	3.59	
28770	822.77	417.87	105.35	17	3	1	1	1	0	13	1000	204	55	0	0	17	12	0	0	10	0	41	6	0	1	5.2	1.6	
28666	822	415	105.28-105.18	scree	3	1	1	4	0	11	0	0	0	0	0	17	12	0	0	10	0	31	0	0	0	2.9	6.4	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28627	822	413	105.34-0.19	5	3	1	1	1	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.8	0.67	
28624	822	413	105.44-0.34	4	2	1	1	1	0	14	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	1.8	0.22	
28674	822	415		scree	4	1	1	1	0	13	0	207	51	0	0	0	0	0	0	10	0	32	14	0	1	2.8	2.92	
28667	822	415	105.28-105.18	scree	3	1	1	3	0	13	0	207	51	0	12	0	0	0	0	10	0	0	0	0	0	1.8	0.58	
28783	822	417	104.37	scree	5	1	2	6	0	13	0	0	0	0	12	17	0	0	0	30	0	0	0	0	0	4.4	6.54	
28783	822	417	104.37	scree	5	1	2	6	0	13	0	220	20	0	0	17	0	0	0	10	0	32	12	0	0	3.1	0.96	
28673	822	415		scree	4	1	1	4	0	13	0	0	0	0	0	17	0	12	0	10	0	20	0	0	0	2.8	4.03	
28766	822	417	105.35-105.25	scree	3	2	1	1	2	50	1000	999	0	0	0	16	0	0	0	10	0	0	0	0	0	1.6	0.06	
28766	822	417	105.35-105.25	scree	3	3	1	1	2	50	0	0	0	0	0	16	0	0	0	10	0	0	0	0	0	1.8	0.06	
28315	821	416	surface 104.89	2	1	1	1	1	2	20	2111	303	11	1	10	11	12	0	0	0	0	13	wing	2 on he:	1	9.1	3.62	
28315	821	416	surface 104.89	2	1	2	1	1	2	20	2111	303	17	2	10	15	12	0	0	0	0	0	0	0	0	5.5	1.76	
28315	821	416	surface 104.89	2	1	3	1	1	2	20	2111	302	17	1	10	14	12	0	0	0	0	0	0	0	0	5.2	0.64	
28315	821	416	surface 104.89	2	1	4	1	1	2	20	2111	510	61	0	0	16	12	0	0	0	0	0	0	0	0	3.9	0.29	
28315	821	416	surface 104.89	2	1	5	1	1	2	20	2111	530	11	1	10	11	12	0	0	0	0	0	0	0	0	5.3	1.36	
28315	821	416	surface 104.89	2	1	6	1	1	2	20	1130	510	61	0	0	16	12	0	0	0	0	0	0	0	0	8.8	5.97	
28315	821	416	surface 104.89	2	1	7	1	1	2	20	1130	413	0	1	0	16	12	0	0	0	0	0	0	0	0	8.1	2.39	
28315	821	416	surface 104.89	2	1	8	1	1	2	20	8110	305	17	1	10	16	12	0	0	0	0	0	0	0	0	3.5	0.79	
28315	821	416	surface 104.89	2	1	9	1	1	1	20	1120	510	61	0	0	16	12	0	0	0	0	0	0	0	0	5.3	0.88	
28315	821	416	surface 104.89	2	1	10	2	2	2	23	0	0	0	0	0	17	12	0	0	20	0	0	0	0	0	3.1	0.77	
28315	821	416	surface 104.89	2	1	11	1	13	2	23	401	0	0	0	0	17	12	0	0	30	0	0	0	0	0	3	3.92	
28315	821	416	surface 104.89	2	1	12	1	1	2	23	0	589	12	0	30	17	12	0	0	0	0	0	0	0	0	1	0.07	
28315	821	416	surface 104.89	2	1	13	1	1	0	13	0	0	0	0	0	17	12	0	0	10	0	31	0	0	0	2.3	0.85	
30300	821	916	surface - 104.89	5	2	1	1	1	2	20	5111	530	11	1	10	11	12	0	0	0	0	0	0	0	0	3.3	0.42	
28320	821	416	surface 104.89	3	1	1	1	2	1	20	1120	542	21	0	0	17	12	0	0	10	0	0	0	0	0	1.6	0.35	
28914	824	415	104.26-104.18	scree	2	1	1	1	2	10	2110	435	24	2	10	16	12	0	0	10	0	14	rabbit fc	0	1	2.2	0.45	
28914	824	415	104.26-104.18	scree	2	2	1	1	2	10	2110	439	11	2	10	11	12	0	0	0	0	0	rabbit fc	0	0	2.1	0.38	
28914	824	415	104.26-104.18	scree	2	3	1	1	2	10	2110	438	11	2	10	11	12	0	0	0	0	0	rabbit fc	0	0	1	0.13	
28914	824	415	104.26-104.18	scree	2	4	1	4	4	10	2110	459	11	2	10	11	12	0	0	0	0	0	rabbit fc	0	0	3.3	0.98	
28332	821	416	surface 104.83	5	1	1	1	1	0	23	0	303	20	1	30	15	0	0	0	10	0	0	0	0	0	5.3	1.32	
28332	821	416	surface 104.83	5	1	2	1	1	0	23	0	540	20	1	30	15	0	0	0	10	0	0	0	0	0	5.3	0.61	
28910	824	415	105.39-104.26	SCRI	1	1	1	4	0	23	0	205	20	1	30	15	0	0	0	10	0	0	0	0	0	2.1	0.59	
28326	821	416	surface - 104.89	5	1	1	1	1	2	10	1300	220	12	1	10	12	0	0	0	10	0	13	0	3 cuts	1	14.5	9.17	
28319	821	416	suface - 104.89	3	1	1	1	1	1	10	1400	435	13	2	12	17	0	0	0	10	0	0	0	0	0	4.2	4.12	
30302	821	416	surface -104.89	5	2	1	1	1	0	13	1000	433	26	2	12	17	0	0	0	10	0	0	0	0	0	5.2	8.76	
29689	821	416	surface-104.89	5	2	1	1	1	1	10	1112	434	12	1	10	12	0	0	0	10	0	0	0	0	0	2.8	3.36	
28330	821	416	surface-104.89	5	1	1	1	1	1	10	1020	307	0	2	10	15	12	0	0	10	0	31	9	0	1	3.9	10.95	
28333	821	416	surface - 104.89	5	1	1	1	1	2	20	2111	510	61	0	0	16	12	0	0	0	0	0	0	0	0	8.8	2.72	
30239	822.76	411.51	105.42	14	2	1	1	1	1	10	1020	204	51	0	0	16	12	0	0	10	0	43	6.1	0	5	10.3	36.12	1.2215
28579	822.62	406.13	105.05	3	2	1	1	1	0	11	0	220	20	0	0	16	12	0	0	10	0	43	12	0	1	9.5	12.34	
30221	822	407		scree	3	1	1	2	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0.9	0.07	
30230	822	408	105.27-105.17	scree	4	1	1	1	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2	0.29	
29672	822	405		20	3	1	1	1	0	13	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	3.8	1.55	
28576	822	405	0	20	3	1	1	5	0	13	0	0	0	0	0	0	0	0	0	10	0	14	0	0	0	3.2	4.85	
28593	822.08	406.94	105.21	17	2	1	1	1	0	11	0	220	20	1	0	17	0	0	0	10	0	32	12	0	1	4.9	3.84	
28530	822.6	407.3	105.20	26	3	1	1	1	0	11	0	220	20	1	0	17	0	0	0	10	0	0	0	0	0	5.7	5.99	
28573	822	405		19	2	1	1	3	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.8	0.32	
28529	822.45	407.13	105.02	25	3	1	1	2	0	11	0	220	20	1	0	17	0	0	0	30	0	0	0	0	0	9.3	10.25	
28651	822.77	411.28-0.3	105.45	6	1	1	1	1	1	10	1020	203	54	0	0	17	12	0	0	30	0	32	2/3	0	4	4.3	10.86	
28588	822.97	406.87	105.29	12	2	1	1	1	1	10	1020	203	54	0	0	17	12	0	0	30	0	32	2/3	0	4	5.2	15.24	
30228	822	408	105.37-105.27	scree	3	1	1	2	0	15	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.1	0.12	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28575	822	405		20	3	1	1	1	1	10	1020	202	57	0	0	17	12	0	0	30	0	32	2	1	4	5.2	13.89	
28587	822.94	406.69	105.16	11	2	1	1	1	0	11	0	0	0	0	0	0	0	0	0	10	0	31	0	0	0	5.6	5.14	
28497	822	402	105.06	scree	3	1	1	4	0	13	0	220	20	0	0	17	12	13	0	10	0	14	0	0	0	5.9	5.78	
28526	822.65	407.7	105.20	22	3	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	31	12	0	1	5.2	4.96	
28569	822	405		19	2	1	1	1	0	13	0	0	0	0	0	17	12	13	0	10	0	14	0	0	0	3.1	1.31	
28594	822.04	406.92	105.18	18	2	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	0	1	8.2	13.7	
28524	822.49	407.18	105.20	20	3	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	1	1	5.2	9.2	
28522	822.20	407.16	105.19	19	3	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	12	0	1	8	10.73	
28441	822	405	105.36-105.26	1	1	1	1	6	0	11	0	0	0	0	0	17	12	13	0	30	0	0	0	0	0	3.8	3.4	
28436	822	404	105.37-104.76	1	1	1	1	1	1	10	1020	204	57	0	0	17	0	0	0	10	0	31	6	0	0	4.2	4.65	
28519	822.21	407.23	105.21	16	3	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	14	12	1	1	5.9	5.59	
28439	822.51	404.21	104.78	4	2	1	1	1	0	13	1000	305	20	0	0	16	12	13	0	10	0	14	5	0	1	8.8	5.35	
29697	822	407		4	1	1	1	2	0	13	0	0	0	0	0	0	12	13	0	30	0	0	0	0	0	2.6	2.12	
28591	822.45	406.90	105.23	15	2	1	1	1	0	11	0	0	0	0	0	17	12	0	0	10	0	70 /72	tool	0	0	1.4	0.74	
28568	822	405		19	2	1	1	1	0	14	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.5	0.4	
28533	822	407		scree	3	1	1	2	0	13	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	5.4	4.67	
28533	822	407		scree	3	2	1	11	0	13	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	6.1	34	
29700	822	407		scree	2	1	1	32	0	13	0	0	0	0	0	0	0	0	0	30	0	0	0	0	0	5.5	11.39	
29700	822	407		scree	2	2	1	2	0	13	0	220	0	0	0	0	0	0	0	30	0	15	12	0	0	2.4	1.9	
29700	822	407		scree	2	3	1	2	0	13	0	0	0	0	0	0	0	0	0	30	0	32	0	0	0	2.6	1.33	
28534	822	407		scree	3	1	1	12	1	10	1020	220	20	0	0	17	12	0	0	10	0	32	12	0	1	5.2	34.11	
30234	822	411	105.56	scree	1	1	1	51	0	11	0	0	0	0	0	17	12	13	0	30	0	43	0	0	0	3.1	14.28	
30234	822	411	105.56	scree	1	2	1	2	0	13	0	305	20	0	0	17	12	13	0	30	0	43	5	0	1	4.4	7.45	
30234	822	411	105.56	scree	1	3	2	2	0	14	0	220	20	0	0	17	12	0	0	10	0	0	0	0	0	3.1	1.26	
30234	822	411	105.56	scree	1	4	2	14	0	13	0	207	59	0	12	17	12	13	0	10	0	43	14	0	0	3.3	10.84	
30234	822	411	105.56	scree	1	5	8	7	0	23	0	207	59	0	0	16	12	13	0	10	0	0	0	0	0	1.1	1.31	
30234	822	411	105.56	scree	1	6	7	7	0	23	0	950	20	0	0	16	12	13	0	30	0	0	0	0	0	4.9	2.97	
30234	822	411	105.56	scree	1	7	2	2	0	20	1120	510	61	0	0	17	12	13	0	30	0	0	0	0	0	2.1	0.29	
30234	822	411	105.56	scree	1	8	2	2	0	20	1120	51	0	0	0	17	12	0	0	10	0	0	0	0	0	2.8	1.78	
30234	822	411	105.56	scree	1	9	2	2	0	10	2110	401	0	0	10	15	12	13	0	30	0	0	0	0	0	2.4	1.06	
30234	822	411	105.56	scree	1	10	2	2	0	20	1120	540	21	0	10	17	12	0	0	10	0	0	0	0	0	3.7	0.6	
30234	822	411	105.56	scree	1	11	2	2	0	20	1120	531	14	0	0	17	12	0	0	20	0	0	0	0	0	1.4	0.25	
30234	822	411	105.56	scree	1	12	2	2	0	20	1120	532	12	0	0	15	12	0	0	20	0	0	0	0	0	1.3	0.13	
30234	822	411	105.56	scree	1	13	2	2	0	20	1120	540	14	1	10	17	12	0	0	10	0	0	0	0	0	1.4	0.14	
28531	822.45	407.3	105.21	27	3	1	1	1	1	10	1020	220	20	0	0	17	12	0	0	10	0	31	0	0	1	6.8	8.86	
28571	822	405		19	2	1	1	1	0	13	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	3.1	0.81	
28539	822.2-(	408.60	105.39	3	2	1	1	1	0	12	0	220	20	0	0	17	12	13	0	10	0	14	12	0	1	4.8	2.08	
30200	822	403		scree	5	1	1	5	0	12	0	0	0	0	0	0	12	0	0	30	0	14	0	0	0	2.3	4.73	
28654	822.91	411.63-0.(	105.47	9	1	1	1	3	0	11	0	950	30	0	0	17	12	13	0	30	0	14	13	0	1	7.2	8.72	
28518	822.27	407.33	105.23	15	3	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	15	12	1	1	7.2	5.22	
28614	822.55	409.33-0.4	105.30	9	3	1	1	1	1	10	1020	204	55	0	0	17	12	13	0	10	0	15	6	0	1	10.9	16.48	
28520	822.26	407.16	105.21		3	1	1	2	1	10	1020	220	20	1	0	17	12	0	0	10	0	32	12	1	1	12.3	38.68	
28527	822.65	407.9	105.03	23	3	1	1	12	0	13	1000	302	41	0	0	17	12	13	0	30	0	0	0	0	0	5.8	0.42	
28577	822.26	406.61-0.(	105.14	1	2	1	1	2	0	11	0	220	20	2	0	16	12	0	0	10	0	32	12	3	1	8.6	12.93	
28597	822	406		21	3	1	1	6	0	12	0	0	0	0	0	0	12	0	0	10	0	14	0	0	0	4.6	3.32	
28521	822.12	407.6	105.19	18	3	1	1	1	0	13	0	220	20	2	0	17	12	0	0	10	0	14	12	0	1	6.3	4.35	
28582	822.29	406.15	105.08	6	2	1	1	1	0	11	0	0	0	0	0	0	12	0	0	10	0	25	0	0	0	4.8	3.43	
30226	822	408	105.47-105.37	scree	2	1	1	2	0	13	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.6	0.65	
28437	822	404	104.77	2	2	1	1	15	0	11	0	0	0	0	0	0	20	0	0	30	0	0	0	2	1	5.7	20.11	
28437	822	404	104.77	2	2	1	1	1	0	14	0	220	20	0	0	17	12	0	0	10	0	15	0	0	1	3.9	1.14	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
28583	822.38	406.39	105.09	7	2	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	31	12	0	1	4.5	5.09	
28584	822.32	406.94	105.21	8	2	1	1	1	0	11	0	220	20	0	0	17	12	0	0	10	0	31	12	0	1	6	3.75	
28590	822.45	406.90	105.23	15	2	1	1	1	1	10	1020	220	20	1	0	16	12	0	0	10	0	32	12	1	1	9.8	21.51	
28528	822.61	407.13	105.02	24	3	1	1	4	1	10	1020	220	20	1	0	16	12	0	0	10	0	32	12	0	1	9.8	26.13	
28516	822.54	407.62	105.25	13	3	1	1	1	0	13	0	222	12	0	0	12	0	0	0	10	0	15	4	0	1	6.4	3.98	
28572	822	405		19	2	1	1	4	0	14	0	0	0	0	0	17	0	0	0	10	0	0	0	0	0	1.8	0.7	
28535	822	407		scree	3	1	1	1	0	13	0	223	0	0	0	15	0	0	0	10	0	14	4	0	1	2.9	1.49	
28535	822	407		scree	3	2	1	13	0	13	0	0	0	0	0	0	12	0	0	10	0	14	0	1	0	2.8	10.98	
30204						1	2	2	1	10	1020	220	20	0	0	16	12	0	0	10	0	43	12	0	1	15.9	29.42	
30204						2	2	3	0	13	0	220	20	0	0	16	12	0	0	10	0	32	12	0	1	7.3	9.55	
30216						1	1	1	1	10	1020	314	11	2	10	11	12	0	0	0	0	0	0	0	0	3.5	13.39	
30208						1	2	2	1	10	1020	204	28	0	12	17	0	0	0	10	0	14	6	0	2	4.5	14.98	
30218						1	1	1	1	10	1020	402	67	2	0	17	12	0	0	10	0	26	6.1	0	1	5.6	26.64	0.9045
30220						1	1	1	0	13	1000	303	26	2	12	17	12	0	0	10	0	14	5	0	1	2.6	1.98	
30214						1	2	2	1	10	1020	310	11	0	10	11	0	0	0	0	0	0	0	0	0	2.8	17	
30211						1	1	1	1	20	1120	105	0	0	0	15	12	0	0	10	0	0	0	0	0	3.2	1.23	
30215						1	1	1	1	10	1020	309	11	1	10	11	0	0	0	0	0	0	0	0	0	4.3	15.62	
30217						1	1	1	0	13	0	304	13	2	12	17	12	0	0	10	0	0	0	0	0	2.3	0.93	
30205						1	1	1	1	20	1120	540	11	1	10	11	12	0	0	0	0	0	0	0	0	10.9	4.37	
30205						2	1	1	1	20	1120	540	11	2	10	11	12	0	0	0	0	0	0	0	0	10.9	4.41	
30205						3	1	1	1	20	1120	305	11	1	10	11	12	0	0	0	0	0	0	0	0	6.8	1.45	
30205						4	1	1	1	20	1120	305	11	2	10	11	12	0	0	0	0	0	0	0	0	6.8	1.49	
30205						5	1	1	1	20	1120	542	11	1	10	11	12	0	0	0	0	0	0	0	0	7.6	1.86	
30205						6	1	1	1	20	1120	542	11	2	10	11	12	0	0	0	0	0	0	0	0	7.6	2.01	
30205						7	1	1	1	20	1120	303	11	1	10	11	12	0	0	0	0	13	wing	0	0	6.9	2.56	
30205						8	1	1	1	20	1120	303	11	2	10	11	12	0	0	0	0	13	wing	0	0	6.9	3.54	
30205						9	1	1	1	20	1120	530	11	1	10	11	12	0	0	0	0	0	0	0	0	5.2	1.44	
30205						10	1	1	1	20	1120	530	11	2	10	11	12	0	0	0	0	0	0	0	0	5.2	1.25	
30205						11	1	1	1	20	1120	531	11	1	10	11	12	0	0	0	0	0	0	0	0	3.7	0.8	
30205						12	1	1	1	20	1120	433	11	2	10	11	12	0	0	0	0	0	0	0	0	7.8	3.77	
30205						13	1	1	1	20	1120	413	0	2	0	15	12	0	0	10	0	0	0	0	0	6.4	1.7	
30205						14	1	1	1	20	1120	402	0	1	0	15	12	0	0	10	0	0	0	0	0	5	1.16	
30205						15	1	1	1	20	1120	433	17	1	0	14	12	0	0	30	0	0	0	0	0	5.2	2.02	
30205						16	1	1	1	20	1120	302	17	2	0	14	12	0	0	10	0	0	0	0	0	3.3	0.49	
30205						17	1	1	1	20	1120	304	11	2	0	11	12	0	0	0	0	0	0	0	0	6	0.63	
30205						18	1	2	1	20	1120	205	0	0	0	15	12	0	0	10	0	0	0	0	0	5.2	1.7	
30205						19	1	1	1	20	1120	520	12	0	0	12	12	0	0	10	0	0	0	0	0	6.1	0.57	
30205						20	1	1	1	20	1120	220	20	0	0	17	12	0	0	10	0	0	0	0	0	4.3	0.3	
30205						21	1	1	1	20	1120	510	61	0	10	16	12	0	0	10	0	0	0	0	0	5.6	1.94	
30205						22	1	1	1	20	1120	433	24	1	10	17	12	0	0	10	0	14	leg	0	1	2.8	1.31	
30205						23	1	1	2	20	2111	413	0	1	0	17	12	0	0	10	0	0	0	0	0	4.3	0.46	
30205						24	1	1	2	20	2111	413	0	2	0	17	12	0	0	10	0	0	0	0	0	2.9	0.3	
30205						25	1	1	2	20	2111	433	24	1	10	15	12	0	0	10	0	0	0	0	0	3.2	0.29	
30205						26	1	2	2	20	2111	205	0	0	10	17	12	0	0	10	0	0	0	0	0	6.7	2.11	
30205						27	1	1	2	20	1130	302	14	2	10	17	12	0	0	10	0	0	0	0	0	2.2	0.76	
30205						28	1	1	2	20	1130	530	12	2	10	12	12	0	0	10	0	0	0	0	0	7.4	2.77	
30205						29	1	1	2	20	1130	433	12	2	30	12	12	0	0	10	0	0	0	0	0	8.4	3.39	
30205						30	1	6	0	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.4	0.25	
30205						31	1	1	0	13	1000	303	19	2	12	12	12	0	0	0	0	13	0	3 cutma	1	8.2	12.04	
30205						32	1	1	0	13	1000	304	17	2	12	16	12	0	0	10	0	0	0	0	0	3.8	3.03	

CATALOG #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PORTION / PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD.	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL MARK ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	STEAK THICKNESS
30205						33	1	1	2	50	1000	985	11	1	0	11	12	20	0	10	0	0	0	0	0	4.5	0.36	
30205						34	1	1	2	50	1000	985	11	2	0	11	12	0	0	10	0	0	0	0	0	4.5	0.42	
30205						35	2	2	2	50	1000	999	11	0	0	11	12	0	0	10	0	0	0	0	0	3.1	0.1	
30205						36	1	1	2	50	1000	100	0	0	0	17	12	0	0	10	0	0	0	0	0	2.6	0.34	
30205						37	1	1	2	50	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.4	0.05	
30206						1	1	1	2	50	3010	982	11	2	0	11	0	0	0	10	0	0	0	0	0	3.3	0.3	
30206						2	1	1	2	50	3010	987	12	1	0	12	0	0	0	10	0	0	0	0	0	3.9	0.47	
30206						3	1	1	2	50	1000	988	11	2	0	11	0	0	0	10	0	0	0	0	0	4.3	0.59	
30206						4	1	1	2	50	1000	983	11	1	0	11	0	0	0	10	0	0	0	0	0	1.3	0.08	
30206						5	1	1	2	50	1000	986	11	1	0	11	0	0	0	10	0	0	0	0	0	2.9	0.35	
30206						6	2	2	2	50	1000	992	11	0	0	11	0	0	0	10	0	0	0	0	0	3.5	0.76	
30206						7	1	1	2	50	1000	984	11	1	0	11	0	0	0	10	0	0	0	0	0	3.7	0.31	
30206						8	1	1	2	50	1000	987	11	2	0	11	0	0	0	10	0	0	0	0	0	3	0.34	
30206						9	1	1	2	50	1000	981	11	2	0	11	0	0	0	10	0	0	0	0	0	4.4	0.85	
30206						10	1	1	2	50	1000	982	11	1	0	11	0	0	0	10	0	0	0	0	0	4.4	0.68	
30206						11	1	1	2	50	1000	982	11	2	0	11	0	0	0	10	0	0	0	0	0	3.8	0.36	
30206						12	2	2	2	50	1000	999	11	2	0	11	0	0	0	10	0	0	0	0	0	3.1	0.76	
30206						13	1	25	2	50	1000	100	12	0	0	12	0	0	0	10	0	0	0	0	0	6.5	4.65	
30206						14	1	14	2	50	3010	100	12	2	0	12	0	0	0	10	0	0	0	0	0	1.9	2.47	
28696	822	415	104.57-104.40	scree	9		1	1	2	50	6000	986	12	1	0	12	12	0	0	10	0	0	0	0	0	2.1	0.08	
28696	822	415	104.57-104.40	scree	9		1	1	2	50	6000	988	12	1	0	12	12	0	0	10	0	0	0	0	0	2.7	0.21	
28696	822	415	104.57-104.40	scree	9		1	1	2	50	6000	988	12	2	0	12	12	0	0	10	0	0	0	0	0	2.7	0.32	
28696	822	415	104.57-104.40	scree	9		1	1	2	50	6000	999	12	1	0	12	12	0	0	10	0	0	0	0	0	1.8	0.11	
28743	822	416.59	104.19	33	2		1	11	2	50	6000	999	12	0	0	12	12	0	0	10	0	0	0	0	0	2.2	0.42	
28743	822	416.59	104.19	33	2		1	2	2	50	6000	988	12	1	0	12	12	0	0	10	0	0	0	0	0	3	0.3	
28743	822	416.59	104.19	33	2		1	1	2	50	6000	988	12	2	0	12	12	0	0	10	0	0	0	0	0	2.9	0.37	
28708	822	416	104.45	2	2		1	1	2	50	6000	988	12	1	0	12	12	0	0	10	0	0	0	0	0	2.6	0.23	
28708	822	416	104.45	2	2		2	2	2	50	6000	988	12	1	0	12	12	0	0	10	0	0	0	0	0	3.1	0.33	
28708	822	416	104.45	2	2		1	1	2	50	6000	988	12	2	0	12	12	0	0	10	0	0	0	0	0	2.6	0.22	
28708	822	416	104.45	2	2		3	3	2	50	6000	988	12	2	0	12	12	0	0	10	0	0	0	0	0	3.1	0.33	
28708	822	416	104.45	2	2		4	4	2	50	2020	995	12	0	0	12	12	0	0	10	0	0	0	0	0	2.4	0.43	
28708	822	416	104.45	2	2		1	1	2	50	2020	100	11	0	0	11	12	0	0	10	0	0	0	0	0	4	0.65	
28708	822	416	104.45	2	2		1	1	2	50	1000	986	12	1	0	12	12	0	0	10	0	0	0	0	0	2	0.12	
28708	822	416	104.45	2	2		1	1	2	50	1000	985	11	2	0	11	12	0	0	10	0	0	0	0	0	3.7	0.17	
28708	822	416	104.45	2	2		2	2	2	50	1000	992	12	0	0	12	12	0	0	10	0	0	0	0	0	1.9	0.11	
28708	822	416	104.45	2	2		1	1	2	50	0	996	12	0	0	12	12	0	0	10	0	0	0	0	0	2.3	0.12	
28708	822	416	104.45	2	2		1	1	2	50	5000	991	12	2	0	12	12	0	0	10	0	0	0	0	0	2.4	0.08	
28708	822	416	104.45	2	2		1	5	2	50	5000	999	12	2	0	12	12	0	0	10	0	0	0	0	0	1.4	0.12	
28708	822	416	104.45	2	2		2	2	2	50	0	0	0	0	0	15	12	0	0	10	0	0	0	0	0	1.8	0.16	
28708	822	416	104.45	2	2		1	1	0	10	0	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.1	0.26	
28708	822	416	104.45	2	2		1	3	0	23	0	220	0	0	0	16	12	0	0	10	0	0	0	0	0	3.3	0.26	

APPENDIX E – QUARTERMASTER'S DUMP BLOCKS One AND Two

SITE #: 48G01 Excavation Year: 1994 Access #: 851 = Block 1; 852= Block 2

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22113	851	967	864	-	1	100.23-100.13	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	30	0	26	0	0	1	4.7	6.1	
22127	851	966.55	864.22	100.12	2	100.19-100.09	1	1	1	1	10	1020	433	23	2	0	17	12	0	0	10	0	26	8.1	0	1	4.4	32.6	1.4
22142	851	966	864	-	7	100.99-99.99	1	1	1	1	10	1020	457	16	2	12	0	12	0	0	10	0	32	9	0	2	4.7	2.5	
22157	851	969.72	865.81	100.066	26	100.116-100.006	1	1	1	2	10	1521	433	17	2	10	14	12	99	0	30	0	26	7	0	1	12.4	2.73	
22157	851	967.17	863.38	100.116	4	100.14-100.04	1	1	1	1	10	1020	435	17	2	10	15	11	12	0	30	0	25	8	2	1	17.3	250.6	
22157	851	968	864	-	2	100.16-100.06	1	1	3	1	11	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.9	0.07	
22157	851	968.98	865.11	100.065	12	100.074-100.052	1	1	26	0	11	1000	0	0	0	0	0	12	0	0	10	0	0	0	0	0	7.1	4.7	
22157	851	968	864	-	2	100.16-100.06	1	1	1	1	11	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	2.4	0.04	
22158	851	967.15	863.49	100.116	5	100.14-100.04	1	1	1	1	10	1020	437	11	1	10	11	11	12	0	0	0	0	9	0	0	3.2	10.7	
22163	851	967.45	863.3	100.16	10	100.14-100.04	1	1	1	1	10	1020	433	13	2	12	12	11	12	0	0	0	31	8	1	1	4.4	23.4	
22164	851	967.54	863.33	100.106	13	100.14-100.04	1	1	4	1	10	1020	435	15	2	12	17	11	12	0	30	0	31	7/8	0	1	6.4	35.8	
22165	851	967.44	863.26	100.106	11	100.14-100.04	1	1	3	1	10	1400	175	0	0	0	12	0	0	0	20	0	0	C	0	0	0	3.6	
22172	851	967.58	863.8	100.096	17	100.14-100.04	1	1	1	1	10	1020	303	23	1	12	0	11	12	0	10	0	22	5	0	2	4.9	14.3	
22173	851	967.88	863.57	100.096	19	100.14-100.04	1	1	1	1	10	1020	433	23	2	0	17	11	12	0	10	0	26	8.1	2	1	5.4	34.1	0.9
22177	851	967.75	863.15	100.096	24	100.14-100.04	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	31	0	0	2	7.6	20.9	
22178	851	967.85	863.12	100.096	25	100.14-100.04	1	1	1	1	10	1020	447	11	1	10	11	11	12	0	0	0	0	9	0	0	6.1	61.8	
22181	851	967.50	863.86	100	32	100.0499.94	1	1	2	2	12	1520	357	12	2	17	12	12	0	0	0	0	0	9	0	0	13.8	35.9	
22182	851	967.93	863.02	100.04	33	100.04-99.04	1	1	1	1	11	1020	303	24	2	11	17	11	12	0	10	0	41	5	1	1	8.23	40.2	
22189	851	967	863	-	1	100.24-100.14	1	1	3	0	11	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	1.9	2.3	
22190	851	967.81	863.11	100.106	30	100.14-100.04	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	26	0	0	1	3.4	7.1	
22206	851	968	866	100.05	4	100.13-100.03	1	1	1	1	11	1020	303	25	1	12	17	11	12	0	30	0	31	5.1	0	1	5.9	30.4	2.5
22207	851	968	866	100.04	3	100.13-100.03	1	1	23	1	11	1020	433	17	2	12	15	11	12	0	30	0	25	7	0	1	10.5	180.1	
22208	851	968	866	100.10	5	100.13-100.03	1	1	2	0	11	1000	220	16	0	0	17	11	12	0	30	0	50	12	0	1	6.4	10.1	
22216	851	968	867	screen bag	3	10 cm	1	1	1	0	11	1000	0	0	0	0	0	0	0	0	10	16	0	0	0	0	0.6	0.01	
22216	851	968	867	screen bag	3	10 cm	2	1	7	0	11	1000	0	0	0	0	0	11	12	0	10	0	13	0	0	5	3.9	3.2	
22241	851	968	869	screen bag	5	AL 1/2 8 cm	1	1	1	0	13	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	1.3	0.5	
22261	851	968.84	864.37	100.091	11	100.16-100.06	3	1	n/a	1	10	1020	302	41	0	0	0	0	0	0	0	0	0	2	0	0	0	26.43	
22261	851	968.84	864.37	100.091	11	100.16-100.06	2	1	66	1	10	1020	302	41	0	0	0	0	0	0	0	0	0	2	0	0	5.1	26.42	
22261	851	968.84	864.37	100.091	11	100.16-100.06	1	1	2	1	10	1020	302	41	2	10	15	11	12	0	30	0	40	2	2	5	22	90.03	
22263	851	968.99	864.26	100.103	9	100.16-100.06	2	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	0	0	0	0	6.1	5	
22263	851	968.99	864.26	100.103	9	100.16-100.06	1	1	1	0	11	1000	220	30	0	0	17	12	0	0	0	0	50	12	1	1	13.4	23.2	
22266	851	968.91	864.47	100.64	5	100.16-100.06	1	1	1	1	11	1020	302	12	1	0	12	11	12	0	10	0	26	2	1	1	16.8	131.6	
22291	851	968	866	-	13	100.13-100.03	1	1	2	0	13	1000	950	30	0	0	0	0	0	0	10	0	31	0	0	2	5.2	4.9	
22302	851	968	864	-	-	100.26-100.16	1	1	8	0	11	1000	220	20	0	0	17	12	0	0	30	0	25	12	0	1	9.9	24	
22308	851	968.84	863.14	100.066	61	100.14-100.04	1	1	1	1	10	1020	433	23	1	0	17	11	12	0	10	0	26	8.1	2	1	5.1	50.1	2.4
22331	851	968.53	863.25	100.106	26	100.14-100.04	1	1	1	0	11	1000	950	30	0	0	0	0	0	0	10	0	50	0	0	1	3.3	2.7	
22333	851	968.56	863.36	100.136	28	100.14-100.04	1	1	9	0	11	1000	950	30	0	0	0	11	12	0	10	0	90	0	0	2	6.2	13.8	
22338	851	968	863	screen bag	64	100.06-99.96	1	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.7	0.1	
22345	851	968.62	863	100.176	41	100.14-100.04	1	1	1	0	12	1000	220	20	0	0	16	11	12	0	10	0	32	12	1	1	6.2	14.2	
22359	851	968.91	863.02	100.05	63	100.04-99.04	1	1	1	1	10	1020	203	50	0	0	16	12	0	0	10	0	22	2/3	0	2	8.9	19..4	
22391	851	969.57	872.36	99.946	10	99.986-99.886	1	1	1	1	10	1020	402	67	2	0	17	11	12	0	10	0	26	6.1	0	1	10.3	66.9	2.2
22395	851	969.05	872.08	99.886	15	99.986-99.886	2	1	1	1	11	1020	204	50	0	0	17	11	12	0	10	0	0	6	0	0	6.8	18	
22395	851	969.05	872.08	99.886	15	99.986-99.886	1	1	5	2	12	1520	302	12	1	10	12	11	12	0	30	0	0	2	0	0	13.2	43.2	
22415	851	969.75	872.02	99.926	39	99.986-99.886	1	1	2	0	11	1000	950	30	0	0	0	11	12	0	30	0	90	0	1	4	5.8	15.2	
22439	851	969	872	-	1	100.086-99.986	1	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0.01	
22451	851	968.82	865.56	100.098	14	100.074-100.052	1	1	7	0	10	1000	220	20	0	0	15	11	12	0	30	0	90	12	0	1	14.8	22.8	
22462	851	968	865	screen bag	1	100.283-100.183	1	1	5	0	11	1000	950	30	0	0	0	0	0	0	30	0	0	0	0	0	2	1.5	
22469	851	968	865	screen bag	10	100.183-100.074	1	1	9	0	11	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	1.6	2.4	
22478	851	968	865	screen bag	11	100.074-100.052	1	1	6	0	12	1000	950	30	0	0	0	0	0	0	30	0	0	0	0	0	1.1	0.9	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22480	851	968.71	865.72	100.099	13	100.074-100.052	1	1	7	0	11	1000	220	20	0	0	17	11	12	0	30	0	50	12	0	1	13.7	19.1	
22490	851	969	872	-	5	99.986-99.886	1	1	14	1	10	1020	207	59	0	12	0	12	0	0	30	0	40	14	0	4	4.2	21.4	
22490	851	969	872	-	5	99.986-99.886	3	1	15	0	12	1000	0	0	0	0	0	12	0	0	30	0	90	0	0	4	2.9	3.4	
22490	851	969	872	-	5	99.986-99.886	2	1	5	0	13	1000	950	30	0	0	0	12	0	0	10	0	13	0	0	5	3.4	0.6	
22516	851	969.80	871.75	99.926	9	100.00-99.90	1	1	1	0	11	1020	204	51	0	0	16	12	0	0	10	0	26	6.1	0	6	10.3	48.8	2.2
22517	851	969.62	871.52	99.936	10	100.00-99.90	1	1	1	1	20	2100	303	12	2	12	12	0	0	0	0	0	60	5	0	4	6.7	1.1	
22525	851	969.43	871.90	99.956	18	100.00-99.90	1	1	2	0	11	1000	207	28	0	12	17	12	0	0	10	0	22	14	0	2	3.9	13.3	
22533	851	969.11	871.99	99.986	27	100.00-99.90	1	1	3	0	11	1000	207	59	0	0	0	12	0	0	30	0	50	14	0	4	6.5	17.2	
22553	851	969	871	-	2	100.136-100.00	1	1	1	2	10	1520	220	19	0	12	16	12	0	0	30	0	32	12	0	1	6.3	3.9	
22553	851	969	871	-	2	100.136-100.00	2	1	31	0	12	1000	207	59	0	12	0	11	12	0	30	0	50	14	0	4	4.3	23.7	
22576	851	969.06	873.55	99.956	7	99.976-99.876	1	1	5	1	10	1020	200	51	0	11	16	12	0	0	30	0	50	1	0	1	9.4	51.6	
22600	851	969	873	-	6	99.976-99.876	1	1	7	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	1.7	2	
22645	851	969.09	864.02	100.122	2	100.16-100.06	1	1	3	0	11	1000	220	16	0	0	17	11	12	0	30	0	32	12	0	1	5.1	12.9	
22649	851	969.63	864.04	100.141	6	100.16-100.06	1	1	8	1	10	1020	204	50	0	12	16	11	12	0	30	0	32	6	3	2	7.5	56.2	
22652	851	969.39	864.5	100.156	9	100.16-100.06	1	1	2	0	11	1000	950	30	0	0	0	0	0	0	10	0	90	0	0	4	4.6	3.5	
22654	851	969.61	864.50	100.131	11	100.16-100.06	1	1	1	0	11	1000	950	30	0	0	0	11	12	0	10	0	40	0	0	5	4.2	6.7	
22668	851	969.09	864.77	100.166	26	100.16-100.06	1	1	1	1	10	1020	207	59	0	0	0	12	0	0	10	0	22	14	0	4	4.2	10.8	
22669	851	969.15	864.88	100.148	29	100.16-100.06	1	1	2	0	11	1000	207	59	0	0	0	11	12	0	30	0	50	14	0	4	2.6	3.7	
22670	851	969.46	864.81	100.091	30	100.16-100.06	1	0	4	0	11	1000	220	19	0	0	17	11	12	0	30	0	41	12	0	1	14.3	47.3	
22673	851	969.14	864.43	100.121	34	100.16-100.06	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	25	0	0	1	6.3	4.7	
22680	851	969.21	864.80	100.134	40	100.16-100.06	1	1	5	0	11	1000	0	0	0	0	0	12	0	0	10	0	11	0	0	4	4.1	0.29	
22681	851	969.22	864.89	100.136	41	100.16-100.06	1	1	1	0	11	1000	207	59	0	0	0	12	0	0	10	0	25	14	0	1	3.3	6.4	
22699	851	969	864	-	1	100.16-100.06	5	1	2	0	11	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	0.8	0.9	
22699	851	969	864	-	1	100.16-100.06	6	1	29	0	11	1000	950	30	0	0	0	12	0	0	30	0	0	0	0	0	5.7	5.8	
22699	851	969	864	-	1	100.16-100.06	4	1	4	0	11	1000	220	20	0	0	17	12	0	0	10	0	50	12	0	1	5.7	12.7	
22699	851	969	864	-	1	100.16-100.06	2	1	8	0	11	1000	207	59	0	0	0	12	0	0	30	0	0	14	0	0	3.5	6.4	
22699	851	969	864	-	1	100.16-100.06	3	1	8	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	0.7	2.2	
22699	851	969	864	-	1	100.16-100.06	1	1	1	0	30	1000	660	73	0	0	0	0	0	0	0	0	0	0	0	0	2	0.7	
22700	851	969	864	-	1	100.16-100.06	1	1	8	2	30	1000	671	73	0	0	0	12	0	0	0	0	0	0	0	0	2.9	0.09	
22722	851	969.49	865.05	100.036	16	100.116-100.006	1	1	1	1	11	1020	407	12	1	10	12	11	12	0	10	0	26	6	0	1	14.1	206.3	
22725	851	969.06	865.83	100.096	19	100.116-100.006	1	1	27	0	11	1000	220	20	0	0	17	12	0	0	30	0	25	12	0	1	9.5	17.5	
22726	851	969.42	865.89	100.046	20	100.116-100.006	3	1	12	1	10	1020	433	30	0	0	0	0	0	0	10	0	0	8	0	0	0	0.37	
22726	851	969.42	865.89	100.046	20	100.116-100.006	2	1	12	1	10	1020	433	30	0	0	0	0	0	0	10	0	0	8	0	0	0	0.04	
22726	851	969.42	865.89	100.046	20	100.116-100.006	1	1	2	1	10	1020	433	14	1	12	17	12	0	0	10	0	41	8	1	1	13.9	75.8	
22727	851	969.40	865.82	100.086	21	100.116-100.006	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	25	0	0	1	6.8	32.7	
22729	851	969.86	865.89	100.026	23	100.116-100.006	1	1	4	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	6.1	12.5	
22730	851	969.93	865.89	100.016	24	100.116-100.006	1	1	1	2	11	1020	204	55	0	12	17	12	0	0	10	0	25	6	0	1	7.7	41.9	
22733	851	969.5	865.89	100.056	27	100.116-100.006	1	1	2	1	10	1020	203	60	0	10	16	12	99	0	10	0	31	2/3	1	2	10.5	2.45	
22736	851	969.16	865.56	100.086	30	100.16-100.06	1	1	2	1	10	1020	220	17	2	10	16	12	0	0	10	0	31	12	0	2	11.9	34.8	
22736	851	969.38	865.81	100.086	31	100.116-100.006	1	1	5	0	11	1000	950	30	0	0	0	11	12	0	30	0	25	0	0	1	9.2	49.7	
22737	851	969.68	865.59	100.066	32	100.116-100.006	2	1	8	1	11	1020	204	51/55	0	12	16	11	12	0	10	0	31	6	0	1	9.7	37.5	
22737	851	969.68	865.59	100.066	32	100.116-100.006	1	1	2	1	11	1020	220	12	2	12	12	12	0	0	30	0	41	12	3	1	15.7	58.6	
22738	851	969.51	865.56	100.086	33	100.116-100.006	1	1	1	1	11	1020	220	17	2	16	12	12	0	0	10	0	25	2	0	1	16.7	63.7	
22746	851	969.61	865.62	100.056	44	100.16-100.06	1	1	7	1	10	1020	207	59	0	0	0	11	12	0	30	0	90	14	0	4	6	24.7	
22747	851	969.85	865.47	100.056	45	100.16-100.06	1	1	1	0	11	1000	220	22	0	12	17	11	12	0	30	0	50	12	0	1	10.4	21.4	
22750	851	969.89	865.21	100.016	48	100.116-100.006	1	1	1	2	10	1521	304	17	2	10	14	12	0	0	10	0	25	5	0	1	14.2	54	
22754	851	969.36	865.03	100.056	52	100.116-100.006	1	1	2	1	11	1020	408	67	1	12	17	11	12	0	10	0	41	7	0	1	7.2	69.6	
22755	851	969.47	865.22	100.086	53	100.116-100.006	1	1	1	1	11	1020	223	73	0	12	15	11	12	0	10	0	25	12	0	1	6.6	49.2	
22757	851	969.69	865.03	100.056	55	100.116-100.006	1	1	1	0	11	1000	204	50	0	0	16	12	0	0	10	0	25	6	0	2	6.7	20.87	
22759	851	969.26	865.47	100.096	57	100.116-100.006	1	1	5	0	11	1000	402	67	0	0	17	11	12	0	30	0	0	6	0	0	11.4	80.8	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22768	851	969	865	-	1	100.216-100.116	2	1	16	0	11	1000	0	0	0	0	0	12	0	0	30	0	40	0	0	4	5.7	12.1	
22768	851	969	865	-	1	100.216-100.116	3	1	22	0	11	1000	950	30	0	0	0	11	12	0	30	0	40	0	0	5	4.5	13.7	
22768	851	969	865	-	1	100.216-100.116	4	1	24	0	11	1000	207	59	0	12	0	11	12	0	30	0	50	14	0	4	4.3	16.7	
22768	851	969	865	-	1	100.216-100.116	1	1	11	0	12	1000	207	59	0	0	0	0	0	0	10	0	0	14	0	0	0.9	1.3	
22791	851	969	865	-	15	100.16-100.06	13	1	n/a	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.09	
22791	851	969	865	-	15	100.16-100.06	5	1	1	1	10	1020	220	19	0	0	17	11	12	0	10	0	32	12	0	1	1.5	2.2	
22791	851	969	865	-	15	100.16-100.06	7	1	18	1	10	1020	207	28	0	0	0	11	12	0	10	0	11	14	0	4	15.9	5.2	
22791	851	969	865	-	15	100.16-100.06	6	1	7	1	10	1020	207	59	0	0	0	11	12	0	10	0	11	14	0	4	1.26	3.9	
22791	851	969	865	-	15	100.16-100.06	2	1	25	0	11	1000	0	0	0	0	0	12	0	0	10	0	11	0	0	4	6.2	9.5	
22791	851	969	865	-	15	100.16-100.06	4	1	23	0	11	1000	0	0	0	0	0	0	0	0	10	0	11	0	0	4	12.7	3.9	
22791	851	969	865	-	15	100.16-100.06	1	1	14	0	11	1000	0	0	0	0	0	12	0	0	10	0	11	0	0	4	6.4	11.9	
22791	851	969	865	-	15	100.16-100.06	3	1	7	0	11	1000	950	30	0	0	0	12	0	0	10	0	11	0	0	4	5.1	4.3	
22791	851	969	865	-	15	100.16-100.06	9	1	29	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0.7	0.06	
22791	851	969	865	-	15	100.16-100.06	8	1	32	0	12	1000	0	0	0	0	0	12	0	0	30	0	40	0	0	4	1.4	1.9	
22791	851	969	865	-	15	100.16-100.06	11	2	2	0	12	1000	220	19	0	0	16	12	0	0	10	0	50	12	0	1	6	0.09	
22791	851	969	865	-	15	100.16-100.06	10	1	3	0	12	1000	207	28	0	0	0	12	0	0	30	0	40	14	0	4	1.4	0.03	
22791	851	969	865	-	15	100.16-100.06	12	1	1	2	20	1130	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0.8	0.01	
22791	851	969	865	-	15	100.16-100.06	12	1	1	2	20	1130	510	61	0	0	17	12	0	0	0	0	0	0	0	0	2.5	0.08	
22791	851	969	865	-	15	100.16-100.06	12	1	1	2	20	1130	220	15	0	12	15	0	0	0	0	0	0	12	0	0	1.4	0.01	
22813	851	969	870	-	1	100.146-100.046	1	1	24	1	11	1020	0	0	0	0	0	12	0	0	30	0	11	0	0	4	6.3	18.1	
22834	851	969	870	-	5	99.946-99.896	1	1	37	0	11	1000	207	59	0	0	0	11	12	0	30	0	50	14	0	4	6.9	32.3	
22839	851	969.49	866.34	100.56	6	100.146-100.046	1	1	4	1	11	1020	220	19	0	0	16	11	12	0	30	0	32	12	0	1	16.8	49.8	
22845	851	969.50	866.47	100.076	13	100.146-100.046	9	1	9	0	12	1000	220	20	0	0	17	11	12	0	30	0	50	12	0	1	6.9	10.2	
22849	851	969.57	866.88	100.051	17	100.146-100.046	1	1	3	0	11	1000	0	0	0	0	0	12	99	0	10	0	13	0	1	5	6.5	0.28	
22851	851	969.47	866.83	100.041	20	100.146-100.046	1	1	1	1	11	1020	404	67	2	12	17	11	12	0	10	0	31	6/7	0	1	9.2	72.1	
22852	851	969.63	866.1	100.013	24	100.046-99.946	1	1	1	0	11	1000	220	20	0	0	17	11	12	0	30	0	50	12	0	1	4.9	8.6	
22863	851	969	866	-	1	100.146-100.046	1	1	1	0	10	1020	204	54	0	12	17	11	12	0	10	0	31	6	0	2	7.8	20.6	
22863	851	969	866	-	1	100.146-100.046	5	1	6	0	11	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	0.8	1.3	
22863	851	969	866	-	1	100.146-100.046	9	1	13	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	2.3	1.5	
22863	851	969	866	-	1	100.146-100.046	6	1	2	0	12	1000	950	30	0	0	0	11	12	0	30	0	40	0	0	1	3.1	2.7	
22863	851	969	866	-	1	100.146-100.046	4	1	3	0	12	1000	207	59	0	0	0	11	12	0	30	0	50	14	0	4	2.6	6.2	
22863	851	969	866	-	1	100.146-100.046	3	1	1	0	13	1000	220	20	0	0	17	11	12	0	10	0	32	12	0	1	4.5	1.9	
22863	851	969	866	-	1	100.146-100.046	2	1	1	0	13	1000	433	13	2	12	17	11	12	0	10	0	0	37	0	0	10.5	2	
22863	851	969	866	-	1	100.146-100.046	8	1	1	2	20	2100	303	15	1	12	16	12	0	0	10	0	0	5	0	0	2.6	0.5	
22863	851	969	866	-	1	100.146-100.046	7	1	2	0	24	0	950	30	0	0	0	0	0	0	10	0	0	0	0	0	0.01	0.9	
22873	851	969	866	-	22	100.046-99.946	3	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	90	0	0	4	1.6	1.5	
22873	851	969	866	-	22	100.046-99.946	1	1	23	0	11	1000	220	20	0	0	17	11	12	0	30	0	25	12	0	1	5.4	27.6	
22873	851	969	866	-	22	100.046-99.946	2	1	3	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	1.1	3.1	
22886	851	969.35	867.86	100.03	10	100.06-99.96	1	1	8	1	13	1112	435	12	2	15	12	11	12	0	30	0	0	28	0	0	20.1	52.5	
22887	851	969.25	867.46	100.026	11	100.06-99.96	1	1	3	1	10	1020	220	15	2	12	18	11	12	0	30	0	50	12	0	1	5.2	14.3	
22900	851	969.44	868.28	1.31	8	1.23-1.33	1	1	1	1	10	1020	357	11	2	11	11	12	0	0	0	0	0	9	0	0	6.4	38.6	
22901	851	969.33	868.05	1.27	9	1.23-1.33	1	1	1	1	13	1112	439	11	1	12	11	11	12	0	0	0	0	9	0	0	4.4	8.6	
22906	851	969.16	868.4	1.27	6	1.23-1.33	1	1	1	0	11	1000	207	59	0	0	0	11	12	0	30	0	50	14	0	4	6.4	21.6	
22907	851	969.88	868.57	1.35	11	1.33-1.41	1	1	103	1	11	1000	0	0	0	0	0	12	0	0	10	0	11	0	0	4	1.8	0.55	
22908	851	969	868	1.13	2	1.13-1.23	1	1	1	0	13	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	0.6	0.1	
22918	851	969	868	1.23-1.33	4	AL 1/2	1	1	5	0	11	1000	950	30	0	0	0	12	0	0	10	0	90	0	0	4	3.4	3.5	
22928	851	969.9	863.63	100.86	68	100.16-100.06	1	1	1	1	10	1020	304	12	1	0	13	11	12	0	0	0	26	5	3	1	19.1	401.7	
22950	851	969	867	-	1	100.16-100.06	1	1	3	0	11	1000	950	30	0	0	0	12	0	0	10	0	0	0	0	0	2.7	1.8	
22961	851	969	867	-	7	100.06-99.96	4	1	4	0	12	1000	950	30	0	10	0	11	12	0	10	0	0	0	0	0	2.6	2.8	
22961	851	969	867	-	7	100.06-99.96	1	1	2	0	12	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	2.4	1.43	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22961	851	969	867	-	7	100.06-99.96	2	1	3	0	12	1000	207	50	0	0	0	11	12	0	10	0	0	14	0	0	1.7	1.46	
22961	851	969	867	-	7	100.06-99.96	3	1	1	0	13	1000	934	24	0	0	0	11	12	0	10	0	0	9	0	0	1.6	1.04	
22997	851	969	869	-	1	100.154-100.054	1	1	2	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	1.7	1.6	
23007	851	969.7	863.57	100.026	74	100.16-100.06	1	1	1	1	10	1020	305	16	2	12	16	11	12	0	30	0	22	5	1	1	14.9	42.6	
23008	851	969.63	863.46	99.996	76	100.16-100.06	1	1	13	2	10	1521	457	11	2	16	11	12	0	0	0	0	0	9	0	0	12.9	47	
23011	851	863	969	-	1	AL1/2 & AL 1/1	2	1	2	2	10	1520	184	0	0	0	0	0	0	0	10	0	0	C	0	0	0	0.01	
23011	851	863	969	-	1	AL1/2 & AL 1/1	3	1	3	0	11	1000	0	0	0	0	0	0	0	0	10	0	11	0	0	4	2.5	0.18	
23011	851	863	969	-	1	AL1/2 & AL 1/1	4	1	1	0	11	1000	0	0	0	0	0	0	0	0	10	16	11	0	0	4	0.7	0.01	
23011	851	863	969	-	1	AL1/2 & AL 1/1	1	1	4	0	11	1000	950	30	0	0	0	12	0	0	10	0	11	0	0	4	3.3	0.16	
23057	851	969	869	-	2	100.054-99.954	1	1	18	0	11	1000	207	59	0	12	0	12	0	0	30	0	50	14	0	4	3.5	17.3	
23062	851	969.44	869.10	99.984	3	100.054-99.954	1	1	1	1	13	1111	435	24	2	12	15	11	12	0	10	0	50	28	0	1	11.9	37.4	
23067	851	969	869	-	4	99.954-99.854	1	1	10	0	11	1000	950	30	0	0	0	11	12	0	30	0	90	0	0	4	2.3	5.3	
23073	851	968.77	871.11	1.28	6	1.24-1.29	1	1	2	1	10	1020	435	14	1	12	17	11	12	0	30	0	22	7	0	1	9.7	48.1	
23078	851	968.87	871.82	1.31	15	1.29-1.34	1	1	1	1	10	1020	220	20	0	0	16	12	0	0	30	0	25	12	0	1	7.4	14.8	
23079	851	968.66	871.61	1.32	17	1.29-1.34	1	1	3	0	11	1000	302	41	0	12	17	11	12	0	30	0	13	2	4	5	6.5	10.3	
23082	851	968.95	871.8	1.3	20	1.29-1.34	1	1	1	1	10	1020	220	16	0	0	16	12	0	0	10	0	25	12	2	1	9.1	19.8	
23083	851	968.95	871.87	1.3	21	1.29-1.34	1	1	1	0	13	1000	305	20	1	11	16	12	0	0	10	0	50	5	0	2	7.4	3.9	
23091	851	968	871	-	3	1.19-1.24	1	1	6	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	3	8.1	
23109	851	968.53	872.35	1.34	11	1.29-1.34	1	1	7	1	10	1020	207	59	0	12	0	11	12	0	10	0	32	14	0	1	4.1	21.2	
23127	851	968	872	-	10	1.24-1.29	1	1	9	1	11	1000	950	30	0	0	0	12	0	0	10	0	40	0	0	1	7.1	0.44	
23139	851	968	872	-	14	1.29-1.34	2	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	13	0	1	5	3.1	0.08	
23139	851	968	872	-	14	1.29-1.34	1	1	11	0	11	1000	207	59	0	0	0	12	0	0	30	0	0	14	0	0	2.8	0.15	
23150	851	969.55	863.94	100.046	46	100.16-100.06	1	1	7	1	11	1020	402	67	0	0	14	11	12	0	30	0	32	6	0	1	13.6	135.1	
23206	851	968	873	1.26-1.32	7	1.26-1.32	1	1	13	0	11	1000	0	0	0	0	0	12	0	0	30	0	11	0	0	4	2.6	6.8	
23206	851	968	873	1.26-1.32	7	1.26-1.32	2	1	5	0	12	1000	100	72	0	0	0	0	0	0	20	0	0	C	0	0	2.5	2.4	
23269	851	968.92	870.80	1.29	13	1.27-1.32	1	1	11	1	11	1000	950	30	0	0	0	12	0	0	10	0	11	0	0	4	4	0.09	
23388	851	968	873	1.16-1.26	6	AL 1/1	1	1	1	2	20	1130	510	61	0	0	17	12	0	0	10	0	31	0	0	3	3.9	1.3	
23408	851	968	871	-	11	1.24-1.29	1	1	1	0	13	1000	950	30	0	0	0	0	0	0	10	16	31	0	0	2	3	2.5	
23417	851	968	871	-	23	1.29-1.34	1	1	3	0	14	1000	0	0	0	0	0	12	0	0	10	0	0	0	0	0	3.5	1.04	
23766	851	971.57	887.67	99.854	25	99.905-99.805	1	1	3	0	10	1000	207	59	0	0	0	0	12	0	30	0	22	14	0	4	5.7	26.91	
24681	851	968	863	? (from tag)	? (fro	? (from tag)	1	1	1	0	11	1000	950	30	0	0	0	12	0	0	10	0	90	0	2	1	2.1	2.8	
24684	851	968	863	-	1	100.24-100.44	1	1	6	1	11	1000	950	30	0	0	0	12	0	0	10	0	11	0	0	4	2.5	0.05	
24995	851	968.95	863.11	100.12	38	100.14-100.04	1	1	1	1	11	1020	204	51/54/	0	0	17	11	12	0	10	0	26	6.1	0	1	10.2	27.2	2
25550	851	958	981	99.20-99.1	59	AL 5 screenbag	1	1	1	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	5.2	7	
23314	852	970.40	887.95	887.95	19	99.99-99.88	1	1	1	1	11	1020	401	67	1	0	17	11	12	0	10	0	26	6.1	0	1	14.5	63.5	2.9
23316	852	970.49	887.12	99.932	21	99.98-99.88	1	1	1	1	11	1020	203	54	0	0	17	12	0	0	10	0	41	2/3	0	2	7.4	17.1	
23370	852	969	888	99.934-99.8	3	AL 1/2	1	1	6	0	12	1000	207	50	0	0	0	11	12	0	30	0	32	14	0	2	1.9	5.81	
23373	852	970.94	889.83	99.877	15	99.990-99.882	1	1	1	1	11	1020	203	50	0	12	17	20	12	0	10	0	25	2/3	0	1	7	18.1	
23376	852	971.33	887.93	99.856	40	99.905-99.805	1	1	1	0	11	1000	401	67	0	0	17	12	0	0	10	0	26	6/7	0	1	6.5	16.18	
23382	852	970.86	889.87	99.909	???	99.99-99.88	1	1	1	0	13	1000	220	15	0	12	17	11	12	0	10	0	31	12	0	1	4.8	1.96	
23383	852	971.44	887.88	99.856	38	99.905-99.805	1	1	1	0	11	1000	207	50	0	0	0	11	12	0	10	0	32	14	0	4	4.4	5.21	
23391	852	969	888	100.034-99	1	AL 1/1	3	1	1	0	11	1000	950	30	0	0	0	11	12	0	10	0	41	0	0	1	3.7	4.32	
23391	852	969	888	100.034-99	1	AL 1/1	1	1	1	0	11	1000	220	17	2	10	17	12	0	0	10	0	25	12	0	2	3.7	3.24	
23391	852	969	888	100.034-99	1	AL 1/1	2	1	2	0	11	1000	100	72	0	0	0	12	0	0	10	0	0	C	0	0	2.8	1.28	
23425	852	970.64	890.24	1.35	5	1.27-1.37	1	1	3	0	12	1000	0	0	0	0	0	0	0	0	30	0	0	0	0	0	2.5	5.96	
23430	852	940.80	890.90	1.38	10	1.27-1.37	1	1	1	1	11	1020	202	50	0	10	15	11	12	0	10	0	22	1	0	2	11.9	83.7	
23432	852	970.86	890.31	1.36	12	1.27-1.37	1	1	1	0	11	1000	934	20	0	0	0	11	12	0	10	0	0	9	0	0	8.5	8.18	
23439	852	970.82	890.54	1.38	20	1.37-1.47	1	1	1	0	11	1000	934	20	0	0	0	11	12	0	10	0	0	9	0	0	7.1	18.84	
23440	852	970.82	890.52	1.37	21	1.37-1.47	1	1	2	0	12	1000	950	30	0	0	0	11	12	0	30	0	31	0	0	2	4.1	7.24	
23441	852	970.81	890.51	1.37	22	1.37-1.47	1	1	1	0	11	1000	934	20	0	0	0	11	12	0	10	0	0	9	0	0	3.6	3.25	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
23442	852	970.78	890.48	1.36	23	1.37-1.47	1	1	4	0	11	1000	220	20	0	0	0	11	12	0	30	0	0	12	0	0	2.4	3.55	
23443	852	970.77	890.48	1.38	24	1.37-1.47	1	1	1	0	11	1000	934	20	0	0	0	11	12	0	10	0	0	9	0	0	11.7	41.69	
23444	852	970.79	890.47	1.38	25	1.37-1.47	1	1	1	0	11	1000	934	20	0	0	0	11	12	0	10	0	0	9	0	0	5.4	3.17	
23445	852	970.82	890.50	1.38	26	1.37-1.47	1	1	14	0	11	1000	950	30	0	0	0	11	12	0	30	0	0	0	0	0	5.7	15.28	
23456	852	969	886	-	11	100.044-99.944	1	1	11	0	12	1000	960	90	0	0	0	12	0	0	30	0	0	0	0	0	1.5	3.42	
23483	852	969.86	886.95	99.973	33	100.044-99.944	1	1	1	0	13	1000	207	50	0	12	17	11	12	0	10	0	90	14	0	4	3.3	7.2	
23498	852	969	885	-	16	100.041-99.941	1	1	8	0	13	1000	207	50	0	0	0	0	0	0	30	15	0	14	0	0	0.9	1.58	
23524	852	970	885	-	???	100.151-100.051	2	1	5	0	12	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	0.43	
23524	852	970	885	-	???	100.151-100.051	1	1	1	1	23	1120	202	50	0	10	12	0	0	0	10	0	0	1	0	0	1	0.68	
23528	852	970	885	screen bag	9	100.051-99.951	1	1	7	0	12	1000	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.2	1.8	
23528	852	970	885	screen bag	9	100.051-99.951	2	1	24	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.2	8.34	
23550	852	970	886	-	1	100.11-100.21	1	1	2	0	12	1000	950	30	0	0	0	11	12	0	30	0	0	0	0	0	2.2	1.24	
23563	852	970.02	886.39	99.94	18	AB 1/2	1	1	1	1	11	1020	203	51	0	11	17	11	12	0	10	0	32	2/3	0	5	8.6	43.2	
23571	852	969	887	-	1	AB 1/1	1	1	1	0	12	1000	960	90	0	0	0	0	0	0	10	0	0	0	0	0	0.5	0.22	
23575	852	969	887	-	6	AB 1/2	1	1	5	0	11	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	4.1	11.48	
23584	852	970.65	887.83	99.894	35	AB 1/2 99.98-98.8	1	1	1	1	11	1020	220	20	0	0	17	11	12	0	10	0	26	12	1	1	3.5	6.49	
23585	852	970.64	887.86	99.894	36	99.98-99.88	1	1	1	1	11	1020	220	20	0	0	17	11	12	0	10	0	26	12	0	1	4.8	8.79	
23586	852	970.68	887.84	99.894	37	AB 1/3 99.98-98.8	1	1	1	0	11	1000	220	20	0	0	17	11	12	0	10	0	26	12	0	1	3.3	6.12	
23593	852	970.92	887.83	99.866	42	AB 1/3 99.98-98.8	1	1	1	0	11	1000	222	73	0	0	16	11	12	0	10	0	32	4	0	1	7.6	14.14	
23597	852	970	887	-	45	AB 1/3 99.98-98.8	1	1	1	0	12	1000	960	90	0	0	0	0	0	0	10	0	0	0	0	0	1.9	0.68	
23611	852	969	885	-	1	100.114-100.014	1	1	12	0	14	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.3	1.17	
23612	852	969	885	-	1	100.114-100.014	1	1	7	0	12	1000	0	0	0	0	0	0	0	0	10	13	0	0	0	0	10.7	4.8	
23612	852	969	885	-	1	100.114-100.014	2	1	3	0	12	1000	0	0	0	0	0	0	0	0	10	16	0	0	0	0	1.7	2.63	
23612	852	969	885	-	1	100.114-100.014	4	1	1	0	12	1000	0	0	0	0	0	0	0	0	0	13	0	0	0	0	2.2	0.2	
23612	852	969	885	-	1	100.114-100.014	5	1	1	0	12	1000	0	0	0	0	0	0	0	0	0	16	0	0	0	0	2.2	0.15	
23612	852	969	885	-	1	100.114-100.014	3	1	2	0	14	1000	950	30	0	0	0	0	0	0	10	16	31	0	0	2	0.6	0.46	
23628	852	971	887	-	2	100.005-99.905	2	1	7	0	13	1000	220	20	0	0	17	11	12	0	30	0	90	12	0	5	3.8	2.24	
23628	852	971	887	-	2	100.005-99.905	1	1	5	0	13	1000	207	50	0	0	17	11	12	0	30	0	90	14	0	5	1.9	1.56	
23636	852	971	887	-	2	100.005-99.905	1	1	1	0	12	1000	950	30	0	0	0	0	0	0	10	16	31	0	0	2	0.9	0.4	
23723	852	970.36	888.16	99.965	6	AB 1/2	1	1	13	0	11	1000	950	30	0	0	0	11	0	0	10	0	0	0	0	0	3.7	8.37	
23733	852	970.65	888.74	99.875	17	AB 1/2	1	1	1	2	10	1520	220	20	0	0	16	11	12	0	10	0	41	12	2	1	6.5	3.76	
23738	852	971	888.92	99.879	24	AB 1/2	1	1	1	1	11	1020	204	50	0	0	17	11	12	0	10	0	26	6.1	0	1	7.5	19.1	14.8
23757	852	971.42	888.06	99.877	14	99.905-99.805	1	1	1	0	11	1000	220	20	0	0	16	11	12	0	10	0	26	12	1	1	14.3	42.31	
23764	852	971.84	887.76	99.853	23	99.405-99.805	1	1	1	1	11	1020	220	20	0	0	16	11	12	0	10	0	32	12	0	1	14.2	22.46	
23765	852	971.81	887.75	99.845	24	99.905-99.805	1	1	4	0	12	1000	204	50	0	12	15	11	12	0	30	0	31	6	0	2	7.2	32.18	
23775	852	970	891	-	1	1.25-1.35	1	1	7	0	11	1000	960	90	0	0	0	11	12	0	30	0	90	0	0	4	2.2	2.5	
23775	852	970	891	-	1	1.25-1.35	1	1	2	0	15	2100	433	24	1/2	11	17	11	12	0	0	0	31	0	0	1	1.6	1.9	
23776	852	970	891	-	1	1.25-1.35	1	1	5	0	12	1000	960	90	0	0	0	0	0	0	10	17	0	0	0	0	0.7	0.44	
23780	852	970.94	891.06	1.318	3	1.25-1.35	1	1	5	0	11	1000	207	50	0	0	17	11	12	0	10	0	26	14	0	1	3.6	10.18	
23782	852	970	E91	-	4	1.34-1.44	1	1	1	0	13	1000	960	90	0	0	0	0	0	0	10	0	0	0	0	0	0.7	0.22	
23786	852	970	891	1.372	6	1.34-1.39	1	1	2	1	11	1020	304	24	1	12	16	11	12	0	10	0	25	5	0	1	9.6	116.6	
23791	852	972.51	885.69	99.957	23	AB 1/2	1	1	1	1	13	1111	303	27	1	12	12	20	12	0	10	0	0	22/25	0	0	15.4	49.9	
23810	852	970	888	-	1	AB 1/1	1	1	5	0	13	1000	0	0	0	0	0	11	12	0	10	0	32	0	0	1	1.1	0.4	
23810	852	970	888	-	1	AB 1/1	2	1	6	0	13	1000	220	20	0	0	0	0	0	0	30	0	0	12	0	0	3.1	2.04	
23810	852	970	888	-	1	AB 1/1	3	1	3	0	15	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	1.9	0.28	
23820	852	970	888	99.935-99.8	3	-	2	1	12	0	12	1000	0	0	0	0	0	11	12	0	30	0	90	0	0	4	2.4	3.71	
23820	852	970	888	99.935-99.8	3	-	1	1	24	0	13	1000	207	50	0	0	0	0	12	0	10	0	22	14	0	4	2.9	16.35	
23829	852	971	887	-	22	99.905-99.805	2	1	19	0	12	1000	0	0	0	0	0	11	12	0	0	0	0	0	0	0	3.7	18.9	
23829	852	971	887	-	22	99.905-99.805	4	1	1	2	12	1520	457	12	0	12	12	12	0	0	0	0	0	9	0	0	4.3	0.8	
23829	852	971	887	-	22	99.905-99.805	1	1	3	0	13	1000	207	50	0	12	17	11	12	0	10	0	90	14	0	4	3.3	7.5	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
23829	852	971	887	-	22	99.905-99.805	3	1	1	0	14	1000	950	30	0	0	0	12	0	0	10	0	0	0	0	0	3.6	0.9	
23849	852	972	885	-	1	AB 1/1	3	1	2	0	12	1000	0	0	0	0	0	0	0	0	10	12	0	0	0	0	0.9	0.93	
23849	852	972	885	-	1	AB 1/1	1	1	4	0	12	1000	950	30	0	0	0	0	0	0	10	16	31	0	0	2	0.9	0.36	
23849	852	972	885	-	1	AB 1/1	2	1	4	0	12	1000	950	30	0	0	0	0	0	0	10	15	31	0	0	2	2.1	2.02	
23849	852	972	885	-	1	AB 1/1	4	1	27	0	12	1000	960	90	0	0	0	11	12	0	30	0	90	0	0	4	2.4	5.89	
23854	852	970.84	890.11	1.38	36	1.37-1.47	1	1	1	0	11	1000	950	30	0	0	0	0	0	0	10	0	0	0	0	0	7.7	5.57	
23855	852	970.94	980.40	1.43	38	1.37-1.47	1	1	6	0	11	1000	220	20	0	0	17	11	12	0	30	0	22	12	0	1	5.4	14.31	
23861	852	970	890	-	1	1.27-1.37	3	1	6	0	11	1000	950	30	0	0	0	11	12	0	10	0	32	0	0	1	2.4	4.89	
23861	852	970	890	-	1	1.27-1.37	5	1	2	0	11	1000	207	28	0	0	17	11	12	0	30	0	0	14	0	0	3.1	2.43	
23861	852	970	890	-	1	1.27-1.37	1	1	6	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1.5	1.56	
23861	852	970	890	-	1	1.27-1.37	2	1	28	0	12	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1.1	1.28	
23861	852	970	890	-	1	1.27-1.37	4	1	2	2	12	1520	934	24	2	17	16	12	0	0	30	0	0	9	0	0	3.2	2.53	
23866	852	970	890	-	37	1.37-1.47	1	1	10	0	11	1000	960	90	0	0	0	11	12	0	30	0	0	0	0	0	2.58	5.39	
23868	852	970	890	-	37	1.37-1.47	1	1	1	0	12	1000	0	0	0	0	0	0	0	0	10	16	0	0	0	0	0.4	0.23	
23885	852	971.53	890.41	99.882	18	99.906-99.856	1	1	6	1	11	1020	200	51	0	0	17	11	12	0	30	0	32	1	0	1	8.1	80.8	
23887	852	971.49	890.64	99.874	21	99.906-99.856	1	1	1	1	11	1020	200	60	0	11	15	11	12	0	30	0	32	1	0	2	9.6	56.2	
23898	852	971.81	890.26	99.816	33	99.856-99.806	1	1	1	0	12	1000	207	50	0	12	0	12	0	0	10	0	0	14	0	0	3.7	9.91	
23914	852	971	885	-	14	100.006-99.906	1	1	5	0	12	1000	960	90	0	0	0	11	12	0	10	0	90	0	0	4	2.3	1.63	
23934	852	971	885	-	20	99.906-99.806	1	1	1	0	12	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	1.2	0.25	
23937	852	971	889	-	1	99.982-99.882	1	1	7	0	12	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	2.2	3.88	
23987	852	972.45	885.83	99.961	41	AB 1/1	1	1	3	0	12	1000	207	50	0	0	12	11	12	0	10	0	32	14	0	1	3.3	6.06	
23994	852	972.41	885.96	99.948	48	AB 1/1	1	1	1	0	11	1000	207	50	0	0	0	11	12	0	10	0	31	14	0	2	3.9	5.88	
23998	852	972	885	-	51	AB 1/2	1	1	3	0	12	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	2.8	1.39	
23998	852	972	885	-	51	AB 1/2	1	1	1	0	13	1000	433	13	0	12	16	11	12	0	10	0	25	8	0	2	1.8	1.9	
24054	852	971	888	-	2	AB 1/1	1	1	6	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.1	1.62	
24079	852	971.20	888.20	99.849	21	AB 1/2	1	1	6	0	11	1000	302	41	0	0	17	12	0	0	30	0	41	2	0	1	8.3	20.08	
24085	852	971.11	888.31	99.883	30	AB 1/2	1	1	1	0	11	1000	220	20	0	0	17	11	12	0	10	0	41	12	0	1	5.6	8.41	
24089	852	971	888.12	99.861	31	AB 1/2	1	1	1	1	11	1020	204	51/55	0	0	16	11	12	0	10	0	26	6.1	0	1	12.2	15.2	2.2
24106	852	971.14	891.34	1.352	7	1.26-1.36	1	1	1	2	20	2100	542	12	1	12	12	12	0	0	0	0	0	0	0	0	6.7	1.71	
24110	852	971.78	891.45	1.385	13	1.36-1.41	1	1	1	1	11	1020	307	11	1	10	11	12	0	0	0	0	0	9	0	0	4.3	21.1	
24115	852	971.52	891.59	1.368	18	1.36-1.41	1	1	1	1	11	1020	950	30	0	0	0	11	12	0	30	0	0	0	0	0	9	15.6	
24116	852	971.33	891.47	1.376	19	1.36-1.41	1	1	1	0	11	1000	222	73	0	0	16	11	12	0	10	0	32	4	0	1	5.4	7.84	
24120	852	971.89	891.06	1.383	23	1.36-1.41	1	1	9	2	10	1520	220	20	0	0	17	11	12	0	30	0	32	12	0	1	8.4	4.91	
24139	852	971	894	1.34-1.44	5	1.34-1.44	1	1	2	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	1	0.57	
24140	852	972	890	surface-99.	1	1/1	1	1	6	0	12	1000	207	50	0	0	0	11	12	0	30	0	31	14	0	3	4.2	10.66	
24149	852	973	870	surface-99.	1	1/1	1	1	1	1	11	1020	359	73	0	0	17	12	0	0	10	0	13	9	2	4	3.4	11.3	
24156	852	971	890	-	9	1.28-1.38	1	1	8	0	12	1000	960	90	0	0	0	12	0	0	10	0	0	0	0	0	4.5	3.08	
24166	852	971	890	-	10	99.906-99.856	1	1	6	0	11	1000	950	30	0	0	0	11	12	0	30	0	32	0	0	1	3.6	4.17	
24166	852	971	890	-	10	99.906-99.856	2	1	13	0	11	1000	207	50	0	0	0	11	12	0	30	0	90	14	0	2	1.6	4.2	
24168	852	971	890	-	10	99.906-99.856	1	1	1	0	12	1000	950	30	0	0	0	0	0	0	10	17	31	0	0	2	0.45	0.21	
24174	852	971	890	-	31	99.856-99.806	1	1	12	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.2	1.56	
24207	852	971	889	-	5	99.882-99.782	1	1	3	0	12	1000	0	0	0	0	0	0	0	0	10	12	0	0	0	0	1.6	1.76	
24208	852	971	889	-	5	99.882-99.782	1	1	6	1	11	1020	0	0	0	0	0	11	12	0	10	0	40	0	0	4	4.7	8.9	
24208	852	971	889	-	5	99.882-99.782	3	1	1	1	11	1020	446	13	2	12	11	11	12	0	0	0	0	9	0	0	10.6	0.89	
24208	852	971	889	-	5	99.882-99.782	2	1	7	0	12	1000	207	50	0	0	0	11	12	0	10	0	90	14	0	4	2.5	4.59	
24208	852	971	889	-	5	99.882-99.782	4	1	1	2	22	1000	950	30	0	0	0	12	0	0	10	0	0	0	0	0	2.1	0.24	
24228	852	971.32	889.11	99.859	21	99.882-99.782	1	1	2	1	11	1020	304	25	1	12	17	11	12	0	10	0	22	5	0	1	3.7	12.1	
24232	852	971.39	889.38	99.887	27	99.882-99.782	1	1	4	1	11	1000	220	20	0	0	16	11	12	0	30	0	32	12	0	1	11.6	28.54	
24240	852	971.29	889.50	99.855	34	99.882-99.782	1	1	5	2	12	1520	357	12	1	12	12	11	12	0	10	0	31	11	0	2	15.9	33.1	
24245	852	971.55	889.38	99.863	39	99.882-99.782	1	1	3	1	11	1020	204	55	0	0	17	11	12	0	30	0	31	6	0	1	5.4	8.72	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
24258	852	971.48	889.35	99.84	51	99.882-99.782	1	1	8	0	12	1000	220	20	0	0	17	11	12	0	10	0	32	12	0	1	5.4	2.81	
24262	852	971	892	-	2	1.28-1.38	1	1	5	0	12	1000	960	90	0	0	0	11	12	0	10	15	0	0	0	0	10.3	1.03	
24267	852	971	892	-	4	1.33-1.38	3	1	1	2	10	1520	186	71	0	0	17	0	0	0	10	0	0	C	0	0	1	0.44	
24267	852	971	892	-	4	1.33-1.38	1	1	15	0	12	1000	960	90	0	0	0	11	12	0	10	0	90	0	0	4	2.2	1.85	
24267	852	971	892	-	4	1.33-1.38	2	1	3	2	20	1130	510	61	0	0	17	12	0	0	30	0	31	0	3	2	2.2	0.49	
24276	852	971.43	892.40	1.37	7	1.33-1.38	1	1	5	0	11	1000	220	17	2	0	17	11	12	0	30	0	25	12	0	1	4.9	10.9	
24279	852	971	892	-	10	1.39-1.44	1	1	1	0	12	1000	0	0	0	0	0	0	0	0	10	0	0	0	0	0	2.2	1.56	
24281	852	971	893	-	2	1.22-1.32	1	1	1	0	12	1000	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0.6	0.33	
24286	852	971	893	-	3	1.32-1.42	1	1	7	0	12	1000	960	90	0	0	0	11	12	0	30	0	90	0	0	4	2.2	4.6	
24287	852	971	893	-	3	1.32-1.42	1	1	1	0	12	1000	0	0	0	0	0	0	0	0	0	16	0	0	0	0	0.4	0.08	
24296	852	971	893	-	3	1.32-1.42	1	1	7	0	11	1000	960	90	0	0	0	11	12	0	30	0	90	0	0	4	2.1	4.5	
24301	852	971.41	888.43	99.862	45	AB 1/2	1	1	4	0	11	1000	207	50	0	0	17	11	12	0	10	0	26	14	0	2	5.4	24.26	
24304	852	971.21	888.56	99.872	48	AB 1/2	1	1	1	1	11	1020	220	20	0	0	15	11	12	0	10	0	26	12	0	1	16.5	59.21	
24308	852	971.36	888.23	99.825	52	AB 1/2	1	1	3	0	11	1000	207	50	0	0	0	11	12	0	10	0	26	14	0	2	4.9	14.32	
24310	852	971.41	888.07	99.786	54	AB 1/2	1	1	1	1	11	1020	438	11	1	10	11	12	0	0	0	0	0	9	0	0	6.9	81.9	
24317	852	917	888	-	1	99.888-99.788	4	1	7	0	11	1000	950	30	0	0	0	12	0	0	10	0	32	0	0	1	2.7	4.15	
24317	852	917	888	-	1	99.888-99.788	1	1	3	0	11	1000	207	50	0	12	0	11	12	0	30	0	31	14	0	1	2.8	6.67	
24317	852	917	888	-	1	99.888-99.788	2	1	2	2	15	2000	435	16	0	0	17	12	0	0	10	0	50	8	0	1	1.7	0.76	
24317	852	917	888	-	1	99.888-99.788	3	1	1	1	23	1120	202	50	0	10	12	0	0	0	10	0	0	1	0	0	1.4	0.31	
24352	852	973	889	surface-99.	1	1/1	1	1	2	0	13	1000	960	90	0	0	0	11	12	0	10	0	0	0	0	0	2.2	3.28	
24355	852	972	889	surface-99.	1	1/1	1	1	1	0	12	1000	960	90	0	0	0	12	0	0	10	0	0	0	0	0	1.2	0.49	
25925	852	970.93	889.51	99.888	18	AB 1/2	1	1	1	1	11	1020	304	15	2	12	16	11	12	0	30	0	50	5	0	1	9.7	35.7	
25926	852	970	889	99.990-99.	1	AB 1/1 screen bag	2	1	1	0	11	1000	950	30	0	0	0	11	12	0	10	0	32	0	0	2	2.1	1.74	
25926	852	970	889	99.990-99.	1	AB 1/1 screen bag	4	1	3	0	12	1000	960	90	0	0	0	11	12	0	30	0	0	0	0	0	1.1	1.3	
25926	852	970	889	99.990-99.	1	AB 1/1 screen bag	3	1	1	0	12	1000	220	20	0	0	16	11	12	0	10	0	32	12	1	1	3.8	1.25	
25926	852	970	889	99.990-99.	1	AB 1/1 screen bag	1	1	1	0	12	1000	207	50	0	0	0	11	12	0	10	0	22	14	0	4	3.7	6.06	
25932	852	970	889	99.88-99.7	14	AB 1/2 screen bag	1	1	4	0	11	1000	207	50	0	0	0	11	12	0	10	0	90	14	0	4	3.5	6.11	
25932	852	970	889	99.88-99.7	14	AB 1/2 screen bag	2	1	2	0	12	1000	950	30	0	0	0	0	0	0	10	17	32	0	0	2	3.2	1.75	
27670	852	983.42	871.89	99.94	11	AL 1/2	1	1	1	1	11	1020	220	20	0	0	17	12	0	0	10	0	32	12	0	1	12.2	33.7	
28347	852	970	885	screen bag	9	100.091-99.091	3	1	n/a	1	10	1020	413	30	0	0	0	0	0	0	0	0	0	6/7	0	0	0	0.16	
28347	852	970	885	screen bag	9	100.091-99.091	2	1	35	1	10	1020	413	30	0	0	0	0	0	0	0	0	0	6/7	0	0	0	0.22	
28347	852	970	885	screen bag	9	100.091-99.091	1	1	1	1	10	1020	413	12	1	10	12	12	0	0	30	0	26	6/7	0	5	28	94.3	
24999	851	967.65	863.68	100.076	18	100.14-100.04	1	1	1	2	50	1000	981	11	2	0	11	0	0	0	0	0	0	0	0	0	4.4	0.91	
24999	851	967.65	863.68	100.076	18	100.14-100.04	2	1	1	2	50	1000	982	11	1	0	11	0	0	0	0	0	0	0	0	0	4.4	0.81	
24999	851	967.65	863.68	100.076	18	100.14-100.04	3	1	1	2	50	1000	220	11	0	0	11	0	0	0	0	0	0	0	0	0	5.1	0.2	
24999	851	967.65	863.68	100.076	18	100.14-100.04	4	1	1	2	50	1000	991	11	0	0	11	0	0	0	0	0	0	0	0	0	2.8	0.33	
24999	851	967.65	863.68	100.076	18	100.14-100.04	5	1	1	2	50	1000	984	11	2	0	11	0	0	0	0	0	0	0	0	0	2	0.2	
24999	851	967.65	863.68	100.076	18	100.14-100.04	6	1	1	2	50	1000	999	11	0	0	11	0	0	0	0	0	0	0	0	0	2.8	0.28	
23454	852	969	886	0	11	100.044-99.944	1	12	12	2	50	1000	207	12	0	0	12	15	0	0	10	0	0	0	0	0	1.8	1.88	
23056	851	969	869	0	2	100.054-99.954	1	6	6	2	50	1000	207	12	0	0	12	15	0	0	10	0	0	0	0	0	1.4	1.17	
22143	851	966	864	0	7	100.09-99.99	1	1	1	2	50	2010	997	12	0	0	12	0	0	0	30	0	0	0	0	0	3.1	0.27	
22143	851	966	864	0	7	100.09-99.99	2	1	1	2	50	0	0	0	0	0	11	0	0	0	0	0	0	0	0	0	1.5	0.14	
22792	851	969	865	0	15	100.16-100.06	1	2	2	2	50	2000	207	12	0	0	12	0	0	0	10	0	0	0	0	0	1.2	0.1	
24317	852							1	1	2	50	3000	986	0	0	0	12	0	0	0	10	0	0	0	0	0	2.3	0.23	
24317	852							4	8	2	50	0	100	0	0	0	0	0	0	0	10	0	0	0	0	0	3.3	0.83	
22302	851							1	1	2	50	1000	985	12	1	0	12	0	0	0	10	0	0	0	0	0	2.8	0.45	
23340	852	970.0	887.0	100.08-99.	1	100.08-99.98	1	1	1	2	50	0	207	12	0	0	12	0	0	0	10	0	0	0	0	0	0.9	0.24	
22653	851	969.46	864.55	100.18	10	100.16-100.06	1	1	1	2	50	1000	985	12	0	0	12	12	0	0	10	0	0	0	0	0	3	0.11	
22653	851	969.46	864.55	100.18	10	100.16-100.06	2	1	1	2	50	1000	983	12	0	0	12	12	0	0	10	0	0	0	0	0	1.2	0.1	
22653	851	969.46	864.55	100.18	10	100.16-100.06	3	1	1	2	50	1000	981	0	0	0	12	12	0	0	10	0	0	0	0	0	1.1	0.09	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22653	851	969.46	864.55	100.18	10	100.16-100.06	4	1	1	2	50	1000	982	12	0	0	12	12	0	0	10	0	0	0	0	0	3	0.19	
22653	851	969.46	864.55	100.18	10	100.16-100.06	5	2	2	2	50	1000	984	0	0	0	12	12	0	0	10	0	0	0	0	0	1.8	0.14	
22653	851	969.46	864.55	100.18	10	100.16-100.06	6	3	3	2	50	1000	207	12	0	0	12	12	0	0	10	0	0	0	0	0	0.8	0.23	
22653	851	969.46	864.55	100.18	10	100.16-100.06	7	4	4	2	50	0	220	20	0	0	12	12	0	0	10	0	0	0	0	0	2.1	0.11	
22653	851	969.46	864.55	100.18	10	100.16-100.06	8	12	107	2	50	0	0	0	0	0	12	12	0	0	10	0	0	0	0	0	1.4	0.66	
23710	852	971	886		41	99.956-99.856	1	1	1	2	50	0	207	51	0	0	12	0	0	0	10	16	0	0	0	0	0.8	0.11	
23710	852	971	886		41	99.956-99.856	1	1	1	0	13	1000	910	0	0	0	16	12	13	0	10	0	0	0	0	0	2.8	3.57	
23710	852	971	886		41	99.956-99.856	1	1	1	0	11	1000	220	20	0	0	17	12	13	0	30	0	0	0	0	0	4.6	0.92	
22565	851	969	871		5	100.00-99.90	1	1	4	0	23	0	950	20	0	40	16	12	13	0	10	0	0	0	0	0	4.2	0.77	
22565	851	969	871		5	100.00-99.90	2	1	1	0	20	1120	302	12	2	10	12	12	0	0	10	0	0	0	0	0	4.4	0.63	
22565	851	969	871		5	100.00-99.90	3	1	1	0	13	0	220	20	1	0	17	12	13	0	10	0	0	0	0	0	4.4	1.92	
22565	851	969	871		5	100.00-99.90	4	1	1	0	10	1020	206	51	0	11	16	12	0	0	10	0	14	11	0	1	2.2	3.95	
22565	851	969	871		5	100.00-99.90	5	1	1	0	11	0	205	51	0	0	17	12	13	0	10	0	14	11	0	1	4.1	6.91	
22565	851	969	871		5	100.00-99.90	6	1	1	0	11	0	302	41	0	0	17	12	0	0	10	0	15	2	0	1	3.4	1.33	
22565	851	969	871		5	100.00-99.90	7	1	14	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	3.3	6.75	
22491	852	969	872		5	99.986-99.886	1	1	1	1	20	1120	207	12	0	0	12	12	0	0	10	0	0	0	0	0	1.6	0.21	
23415	851	968	871		23	1.29-1.34	1	1	1	1	20	1120	542	12	2	40	11	12	20	0	10	0	0	0	0	0	7.5	1.52	
23415	851	968	871		23	1.29-1.34	2	1	1	1	20	1120	530	24	2	40	11	12	20	0	10	0	0	0	0	0	3.5	0.45	
23415	851	968	871		23	1.29-1.34	3	4	4	1	20	1120	931	11	0	40	11	12	0	0	10	0	0	0	0	0	1.9	0.48	
23145	851	968	872		15	1.34-1.44	1	1	1	2	10	5100	435	12	2	10	12	12	0	0	10	0	0	0	0	0	3.6	0.21	
23145	851	968	872		15	1.34-1.44	2	1	1	2	10	5100	435	12	1	10	12	12	0	0	10	0	0	0	0	0	3.6	0.21	
23145	851	968	872		15	1.34-1.44	3	1	1	2	10	5100	433	12	2	10	12	12	0	0	10	0	0	0	0	0	2.8	0.2	
23145	851	968	872		15	1.34-1.44	4	1	1	2	10	5100	433	12	1	10	12	12	0	0	10	0	0	0	0	0	2.8	0.2	
23145	851	968	872		15	1.34-1.44	5	1	1	2	10	5100	401	12	1	10	12	12	0	0	10	0	0	0	0	0	3.1	0.12	
23145	851	968	872		15	1.34-1.44	6	1	1	2	10	5100	205	12	2	10	12	12	0	0	10	0	0	0	0	0	1.8	0.12	
23145	851	968	872		15	1.34-1.44	7	1	1	2	10	5100	302	12	2	10	12	12	0	0	10	0	0	0	0	0	1.6	0.03	
23145	851	968	872		15	1.34-1.44	8	1	1	2	10	5100	302	12	1	10	12	12	0	0	10	0	0	0	0	0	1.6	0.03	
23145	851	968	872		15	1.34-1.44	9	1	1	2	10	5100	201	12	0	10	12	12	0	0	10	0	0	0	0	0	0.6	0.01	
23145	851	968	872		15	1.34-1.44	10	1	1	2	10	5100	161	12	2	10	12	12	0	0	10	0	0	0	0	0	1.9	0.11	
23145	851	968	872		15	1.34-1.44	11	1	1	2	10	5100	161	12	1	10	12	12	0	0	10	0	0	0	0	0	1.9	0.11	
23145	851	968	872		15	1.34-1.44	12	1	4	2	10	5100	102	12	2	10	12	12	0	0	10	0	0	0	0	0	2.8	0.92	
23145	851	968	872		15	1.34-1.44	13	2	2	2	10	5100	204	12	2	10	12	12	0	0	10	0	0	0	0	0	0.9	0.07	
23145	851	968	872		15	1.34-1.44	14	2	2	2	10	5100	206	12	2	10	12	12	0	0	10	0	0	0	0	0	0.7	0.07	
23145	851	968	872		15	1.34-1.44	15	4	4	2	10	5100	220	20	2	10	12	12	0	0	10	0	0	0	0	0	1.5	0.03	
23145	851	968	872		15	1.34-1.44	16	1	25	2	10	5100	0	12	2	10	12	12	0	0	10	0	0	0	0	0	0.7	0.15	
23145	851	968	872		15	1.34-1.44	17	1	1	2	10	5100	459	12	2	10	12	12	0	0	10	0	0	0	0	0	1.7	0.01	
22827	851	969	870		4	100.046-99.946	1	1	1	0	13	0	950	20	0	0	17	12	0	0	10	0	32	0	0	2	4.4	4.27	
22827	851	969	870		4	100.046-99.946	2	1	1	0	13	0	207	20	0	12	17	12	0	0	10	0	31	0	0	1	3.2	1.65	
22827	851	969	870		4	100.046-99.946	3	8	8	0	16	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	3.5	1.96	
23407	851	968	871		11	1.24-1.29	1	1	1	2	20	2110	531	11	2	10	11	12	0	0	0	0	0	0	0	0	3.7	0.41	
23407	851	968	871		11	1.24-1.29	2	1	1	2	10	1520	305	20	1	0	17	12	13	0	20	0	0	0	0	0	4.3	5.03	
23407	851	968	871		11	1.24-1.29	3	1	4	2	11	0	0	0	0	0	0	12	13	0	10	0	25	0	0	0	4.2	10.9	
22198	851	967	863	100.14-100	2	screen	1	1	1	2	50	1000	983	12	0	0	12	12	0	0	10	0	0	0	0	0	1.9	0.38	
22198	851	967	863	100.14-100	2	screen	2	1	1	2	50	1000	985	12	0	0	12	12	0	0	10	0	0	0	0	0	2.9	0.31	
22198	851	967	863	100.14-100	2	screen	3	1	1	2	50	1000	984	12	0	0	12	12	0	0	10	0	0	0	0	0	2.8	0.33	
22198	851	967	863	100.14-100	2	screen	4	1	1	2	50	1000	987	12	0	0	12	12	0	0	10	0	0	0	0	0	2.1	0.18	
22198	851	967	863	100.14-100	2	screen	5	8	8	2	50	1000	999	12	0	0	12	12	0	0	10	0	0	0	0	0	3.1	0.74	
22198	851	967	863	100.14-100	2	screen	6	1	1	2	50	3000	987	12	0	0	12	12	0	0	30	0	0	0	0	0	2	0.21	
22198	851	967	863	100.14-100	2	screen	7	3	3	0	23	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	2.7	0.68	
22198	851	967	863	100.14-100	2	screen	8	3	3	0	23	0	530	24	2	10	16	12	0	0	10	0	0	0	0	0	1.9	0.14	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
22198	851	967	863	100.14-100	2	screen	9	2	2	0	13	0	0	0	0	0	17	12	13	0	10	0	43	0	0	0	3.9	0.56	
22198	851	967	863	100.14-100	2	screen	10	4	30	0	11	0	0	0	0	0	17	11	13	0	30	0	0	0	0	0	3.1	6.27	
84175	852	971	890		31	99.856-99.806	1	1	1	2	20	2110	531	12	2	10	12	12	0	0	10	0	0	0	0	0	3.8	0.36	
23781	852	970	891		4	1.34-1.39	1	1	1	1	20	1120	589	11	0	10	11	12	13	0	10	0	0	0	0	0	1.3	0.12	
23324	852	970	887	99.98-99.8	5	99.98-99.88	1	3	37	0	13	0	0	0	0	0	17	11	13	0	10	0	0	0	0	0	2.9	10.1	
23324	852	970	887	99.98-99.8	5	99.98-99.88	2	1	1	1	20	1120	433	20	1	40	15	12	15	0	30	0	0	0	0	0	7.1	1.17	
23324	852	970	887	99.98-99.8	5	99.98-99.88	3	1	1	0	13	0	207	28	0	12	17	12	0	0	10	0	20	0	0	0	2	0.52	
23324	852	970	887	99.98-99.8	5	99.98-99.88	4	1	1	0	15	0	304	22	1	40	15	12	0	0	10	0	0	0	0	0	4.3	0.68	
23608	852	969.49	885.82	100.012	23	100.014-99.914	1	1	1	0	23	0	589	12	0	40	15	12	13	0	30	0	0	0	0	0	0.9	0.05	
23608	852	969.49	885.82	100.012	23	100.014-99.914	2	1	1	0	23	0	304	12	0	40	15	12	13	0	30	0	0	0	0	0	4.4	0.32	
23608	852	969.49	885.82	100.012	23	100.014-99.914	3	1	5	0	0	0	0	0	0	0	0	12	13	0	30	0	0	0	0	0	1.5	0.1	
23501	852	970.65	887.67	99.866	32	99.98-99.88	1	1	1	1	10	1112	202	50	0	12	16	12	20	0	10	0	41	21	0	5	3.4	7.72	
24101	852	971.49	891.26	1.359	2	1.26-1.36	1	1	1	1	20	1120	540	17	2	10	15	12	0	0	10	0	0	0	0	0	8.9	4.64	
28352	852	971.55	891.33	1.405	24	1.36-1.41	1	1	1	1	20	1120	530	11	1	10	11	12	0	0	0	0	0	0	0	0	5.5	1.48	
23862	852	970	890		1	1.27-1.37	1	1	1	1	20	1120	589	11	0	10	11	12	0	0	0	0	0	0	0	0	1.6	0.15	
23913	852	971	885		14	100.006-99.906	1	3	4	1	20	1120	207	12	0	10	12	12	13	0	10	0	0	0	0	0	1	0.19	
23901	852	971	885			100.106-100.006	1	1	1	1	20	1120	207	12	0	10	12	12	0	0	10	0	0	0	0	0	1.4	0.3	
23446	852	970.73	90.21	1.39	27	1.37-1.47	1	1	1	2	10	1520	314	11	1	10	11	12	0	0	10	0	0	0	0	0	2	2.08	
24148	852	973	870	surface 99.	1	1/1	1	1	1	0	15	0	0	0	0	0	0	12	0	0	10	15	0	0	0	0	1	0.27	
24148	852	973	870	surface 99.	1	1/1	2	1	1	0	15	0	220	17	0	0	0	12	0	0	10	0	0	0	0	0	2.8	0.54	
24148	852	973	870	surface 99.	1	1/1	3	1	1	0	15	0	223	0	0	0	0	12	0	0	10	0	0	0	0	0	2.2	1.11	
24148	852	973	870	surface 99.	1	1/1	4	1	1	0	15	0	433	0	0	0	0	12	0	0	10	0	0	0	0	0	1.6	0.29	
24148	852	973	870	surface 99.	1	1/1	5	2	10	0	13	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2.7	9.43	
24148	852	973	870	surface 99.	1	1/1	6	1	17	0	15	0	0	0	0	0	0	12	13	0	10	0	0	0	0	0	2	4.8	
24167	852	971	890		10	99.906-99.856	1	1	1	1	10	1120	589	11	0	10	11	12	0	0	0	0	0	0	0	0	1.4	0.13	
23358	852	969	886	100.144-10	5	AL 1/1	1	1	8	0	13	0	0	0	0	0	17	12	0	0	30	0	0	0	0	0	2.1	0.36	
23358	852	969	886	100.144-10	5	AL 1/1	2	1	4	0	23	0	950	20	0	0	17	12	0	0	30	0	0	0	0	0	2.5	0.39	
23358	852	969	886	100.144-10	5	AL 1/1	3	1	1	0	23	0	540	0	2	40	11	12	0	0	30	0	0	0	0	0	4.1	0.42	
23358	852	969	886	100.144-10	5	AL 1/1	4	1	1	0	23	0	589	0	0	40	11	12	0	0	30	0	0	0	0	0	1.8	0.18	
23358	852	969	886	100.144-10	5	AL 1/1	5	1	1	2	50	1000	207	0	0	0	12	12	0	0	30	0	0	0	0	0	0.8	0.21	
25930	852	970	889	screen bag	1	99.99-99.82	1	1	1	1	10	1120	589	11	0	10	11	12	0	0	0	0	0	0	0	0	1.6	0.1	
27657	852	983	871	100.10-100	5	A1-2 Screen	1	1	1	1	10	1112	307	11	2	10	11	0	0	0	0	0	0	0	0	0	1.2	1.71	
23522	852	970.20	885.83	99.982	38	AB 1/2	1	1	2	1	20	1120	303	20	0	0	15	12	0	0	10	0	0	0	0	0	4.4	1.17	
23497	852	969	885		16	100.041-99.941	1	8	8	0	23	0	950	20	0	40	0	12	13	0	30	0	0	0	0	0	3.2	0.63	
23497	852	969	885		16	100.041-99.941	2	1	1	0	23	0	303	12	0	40	0	12	13	0	30	0	0	0	0	0	3.6	0.25	
23497	852	969	885		16	100.041-99.941	3	3	3	0	23	0	207	12	0	40	0	12	13	0	30	0	0	0	0	0	0.9	0.17	
23497	852	969	885		16	100.041-99.941	4	1	1	0	23	0	950	20	0	40	16	12	13	0	30	0	0	0	0	0	2.2	0.23	
24243	852	971.49	889.58		37	99.882-99.782	1	1	4	0	11	0	459	17	0	10	16	12	20	0	10	0	0	0	0	0	10.1	16.97	
28345	852	970	889	screen	1	99.990-99.882	1	1	1	1	20	1120	305	20	1	40	14	12	0	0	10	0	0	0	0	0	6.1	0.58	
28345	852	970	889	screen	1	99.990-99.882	2	2	2	1	20	1120	207	12	0	10	12	12	0	0	10	0	0	0	0	0	1.3	0.46	
28345	852	970	889	screen	1	99.990-99.882	3	1	2	1	23	0	0	0	0	0	0	12	0	0	10	0	0	0	0	0	2.1	0.6	
28345	852	970	889	screen	1	99.990-99.882	4	1	1	1	10	1112	309	20	1	40	14	12	0	0	10	0	0	0	0	0	1.6	1.14	
28345	852	970	889	screen	1	99.990-99.882	5	1	1	1	10	1112	310	20	1	40	14	12	0	0	10	0	0	0	0	0	1.3	0.7	
28345	852	970	889	screen	1	99.990-99.882	6	1	1	1	15	0	0	0	0	0	0	12	0	0	10	16	0	0	0	0	1.3	0.23	
28345	852	970	889	screen	1	99.990-99.882	7	1	1	1	15	0	950	0	0	40	16	12	0	0	10	0	0	0	0	0	3.2	0.81	
28345	852	970	889	screen	1	99.990-99.882	8	1	4	1	11	0	0	0	0	0	17	12	0	0	10	0	0	0	0	0	3.4	3.21	
23669	852	969	886		1		1	1	1	1	20	1112	520	12	0	10	15	12	0	0	10	0	0	0	0	0	4.4	0.23	
23669	852	969	886		1		2	1	1	1	20	1112	530	12	0	10	15	12	0	0	10	0	0	0	0	0	3.3	0.41	
23669	852	969	886		1		3	1	1	1	20	1112	207	12	0	10	12	12	0	0	10	0	0	0	0	0	1.8	0.24	
23669	852	969	886		1		4	2	5	1	20	1112	950	12	0	10	16	12	0	0	10	0	0	0	0	0	3.9	1	

CATALOG #	ACCESS #	NORTHING	EASTING	ELEVATION	FS #	LEVEL	ENTRY IN BAG	QUANTITY	# PIECES	WILD / DOMESTIC	TAXON 1	TAXON 2	ELEMENT	ELEMENT PART	SIDE	FUSION	AMOUNT PRESENT	NAT. MOD. 1	NAT. MOD. 2	ANIMAL MOD	BREAKAGE	BURN	HUMAN MOD.	MEAT CUT	# starter attempts	TOOL ORIENTATION	LENGTH IN CM	WEIGHT in GRAMS	Steak thickness inches
23669	852	969	886		1		5	1	10	1	20	1112	950	12	0	10	16	12	0	0	10	0	0	0	0	0	2.9	1.29	
23669	852	969	886		1		6	1	12	1	12	0	0	12	0	10	17	12	0	0	10	0	0	0	0	0	7.3	12.41	
24129	852	971.09	891.05		25	1.36-1.41	1	1	2	1	20	1112	302	12	2	10	12	12	0	0	20	0	0	0	0	0	5.9	0.93	
23345	852	971	891	1.26-1.36	1	1.26-1.36	1	1	1	0	13	0	0	0	0	0	17	12	0	0	30	16	0	0	0	0	2	0.54	
23345	852	971	891	1.26-1.36	1	1.26-1.36	2	1	2	0	13	0	0	0	0	0	17	12	0	0	30	0	0	0	0	0	1.7	0.36	
23345	852	971	891	1.26-1.36	1	1.26-1.36	3	2	2	0	23	0	0	12	0	10	12	12	0	0	10	0	0	0	0	0	1.4	0.15	
23345	852	971	891	1.26-1.36	1	1.26-1.36	4	4	4	2	20	1130	207	12	0	10	12	12	0	0	10	0	0	0	0	0	1.9	1.8	
23345	852	971	891	1.26-1.36	1	1.26-1.36	5	1	2	2	20	1130	530	17	2	10	16	12	0	0	30	0	0	0	0	0	4.1	1.56	
23936	852	971	889		1	99.982-99.882	1	1	1	1	20	1112	589	11	0	10	11	12	0	0	0	0	0	0	0	0	2	0.23	
23455	852	969	886		11	100.044-99.944	1	1	1	1	20	1112	302	17	1	40	17	12	30	0	10	0	0	0	0	0	2.2	0.22	
23455	852	969	886		11	100.044-99.944	2	1	1	0	23	0	304	20	0	40	14	12	30	0	10	0	0	0	0	0	5.8	0.38	
23455	852	969	886		11	100.044-99.944	3	1	1	0	23	0	303	20	0	40	14	12	30	0	10	0	0	0	0	0	4.4	1.02	
23455	852	969	886		11	100.044-99.944	4	1	1	0	23	0	589	20	0	40	12	12	30	0	10	0	0	0	0	0	1.3	0.08	
23455	852	969	886		11	100.044-99.944	5	1	1	0	23	0	950	20	0	40	17	12	30	0	10	16	0	0	0	0	1.5	0.15	
23455	852	969	886		11	100.044-99.944	6	1	1	0	23	0	950	20	0	40	17	12	30	0	10	0	0	0	0	0	4.1	1.5	
24130	852	971	891	1.36-1.41	11	1.36-1.41	1	2	2	0	23	0	589	20	0	40	12	12	0	0	10	0	0	0	0	0	1.8	0.34	
24130	852	971	891	1.36-1.41	11	1.36-1.41	2	1	2	0	13	0	220	20	0	0	17	12	0	0	10	0	25	0	0	0	3.2	1.17	
24130	852	971	891	1.36-1.41	11	1.36-1.41	3	2	13	0	11	0	0	0	0	0	0	12	30	0	30	0	0	0	0	0	3.6	9.85	
23610	852	969	885		1	100.114-100.014	1	1	1	0	23	0	542	12	0	40	12	12	0	0	0	0	0	0	0	0	4.2	0.36	
23610	852	969	885		1	100.114-100.014	2	1	1	0	23	0	540	12	0	40	12	12	0	0	0	0	0	0	0	0	6.1	0.56	
23610	852	969	885		1	100.114-100.014	3	1	1	0	23	0	433	12	0	40	16	12	0	0	0	0	0	0	0	0	4.1	0.29	
23610	852	969	885		1	100.114-100.014	4	4	7	0	23	0	950	20	0	40	17	12	0	0	0	0	0	0	0	0	2.8	0.86	
23602	852	696.33(	885.81(	99.974	17	100.014-99.94	1	1	1	0	11	0	202	0	0	0	17	12	13	0	10	0	0	0	0	0	6.7	21.36	
23556	852	970	886			AB 1/2	1	1	1	0	13	0	220	17	2	12	16	12	13	0	10	0	31	12	0	0	4.8	1.98	
23556	852	970	886			AB 1/2	2	1	2	0	13	0	0	0	0	0	0	11	13	0	30	16	0	0	0	0	1.6	0.44	
23556	852	970	886			AB 1/2	3	1	1	0	13	0	0	0	0	0	0	11	13	0	30	0	14	0	0	0	3.2	2.26	
23556	852	970	886			AB 1/2	4	2	12	0	13	0	0	0	0	0	0	11	13	0	30	0	0	0	0	0	2.6	2.17	

REFERENCES CITED

Adams, Kevin
2009 *Class and Race in the Frontier Army*: Military Life in the West, 1870–1890. University of Oklahoma Press, Norman.

Agnew, Jeremy
2008 *Life of a Soldier on the Western Frontier*. Mountain Press, Missoula, Montana.

Albright, Horace, and Robert Cahn
1985 *Birth of the National Park Service*. Howe Brothers, Salt Lake City, Utah.

Alyea, J. D.
1971 Climate. In *Soil Survey of Goshen County, Wyoming, Southern Part*, edited by Fraser Stephens, Ernest F. Brunkow, Charles J. Fox, and Halvor B. Ravenholt, pp. 87, 90–94. Government Printing Office, Washington, D.C.

American Hotels and American Food
1861 *Temple Bar: A London Magazine for Town and Country Readers*, Dec. 1860–Dec. 1881. June, 3, British Periodicals, pp. 345–356.

Anderson, Nema
1981 The Mascot of Fort Bridger. *Frontier Times,* May, 55:36–38.

Arnold, David
1996 *The Problem of Nature: Environment, Culture, and European Expansion*. Blackwell, Cambridge, Massachusetts.

Aron, Cindy S.
1999 *Working at Play: A History of Vacations in the United States*. Oxford University Press, New York.

Associated Press
1987 Custer Loved His Dogs, Historian Says. *The Billings Gazette*, April 26.

Axelrod, Alan
1996 *Idiot's Guide to American History*. Alpha Books, New York.

Banks, Iain
2008 Ghosts in the Desert: The Archaeological Investigations of a Sub-Saharan Battlefield. In *Scorched Earth: Studies in the Archaeology of Conflict*, edited by Tony Pollard and Iain Banks, pp.1–28. Brill, Boston.

Barnes, Will C.
1982[1941] *Apaches and Longhorns: The Reminiscences of Will C. Barnes*, edited

by Frank C. Lockwood. University of Arizona Press, Tucson.

Bayers, Peter L.
2003 *Imperial Ascent: Mountaineering, Masculinity, and Empire*. University Press of Colorado, Boulder.

Bell, David, and Joanne Hollows
2006 Towards a History of Lifestyle. In *Historicizing Lifestyle: Mediating Taste, Consumption, and Identity from the 1900s to 1970s*, edited by D. Bell and J. Hollows, pp. 1–20. Ashgate, Aldershot, England.

Blackmar, B., and E. Cromley
1982 On the Verandah: Resorts of the Catskills. In *Victorian Resorts and Hotels: Essays from Victorian Society Autumn Symposium*, edited by R. G. Wilson, pp. 49–57. Nineteenth Century 8(1–2). Philadelphia, Pennsylvania.

Bleed, Peter, and Douglas Scott
2011 Context for Conflict: Conceptual Tools for Interpreting Archaeological Reflections of Warfare. *Journal of Conflict Archaeology* 6(1):42–64.

Biddle, Ellen McGown
1907 *Reminiscences of a Soldier's Wife*. J. B. Lippincott Company, Philadelphia.

Boos, Theodore
1860 *My Life in the Army*. The Beinecke Rare Book and Manuscript Library. Yale University Library, New Haven, Connecticut.

Bourdieu, Pierre
1984 *Distinction: A Social Critique of the Judgment of Taste.* Translated by R. Nice. Harvard University Press, Cambridge, Massachusetts.

Bourke, John Gregory
1962[1891] *On the Border with Crook*. The Rio Grande Press, Chicago, Illinois.

Bowen, Joanne
1996 Foodways in the 18th-Century Chesapeake. In *The Archaeology of 18th-Century Virginia*, edited by Theodore R. Reinhart, pp. 87–130. Special Publication of the Archaeological Society of Virginia No. 35. Printed for the Council of Virginia Archaeologists by Spectrum Press, Richmond.

Boyd, John T.
1872 *Boyd's Hotel Directory and Tourists' Guide*. Lovejoy, Son, and Co., New York.

Braden, S. R.

2002 *The Architecture of Leisure*. The Florida History and Culture Series, University Press of Florida, Gainesville.

Brennan, Stephen
2012 *An Autobiography of General Custer*. Skyhorse Publishing, New York.

Broomfield, Andrea
2007 *Food and Cooking in Victorian England: A History*. Praeger, Westport, Connecticut.

Brouwers, K. L. G. M.
2011 *Fields of Glory or Fields of Gory? The Emergence of Conflict Archaeology as an Academic Discipline and its Influence on Current Archaeological Research.* Master's thesis, Leiden University, Leiden, Netherlands.

Burton, Richard F.
1990[1862] *The City of the Saints and Across the Rocky Mountains to California*. University Press of Colorado, Niwot.

Byers, Steven N.
2005 *Introduction to Forensic Anthropology*. Second edition. Pearson, New York.

Caperton, Thomas J., and LoRheda Fry
1974 U.S. Army Food and Its Preparation during the Indian Wars with Selected Recipes. *El Palacio* 80(4):29–45.

Carneiro, Robert L.
1994 War and Peace: Alternating Realities in Human History. In *Studying War: Anthropological Perspectives*, edited by S.P. Reyna and R. E. Downs, pp. 29–65. War and Society, vol. 2, Gordon and Breach, Langhorne, Pennsylvania.

Carrington, Frances C.
1990 [1910] *My Army Life: A Soldier's Wife at Fort Phil Kearny*. Pruett Publishing Company, Boulder, Colorado.

Carroll, Abigail
2013 *Three Squares: The Invention of the American Meal*. Basic Books, New York.

Carter, R. G.
1887 Buffalo vs. Bulldog. *Outing*, October, 11:91–93.

Cheek, Charles D.
1998 Massachusetts Bay Foodways: Regional and Class Influences. *Historical Archaeology* 32(3):153–172.

Cheyenne Daily Leader (CDL) [Cheyenne, Wyoming]

1889 [Polling place at Rustic Hotel for upcoming election.] 18 June. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1888 ["A Deed of Trust" discussing London selling Rustic Hotel.] 12 June. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1881 [Ad for Rustic Hotel cook.] 30 October. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1879 ["Rustic Hotel" ad.] 15 May. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 ["Stage Line to the Black Hills"] 26 January. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 [John S. Collins is opening Rustic Hotel at end of March.] 9 March. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 ["Rustic Hotel" ad.] 31 March. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 [Suggests that people watch their dogs to prevent being turned into sausage.] 24 October:4. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 [Ad for French restaurant at Dryer's Hotel.] 21 Nov:1. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1876 ["Local Leaflets" discussing dogs not eating sausages.] 21 December:6. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1875 [Discussing Ecoffey and Cuny's ranch outside Fort Laramie.] 10 July. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1868 [Elk in Fort Laramie region.] 4 April. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1868 [Cost of collars.] 14 July. Cheyenne, Wyoming Retrieved from http://newspapers.wyo.gov/

Cheyenne Daily News (CDN) [Cheyenne, Wyoming]
1876 [Story about butcher buying stray cats and dogs for sausage.] 22 January:2. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

Cheyenne Daily Sun (CDS) [Cheyenne, Wyoming]

1876 [Dogs being ground up into sausage.] 26 April:3. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

1877 [Story about the Black Hills stage line.] 6 May. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

Cheyenne Directory
1883 Directory of Cheyenne. Electronic document, http://www.ancestry.com/, accessed 16 August 2015.

Cheyenne Leader (CL) [Cheyenne, Wyoming]
1867 ["Arrival of U.P.R.R."] 18 November. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

Cheyenne Sun (CS) [Cheyenne, Wyoming]
1881 [Discusses John London being a lawyer in Denver.] 6 February. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

Cheyenne Weekly Leader (CWL) [Cheyenne, Wyoming]
1882 [Description of Kelly's ranch hotel.] 6 April. Cheyenne, Wyoming. Retrieved from http://newspapers.wyo.gov/

Cheyenne Weekly Sentinel (CWS) [Cheyenne, Wyoming]
1877 ["Letter from the Black Hills."] 19 February. Retrieved from http://newspapers.wyo.gov/

Cheyenne Weekly Sun (CWS) [Cheyenne, Wyoming]
1890 [Rustic Hotel burned down.] 26 April:5. Retrieved from http://newspapers.wyo.gov/

Clark, Bonnie L., and Laura L. Scheiber
2008 A Sloping Land: An Introduction to "Archaeological Landscapes on the High Plains." In *Archaeological Landscapes on the High Plains*, edited by Bonnie J. Clark and Laura L. Scheiber, pp. 1–16. University Press of Colorado, Boulder.

Clark, Gerald R.
2014 *Supplying Custer: The Power River Supply Depot, 1876*. University of Utah Press, Salt Lake City.

Clementi, Hebe
1994 National Identity and the Frontier. In *Where Cultures Meet: Frontiers in Latin American History*, edited by David J. Weber and Jane M. Rausch, pp. 33–41. Scholarly Resources, Wilmington, Delaware.

Clemmer, Gregg S.

2004 *Old Alleghany: The Life and Wars of General Ed Johnson*. Hearthside Publishing Company.

Coe, Michael D.
2006 *The Line of Forts: Historical Archaeology on the Colonial Frontier of Massachusetts*. University Press of New England, Lebanon, New Hampshire.

Collins, John S.
1970 *My Experiences in the West*. The Lakeside Press, R. R. Donnelley & Sons Company, Chicago.

Collison, Patrick J.
2015 Overview of the Nineteenth-Century Medical Care. In *Health of the Seventh Cavalry: A Medical History*, edited by P. Willey and Douglas D. Scott, pp. 43–62. University of Oklahoma Press, Norman.

Connell, Evan S.
1984 *Son of the Morning Star*. Harper Perennial, New York.

Cott, Nancy F.
1977 *The Bonds of Womanhood: "Woman's Sphere" in New England, 1780–1835*. Yale University Press, New Haven, Connecticut.

Crabtree, Pam J.
1990 Zooarchaeology and Complex Societies: Some Uses of Faunal Analysis for the Study of Trade, Social Status, and Ethnicity. *Archaeological Method and Theory* (2):155–205.

Crader, Diana C.
1990 Slave Diet at Monticello. *American Antiquity* 55(4):690–717.

1984 The Zooarchaeology of the Storehouse and the Dry Well at Monticello. *American Antiquity* 49(3):542–558.

Crass, David Colin, and Deborah L. Wallsmith
1992 Where's the Beef? Food Supply at an Antebellum Frontier Post. *Historical Archaeology* 26:3–23.

Crosby, Alfred W.
1986 *Ecological Imperialism: The Biological Expansion of Europe, 900–1900*. Cambridge University Press, Cambridge, United Kingdom.

Cullimore, Lee M.
2012 *The Boys of Company K: Ohio Cavalry Soldiers in the West during the Civil War*. High Plains Press, Glendo, Wyoming.

Cummins, Bryan D.
2013 *Our Debt to the Dog*. Carolina Academic Press, Durham, North Carolina.

Curet, L. Antonio, and William J. Pestle
2010 Identifying High-Status Foods in the Archeological Record. *Journal of Anthropological Archaeology* 29(4):413–431.

Custer, Elizabeth
1961 *Boots and Saddles*. University of Oklahoma Press, Norman.

Custer, George Armstrong
1962 *My Life on the Plains*. University of Oklahoma Press, Norman.

Cutright, Paul Russell
1985 *Theodore Roosevelt: The Making of a Conservationist*. University of Illinois Press, Chicago.

Davis, George W., Leslie J. Perry, and Joseph W. Kirkley
1896 A Compilation of the Official Records of the Union and Confederate Armies. Series 1, Vol XLVII, Government Printing Office, Washington, D.C.

Deetz, James
1977 *In Small Things Forgotten: The Archaeology of Early American Life*. Anchor Press, Norwell, Massachusetts.

deFrance, Susan D.
2009 Zooarchaeology in Complex Societies: Political Economy, Status, and Ideology. *Journal of Archaeological Research* 17(2):105–168.

Delo, David M.
1998 *Peddlers and Post Traders*. Kingfisher Books, Helena, Montana.

Democratic Leader (DL) (Cheyenne, Wyoming)
1884 [Collins hotel in Lusk.] 10 June. Cheyenne, Wyoming.

Dice, Lee R.
1943 *The Biotic Provinces of North America.* University of Michigan Press, Ann Arbor.

Dodge, Richard Irving
1877 *The Plains of the Great West and their Inhabitants*. G. P. Putnam's Sons, New York.

Dorre, Gina M.
2006 *Victorian Fiction and the Cult of the Horse*. Ashgate, Burlington, Vermont.

Duguid, James O.
1968 The Irvine site: A possible Avonlea site in eastern Wyoming. *The Wyoming Archaeologist* 11(2):24–34.

Duncan, Silvio R., and John Markoff
1978 Cattle Frontiers in Latin America. *Comparative Studies in Society and History* 20(4):587–620.

Eckles, David G., Jeffrey Lockwood, Rabinder Kumar, Dale Wedel, and Danny N. Walker
1994 An Early Historic Period Horse Skeleton from Southwestern Wyoming. *The Wyoming Archaeologist* 38(3–4):55–68.

Ehrenhard, John E.
1973 The Rustic Hotel, Fort Laramie National Historic Site, Wyoming. *Historical Archaeology* 7:11–29.

1972 The Rustic Hotel, Fort Laramie National Historic Site. Midwest Archaeological Center. Submitted to National Park Service Fort Laramie National Historic Site, Copies available from Fort Laramie National Historic Site, Wyoming.

Ervynck, Anton, Wim Van Neer, Heide Hüster-Plogmann, and Jörg Schibler
2003 Beyond Affluence: The Zooarchaeology of Luxury. *World Archaeology* 34(3):428–441.

Espenshade, Christopher T., Robert L. Jolley, and James B. Legg
2002 The Value and Treatment of Civil War Sites. *North American Archaeologist* 23(1):39–67.

Farrow, Edward S.
2000 [1881] *Mountain Scouting: A Handbook for Officers and Soldiers on the Frontiers*. University of Oklahoma Press, Norman.

Flegel, Monica
2015 *Pets and Domesticity in Victorian Literature and Culture*. Routledge, New York.

Forbes, Jack D.
1968 Frontiers in American History and the Role of the Frontier Historian. *Ethnohistory* 15(2):203–235.

Foweraker, Joe
1994 Violence on the Frontier. In *Where Cultures Meet: Frontiers in Latin American History*, edited by David J. Weber and Jane M. Rausch, pp. 33–41. Scholarly Resources, Wilmington, Delaware.

Fox, Richard A., and Douglas D. Scott
1991 The Post-Civil War Battlefield Pattern: An Example from Custer Battlefield. *Historical Archaeology* 25(2):92–103.

Frazer, Robert W.
1972 *Forts of the West*. University of Oklahoma, Norman.

Freeman, John Crosby
1993 *Victorian Entertaining*. A Running Press/Friedman Group Book, New York.

Freeman, Philip, and A. J. Pollard
2001 Introduction: Issues Concerning the Archaeology of Battlefields. *Fields of Conflict: Progress and Prospect in Battlefield Archaeology*, edited by Philip Freeman and A. J. Pollard, pp. 1–10. Archaeopress, Oxford, England.

Galloway, Patricia
2006 *Practicing Ethnohistory*. University of Nebraska Press, Lincoln.

Gay, Peter
1998 *Pleasure Wars: The Bourgeois Experience: Victoria to Freud*. W.W. Horton & Company, New York.

Giddens, P. H.
1978 Seven Letters from the Wyoming Territory, *Annals of Wyoming* 50(2):303–318.

Google Maps
2016 Location of Fort Laramie, Wyoming. Electronic document, https://www.google.com/maps/, accessed 1 April 2016.

Gould, Richard A.
1983 The Archaeology of War: Wrecks of the Spanish Armada of 1588 and the Battle of Britain, 1940. In *Shipwreck Anthropology*, edited by Richard A. Gould, pp. 105–143. University of New Mexico, Albuquerque.

Giddens, P. H.
1978 Seven Letters from the Wyoming Territory, *Annals of Wyoming* 50(2):303–318.

Graham, J.
2009 *Fort Laramie National Historic Site: Geologic Resources Inventory Report.* Natural Resource Report NPS/NRPC/GRD/NRR—2009/161. National Park Service, Denver, Colorado.

Grier, Katherine

2006 *Pets in America: A History*. University of North Carolina Press, Chapel Hill.

Grierson, Alice K.
1989 *The Colonel's Lady on the Frontier*: *The Correspondence of Alice Kirk Grierson*, edited by S. A. Leckie. University of Nebraska Press, Lincoln.

Griske, M.
2005 *The Diaries of John Hunton*, Heritage Books, Westminster, Maryland.

Guy, Donna J., and Thomas E. Sheridan
1998 On Frontiers: The Northern and Southern Edges of the Spanish Empire in the Americas. In *Contested Ground: Comparative Frontiers on the Northern and Southern Edges of the Spanish Empire*, by Donna J. Guy, pp. 3–15. University of Arizona, Tucson.

Hafen, LeRoy R., and Francis Young
1984 [1938] *Fort Laramie and Pageant of the West, 1834–1890*. University of Nebraska Press, Lincoln.

Hamer, Blythe
2001 *Dogs at War*. Carlton Books, London, England.

Hedren, Paul
1988 *Fort Laramie and the Great Sioux War*. University of Oklahoma Press, Norman.

Henderson, Mary F.
1877 *Practical Cooking and Dinner Giving*. Harper and Brothers, Publishers, Franklin Square, New York.

Hesse, Brian, and Paula Wapnish
1985 *Animal Bone Archeology: From Objectives to Analysis*. Taraxacum, Washington, D.C.

Hill, Thomas E.
1888 *Hill's Manual of Social and Business Forms*. Hill Standard Book Co., Chicago, Illinois.

Hillson, Simon
2005 *Teeth*. Second edition. Cambridge University Press, Cambridge, United Kingdom.

Hoagland, Alison K.
2004 *Army Architecture in the West*. University of Oklahoma Press, Norman.

1999 "Village Constructions: U. S. Army Forts on the Plains, 1848–1890."

Winterthur Portfolio 34(4):215–237.

Hobgood-Oster, Laura
2014 *A Dog's History of the World*. Baylor University Press, Waco, Texas.

Hogg, Robert
2012 *Men and Manliness on the Frontier: Queensland and British Columbia and the Mid-Nineteenth Century*. Palgrave Macmillan, New York.

Howe, Daniel Walker
1976 Victorian Culture in America. In *Victorian America*, edited by Daniel Walker Howe, pp. 3–28. University of Pennsylvania Press, Philadelphia.

Hull, Myra E.
1938 Soldiering on the High Plains: The Diary of Lewis Byram Hull, 1864–1866. The Kansas Historical Quarterly VII(1):3–53. Electronic document, http://www.kancoll.org/khq/1938/38_1_hull.htm, accessed 8 December 2015

Hunt, Elvid, and Walter Lorence
1937 *History of Fort Leavenworth 1827–1937*. The Command and General Staff School Press, Fort Leavenworth, Kansas.

Husted, Wilfred
1964 *Archaeological Test Excavations at Fort Laramie National Historic Site, Wyoming, 1963*. Unpublished cultural resource management project prepared for National Park Service by Midwest Archaeological Center. On file, Rocky Mountain Regional Office, National Park Service, Denver.

Ingram, Paul L.
1996 *The Rise of Hotel Chains in the United States, 1896–1980*. Garland Publishing, New York.

Ingram, Paul, and Joel A. C. Baum
1997 Chain Affiliation and Failure of Manhattan Hotels, 1898–1980. *Administrative Science Quarterly* 42(1):86–102.

Keller, Sarah A. C.
1971 The Middle Period: Wyoming and Adjacent Plains. Unpublished Ph.D. dissertation, Department of Anthropology, Harvard University, Cambridge, MA.

Kelly, Raymond C.
2005 The Evolution of Lethal Intergroup Violence. *PNAS* 102(43):15294–15298.

King, Charles

1986[1890] *Laramie or the Queen of Bedlam*. Fort Laramie Historical Association, Fort Laramie, Wyoming.

Kornfeld, Marcel, George C. Frison, and Mary Lou Larson
2010 *Prehistoric Hunter-Gatherers of the High Plains and Rockies*. Third edition. Left Coast Press, Walnut Creek, California.

Knight, Dennis H., George P. Jones, William A. Reiners, and William H. Romme
2014 *Mountains and Plains: The Ecology of Wyoming Landscapes*. Second edition. Yale University Press, New Haven, Connecticut.

Lageson, David, and Darwin Spearing
1988 *Roadside Geology of Wyoming*. 2nd ed. Mountain Press, Missoula, Montana.

Laird, James R.
1983 *The Cheyenne Saddle: A Study of Stock Saddles of E. L. Gallatin, Frank A. Meanea and the Collins Brothers*. James Laird, Self-Published, Frontier Printing, Cheyenne, Wyoming.

Lambert, Patricia M.
2002 The Archaeology of War: A North American Perspective. *Journal of Archeological Research* 10(3):207–241.

Laramie Daily Sentinel (LDS) [Laramie, Wyoming]
1876 [Rabies in the city]. 8 July:3. Laramie, Wyoming. Retrieved from http://newspapers.wyo.gov/

Larson, T. A.
1978 *History of Wyoming*. 2nd ed. University of Nebraska Press, Lincoln.

Lavender, David
1983 *Fort Laramie*. U.S. Department of the Interior, Washington, D.C.

Lightfoot, Kent G., and Antoinette Martinez
1995 Frontiers and Boundaries in Archaeological Perspective. *Annual Review of Anthropology* 54:471–492.

Limerick, Patricia Nelson
1995 Turnerians All: The Dream of a Helpful History in an Intelligible World. *The American Historical Review* 100(3):697–716.

Loren, Diana DiPaolo
2000 The Intersections of Colonial Policy and Colonial Practice: Creolization on the Eighteenth-Century Louisiana/Texas Frontier. *Historical Archaeology* 34(3):85–98.

Maass, John
1982 Foreign Travellers and American Hotels. In *Victorian Resorts and Hotels: Essays from Victorian Society Autumn Symposium*, edited by R. G. Wilson, pp. 21–29. Nineteenth Century 8(1–2). Philadelphia, Pennsylvania.

Mattes, Merrill J.
1988 *Indians, Infants and Infantry*. University of Nebraska Press, Lincoln.

1980 *Fort Laramie Park History 1834–1977*. Rocky Mountain Regional Office, National Park Service, U.S. Department of the Interior, Denver, Colorado.

1978 The Crusade to Save Fort Laramie. *Annals of Wyoming* 50(1):7–58.

Maury, Dabney Herndon
1894 *Recollections of a Virginian in the Mexican, Indian, and Civil Wars*. C. Scribner's Sons, New York.

McChristian, Douglas C.
2008 *Fort Laramie: Military Bastion of the High Plains*. Arthur H. Clark Company, Norman, Oklahoma.

McConnell, H. H.
1996 [1889] *Five Years a Cavalryman, or, Sketches of Regular Army Life on the Texas Frontier, 1866–1871*. University of Oklahoma Press, Norman.

McHugh, Susan
2004 *Dog*. Reaktion Books, London, United Kingdom.

Menz, K. B.
1982 Wicker: The Vacation Furniture. In *Victorian Resorts and Hotels: Essays from Victorian Society Autumn Symposium*, edited by R. G. Wilson, pp. 61–67. Nineteenth Century 8(1–2). Philadelphia, Pennsylvania.

Merington, Marguerite
1950 *The Custer Story: The Life and Intimate Letters of General George A. Custer and His Wife Elizabeth*. The Devin-Adair Company, New York.

Miller, Mark
2012 *Military Sites in Wyoming 1700–1920: Historic Context*. Wyoming Department of State Parks and Cultural Resources, Laramie, Wyoming.

Moore, Jacqueline M.
2010 *Cow Boys and Cattle Men: Class and Masculinities on the Texas Frontier, 1865–1900.* New York University Press, New York.

Moshenska, Gabriel

2008 Ethics and Ethical Critique in the Archaeology of Modern Conflict. *Norwegian Archaeological Review* 41(2):159–175.

Mulloy, William T.
1965 *Archaeological Investigations along the North Platte River in Eastern Wyoming.* University of Wyoming Publications 31(2). Laramie.

Mulloy, William T., and Louis C. Steege
1967 *Continued Archaeological Investigations along the North Platte River in Eastern Wyoming.* University of Wyoming Publications 33(3). Laramie.

Nelson, Randy J.
2005 *An Introduction to Behavioral Endocrinology*. 3rd ed. Sinauer Associates, Sunderland, Massachusetts.

Ogden, John A.
1984 Growth Slowdown and Arrest Lines. *Journal of Pediatric Orthopaedics* 4(4):409–415.

Orser, Charles E., Jr.
1996 *A Historical Archaeology of the Modern World*. Plenum Press, New York and London.

Ostlind, Emilene
2011 The North Platte River Basin: A Natural History. Wyoming State Historical Society. Electronic document, http://www.wyohistory.org/encyclopedia/north-platte-river-basin, accessed 26 February 2016.

Ostrander, Alson B.
1924 *An Army Boy of the Sixties*. World Book Company, New York.

Otterbein, Keith F.
1999 A History of Research on Warfare in Anthropology. *American Anthropologist* 101(4):794–805.

Parker, Bradley J.
2006 Toward an Understanding of Borderland Processes. *American Antiquity* 71(1):77–100.

Parker, James
1929 *The Old Army*. Dorrance & Company, Philadelphia.

Pavao-Zuckerman, Barnet, and Diana DiPaolo Loren
2012 Presentation is Everything: Foodways, Cuisine, and Colonial Identity at Presidio at Los Adaes. *International Journal of Historical Archaeology* 16(4):199–226.

Pender, Rose
1978[1888] *A Lady's Experiences in the Wild West in 1883*, University of Nebraska Press, Lincoln.

Pevsner, Nikolaus
1976 *A History of Building Types*. Bollingen Series XXXV, 19, Princeton University Press, Princeton, New Jersey.

Pierce, Greg
2012 *Negotiating the West: A History of Wyoming Trading Posts*. Wyoming State Historic Preservation Office, Planning and Historic Context Development Program, Wyoming State Parks and Cultural Resources, Laramie.

Plante, Ellen M.
1997 *Women at Home in Victorian America*. Facts on File, New York.

Powell, Peter
1969 *Sweet Medicine: The Continuing Role of the Sacred Arrows, the Sun Dance, and the Sacred Buffalo Hat in Northern Cheyenne History*. University of Oklahoma Press, Norman.

Reitz, Elizabeth J., and Martha A. Zierden
1991 Cattle Bones and Status from Charleston, South Carolina. In *Beamers, Bobwhites, and Blue-points: Tributes to the Career of Paul W. Parmalee*, edited by James R. Purdue, Walter E. Klippel and Bonnie W. Styles, pp. 395–407. Illinois State Museum, Springfield.

Reitz, Elizabeth J., and Elizabeth S. Wing
2008 *Zooarchaeology*. 2nd ed. Cambridge University Press, New York.

Rickey, Don Jr.
1963 *Forty Miles a Day on Beans and Hay*. University of Oklahoma Press, Norman.

Righter, Robert
1989 National Monuments to National Parks: The Use of the Antiquities Act of 1906. *The Western Historical Quarterly* 20(3):281–301.

Rockman, Marcy
1995 Investigation of Faunal Remains and Social Perspectives on Natural Resource Use in an 1867 Wyoming Gold Mining Town. Unpublished M.A. thesis, Department of Anthropology, University of Arizona, Tucson.

Rodseth, L., and B. J. Parker
2005 Introduction: Theoretical Considerations in the Study of Frontiers. In

Untaming the Frontier: In Anthropology, Archaeology, and History, edited by B. J. Parker and L. Rodseth, pp. 3–21. University of Arizona Press, Tucson.

Roe, Frances M. A.
1981 [1909] *Army Letters from an Officer's Wife*. University of Nebraska Press, Lincoln.

Rogers, Houston, Alan Bartholomew, and Anne K. Armstrong
1998 Faunal Remains. In *Archaeology at the Fort Laramie Quartermaster Dump Area, 1994–1996*, edited by Danny N. Walker, pp.1–26. Selection series, No. 13. National Park Service Division of Cultural Resources, Denver, Colorado.

Rollins, George W.
1979 *The Struggle of the Cattleman, Sheepman, and Settler*. Arno Press, New York.

Rollins, Philip Ashton
1997[1922] *The Cowboy: An Unconventional History of Civilization on the Old-Time Cattle Range.* University of Oklahoma Press, Norman.

Rose, Anne C.
1992 *Victorian America and the Civil War*. Cambridge University Press, New York.

Rothschild, Nan A., and Darlene Balkwill
1993 The Meaning of Change in Urban Faunal Deposits. *Historical Archaeology* 27(2):71–89.

Runte, Alfred
1979 *National Parks: The American Experience*. University of Nebraska, Lincoln.

Sandoval-Strausz, A. K.
2007 *Hotel: An American History*. Yale University Press, New Haven, Connecticut.

Schlereth, Thomas J.
1991 *Victorian America: Transformations in Everyday Life*. Harper Perennial, New York.

Schmitt, Dave N., and Karen D. Lupo
2008 Do Faunal Remains Reflect Socioeconomic Status? An Ethnoarchaeological Study among Central African Farmers in the Northern Congo Basin. *Journal of Anthropological Archaeology* 27:315–325.

Schofield, J.
2005 *Combat Archaeology: Material Culture and Modern Conflict.* Duckworth, London.

Schorger, A. W.
1955 *The Passenger Pigeon*. University of Wisconsin Press, Madison.

Schulz, Peter D., and Sherri M. Gust
1983 Faunal Remains and Social Status in 19th Century Sacramento. *Historical Archaeology* 17(1):44–53.

Scott, Douglas D.
1977 Historic Fact VS Archaeological Reality – A Test in Environmental Reconstruction. Unpublished Ph.D. dissertation, Department of Anthropology, University of Colorado, Boulder.

Scott, Douglas, Lawrence Babits, and Charles Haecker
2009 Introduction. In *Fields of Conflict: Battlefield Archaeology from the Roman Empire to the Korean War*, edited by Douglas Scott, Lawrence Babits, and Charles Haecker, pp. 1–5. Potomac Books, Dulles, Virginia.

Scott, Douglas D., Richard Fox, Melissa Connor, and Dick Harmon
1989 *Archaeological Perspectives on the Battle of the Little Bighorn*. University of Oklahoma Press, Norman.

Scott, Douglas D., and Andrew P. McFeaters
2011 The Archaeology of Historic Battlefields: A History and Theoretical Development in Conflict Archaeology. In *Journal of Archaeological Research* 19:103–132.

Seguin, Marilyn W.
1998 *Dogs of War and Stories of Other Beasts of Battle in the Civil War*. Brandon Publishing Company, Boston, Massachusetts.

Shafer, Robert Jones
1980 *A Guide to Historical Method*. 3rd ed. Dorsey, Homewood, Illinois.

Sheridan, Thomas E.
2006 *Landscapes of Fraud: Mission Tumacácori, the Baca Float, and the Betrayal of the O'odham.* University of Arizona Press, Tucson.

Singer, David A.
1987 Threshold of Affordability: Assessing Fish Remains for Socioeconomics. In *Consumer Choice in Historical Archaeology*, edited by Suzanne M. Spencer-Wood, pp. 85–99. Plenum Press, New York.

Smith, Cameron M., and Evan T. Davies
2008 *Anthropology for Dummies*. John Wiley & Sons, Hoboken, New Jersey.

Smith, Sherry

1990 *The View from Officers' Row: Army Perceptions of Western Indians*. University of Arizona Press, Tucson.

Somers, Lewis E.
1998 Geophysical Remote Sensing Survey of the Quartermaster Depot Dump at Fort Laramie National Historic Site. In *Archaeology at the Fort Laramie Quartermaster Dump Area, 1994–1996*, edited by Danny N. Walker, pp. 81–90. U.S. Department of the Interior, National Park Service, Selections Series No. 13, Denver, Colorado.

Spring, Agnes Wright
1948 *The Cheyenne and Black Hills Stage and Express Routes*. University of Nebraska Press, Lincoln.

Stafford, Michael D.
1990 The Powers II Site 48PB330: A Paleoindian Red Ochre Mine in Eastern Wyoming. Unpublished Master's thesis, Department of Anthropology, University of Wyoming, Laramie.

Stallard, Patricia Y.
1978 *Glittering Misery: Dependents of the Indian Fighting Army*. University of Oklahoma Press, Norman.

Starbuck, David
2011 *The Archaeology of Forts and Battlefields*. University Press of Florida, Gainesville.

Statia, W. E.
1875 *Statia's Hotel List Guide*. Thurston and Company, Portland, Maine.

Steele, James W.
1883 *Frontier Army Sketches*. Jansen, McClurg & Company, Chicago.

Stephens, Fraser, Earnest F. Brunkow, Charles J. Fox, and Halvor B. Ravenholt
1971 *Soil Survey of Goshen County, Wyoming*. U.S. Government Printing Office, Washington, D.C.

Sterry, Paul, and Brian E. Small
2009 *Birds of Western North America*. Princeton University Press, New Jersey.

Stevenson, Louise L.
1991 *The Victorian Homefront: American Thought and Culture, 1860–1880*. Cornell University Press, Ithaca, New York.

Sutton, Horace
1980 *Travelers: The American Tourist from Stagecoach to Space Shuttle*. William

Morrow and Company, New York.

Talbott, Starley
2010 *Fort Laramie*. Arcadia Publishing, Charleston, South Carolina.

Tasci, Asli, and Bonnie Knutson
2008 An Argument for Providing Authenticity and Familiarity in Tourism Destinations. *Journal of Hospitality and Leisure Marketing* 11(1):85–109.

Taylor, Myra F., Mary E. Edwards, and Julie Ann Pooley
2015 "Nudging Them Back to Reality": Toward a Growing Public Acceptance of the Role of Dogs Fulfill in Ameliorating Contemporary Veterans' PTSD Symptoms. *Anthrozoos* 26(4):593–611.

Thornhill, Cassidee
2016 *Equus ferus caballus* during the Protohistoric in Wyoming: Looking for the Horse in the Archaeological Record. Unpublished M.A. thesis, Department of Anthropology, University of Wyoming, Laramie.

Thorpe, I. J. N.
2005 The Ancient Origins of Warfare and Violence. In *Warfare, Violence, and Slavery in Prehistory*, ed. M. Parker Pearson and I.J.N. Thorpe, pp. 1–18. British Archaeological Reports, Oxford, United Kingdom.

Thurston, Tina L.
2008 Rituals of Rebellion: Cultural Narratives and Metadiscourse of Violent Conflict in Iron Age and Medieval Denmark. In *Scorched Earth: Studies in the Archaeology of Conflict*, edited by Tony Pollard and Iain Banks, pp. 267–293. Brill, Boston.

Trollope, Frances
1832 *Domestic Manners of the Americans*. Whittaker, Treacher, & Co., New York.

Turner, Frederick Jackson
2008 [1920] *The Significance of the Frontier in American History*. Penguin Books, New York.

Twain, Mark
1994[1885] Huckleberry Finn. Dover Publications, New York.

Udall, Stewart L., Robert R. Dystra, Michael A. Bellesiles, Paula Mitchell Marks, and Gregory H. Nobles
2000 How the West Got Wild: American Media and Frontier Violence: A Roundtable. *The Western Historical Quarterly* 31(3):277–295.

U.S. Census Bureau

1800 *Return of the Whole Number of Persons within the Several Districts of the United States*. Retrieved from from https://www.census.gov/prod/www/decennial.html: accessed 20 September 2015.

1850 *Seventh Census of the United States*. Retrieved from https://www.census.gov/prod/www/decennial.html: accessed 20 September 2015.

1880 *Census Data for Fort Laramie 1880*. Retrieved from http://www.ancestry.com: accessed 12 August 2015.

1890 *Census Data for Wyoming 1890*. Retrieved from http://www.ancestry.com: accessed 12 August 2015.

1900 *Census Data for 1900*. Retrieved from http://www.ancestry.com: accessed 12 August 2015.

1910 *Census Data for 1910*. Retrieved from http://www.ancestry.com: accessed 12 August 2015.

Unrau, William E.
1979 *Tending the Talking Wire: A Buck Soldier's View of Indian Country 1863 – 1866*. University of Utah Press, Salt Lake City.

Utley, Robert M.
1973 *Frontier Regulars: The United States Army and the Indian, 1866-1891.* University of Nebraska Press, Lincoln.

Uyl, Douglas J. Den
2010 Civilization and Its Discontents: The Self-Sufficient Western Hero. In *Philosophy of Popular Culture: Philosophy of the Western*, edited by Jennifer L. McMahon and B. Steve Csaki, pp. 31–54. University Press of Kentucky, Lexington.

Walker, Danny N.
2013 *2008 Investigations at the Battle of Red Buttes, Natrona County, Wyoming*. Natrona County Historic Preservation Commission, Casper, Wyoming.

2012 *Project Completion Report: Archaeological Excavations at the 1866 Infantry Barracks, Fort Laramie National Historic Site, Wyoming, Phase 1*. Wyoming Department of State Parks and Cultural Resources. Submitted to Department of Anthropology, University of Wyoming, Laramie, Wyoming. Copies available from Department of Anthropology, University of Wyoming, Laramie, Wyoming.

2004 *Searching for Fort William: An 1834 Trading Post at Fort Laramie National Historic Site, Wyoming*. Prepared for Long Distance Trails Office, National Park Service, Salt Lake City, Utah.

2001 *Archaeological Monitoring of Contaminated Soil Removal at the 1911 Chicken Shed Location, Fort Laramie National historic Site, Wyoming*. Prepared for Fort Laramie National Historic Site. One file, Office of Wyoming State Archaeologist, Department of Anthropology, University of Wyoming, Laramie.

1998 The Fort Laramie Quartermaster Dump. In *Archaeology at the Fort Laramie Quartermaster Dump Area, 1994–1996*, edited by Danny N. Walker, pp.1–26. Selection series, No. 13. National Park Service Division of Cultural Resources, Denver, Colorado.

1995 Canid Remains from the Powder River Supply Depot, Prairie County, Montana (24PE231). Archaeology in Montana 36:63–82.

Walker, Danny N., Warren Vaughn, and Christopher Cooper
2004 Preliminary Analysis of Faunal Remains from To Cellars Behind Old Bedlam. In *Searching for Fort William: An 1834 Trading Post at Fort Laramie National Historic Site, Wyoming*, edited by Danny N. Walker, pp. 110–133. Prepared for Long Distance Trails Office, National Park Service, Salt Lake City, UT.

Walker, Danny N., and Steven L. De Vore
2008 Archaeological and Geophysical Investigations at Fort Laramie National Historic Site, 2002–2005. Submitted to University of Wyoming, Department of Anthropology. Copies available at Fort Laramie National Historic Site, Wyoming.

Weber, David J., and Jane M. Rausch
1994 Introduction. In *Where Cultures Meet: Frontiers in Latin American History*, edited by David J. Weber and Jane M. Rausch, pp xiii–xli. Scholarly Resources, Wilmington, Delaware.

Weissheimer, K. V., S. M. Herod, J. L. Cameron, and C. L. Bethea
2010 Interactions of Corticotropin-Releasing Factor, Urocortin and Citalopram in a Primate Model of Stress-Induced Amenorrhea. *Neuroendocrinology* 92(4):224–234.

Wheatland Word [Wheatland, Wyoming]
1896 [Discussing the Wilde hotel at Fort Laramie.] 30 October. Wheatland, Wyoming. Retrieved from http://newspapers.wyo.gov/

1896 [Discussing the Wilde hotel at Fort Laramie.] 10 October. Wheatland, Wyoming. Retrieved from http://newspapers.wyo.gov/

1895 [Discussing the Wilde hotel at Fort Laramie.] 6 December. Wheatland, Wyoming. Retrieved from http://newspapers.wyo.gov/

White, Richard
1991 *The Middle Ground: Indians, Empires, and Republics in the Great Lakes Region, 1650–1815*. Cambridge University Press, New York.

White, Robert G., William R. Gould, and William P. Dwyer
2002 Fish Inventories of Five Parks in the Northern Great Plains Network: Final Report. Electronic document, https://irma.nps.gov/DataStore/Reference/Profile/172895 , accessed 13 March 2016.

Whitehead, Jessup
1883 *The Hotel Book of Soups and Entrees*. Chicago Daily Herald, Illinois.

1884 *American Meat Cooking*. 2nd ed. Chicago Daily Herald, Illinois.

1893 *Cooking for Profit: A New American Cook Book Adapted for the Use of All Who Serve Meals for a Price*. San Francisco Daily Hotel Gazette, Chicago Daily Herald, Illinois.

1901 *Hotel Meat Cooking: Comprising Hotel and Restaurant Fish and Oyster Cooking, How to Cut Meats, and Soups, Entrees, and Bills of Fare*. J. Whitehead and Co., Chicago, Illinois.

Whitehorne, Joseph
2010 Following the Paper Trail: A Historian's Role at the Snake Hill Excavations, Ontario, Canada. In *Historical Archaeology of Military Sites: Method and Topic*, edited by Clarence R. Geier, Lawrence E. Babits, Douglas D. Scott, and David G. Orr, pp. 3–9. Texas A&M University Press, College Station.

Willey, P., and Douglas D. Scott
2015 Summary and Discussion. In *Health of the Seventh Cavalry: A Medical History*, edited by P. Willey and Douglas D. Scott, pp. 367–372. University of Oklahoma Press, Norman.

Wilkie, Laurie A.
2006 *Documentary Archaeology. In The Cambridge Companion to Historical Archaeology*, edited by Dan Hicks and Mary C. Beaudry, pp. 13–33. Cambridge University Press, New York.

Willey, P., and Douglas D. Scott (editor)
2015 *Health of the Seventh Cavalry: A Medical History.* University of Oklahoma Press, Norman.

Wilson, Richard Guy
1982 Nineteenth Century American Resorts and Hotels. In *Victorian Resorts and Hotels: Essays from Victorian Society Autumn Symposium*, edited by R. G. Wilson, pp. 9–19. Nineteenth Century 8(1–2). Philadelphia, Pennsylvania.

Wood, W. Raymond
1990 Ethnography and Historical Method. In *Archaeological Method and Theory*, edited by Michael B. Schiffer, pp. 81–110. University of Arizona Press, Tucson.

Wyoming Game and Fish Department
2016 Native Fish Species of Wyoming. Electronic document, https://wgfd.wyo.gov/Fishing-and-Boating/Fish-of-Wyoming/Native-Fish-Species-of-Wyoming, accessed 16 April 2016.

Wyoming Newspaper Project
2009 Wyoming Newspapers. Web page, http://www.wyonewspapers.org.

Wyoming State Wildlife Action Plan
2010 Wyoming Game and Fish Department. Electronic document, https://wgfd.wyo.gov/WGFD/media/content/PDF/Habitat/.../SWAP.pdf , accessed 26 February 2016.

Wyoming Weekly Leader (WWL) (Cheyenne, Wyoming)
1876 [Different names for Rustic Hotel.] 26 Feb.