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Jennifer Honora Ogborne
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“Setting the best table in the country”: Food and Labor at the Coloma Gold Mining Town

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A Dissertation presented to the Graduate Faculty of the College of William and Mary in Candidacy for the Degree of Doctor of Philosophy

Department of Anthropology

The College of William and Mary
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Doctor of Philosophy

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ABSTRACT

The town of Coloma, Montana was settled in the early 1890s as the home of several gold mining companies and their associated employees. Like so many boom towns, the residents had all but abandoned Coloma by 1916. This initial boom phase for Coloma transpired during a critical point in the emergence of modern capitalism, specifically in changing corporate managerial practices. A multi-company open town, Coloma lacked many of the typical characteristics of a paternalistic community, such as scrip and strictly segregated housing. Instead of outright domineering and controlling managerial practices, companies at Coloma manipulated and coerced their work forces through the control of the food provisioning system. This study demonstrates that companies at Coloma dominated the purchase, distribution, and consumption of food through the establishment of a centralized store and company-associated boardinghouses. Companies also offered meals as a type of labor mobilization feast to entice and retain labor populations. To explore the varying degrees of manipulation, this study employs the concept of the system of provision to organize a multi-scalar analysis that addresses the importation, distribution, preparation, and consumption of food products at Coloma. Through the lens of food distribution, this study examines archaeological materials and historical documents to show the extent to which Coloma's companies employed manipulative managerial practices.
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Chapter 1: Introduction

Charles Wassenburg, a tailor, lived in the gold mining town of Coloma, Montana with his wife and two daughters in the late 1800s. On one of his trips to into the local general store he purchased two coconuts. How did these coconuts find their way into the hands of a German tailor sewing suits for gold miners in this nineteenth-century mining town? How did the processes behind Coloma’s industrial labor structure interlock with the food provisioning system? Mining settlements like Coloma owed their existence to an industry that supplied an influx of jobs and to the industrialized food system that allowed large groups of laborers to rely on others for all of their food needs.

This study considers archaeological and historical evidence data to examine the relationship between Coloma’s mining laborers and their food supply in this multi-company gold mining town. The provisioning system highlights critical labor relations within the mining industry through the lens of food.

Previous studies focusing on the relationship between food and industrial corporations have been couched within dialectic of dominance and resistance. In studies at Lowell, MA (i.e. Beaudry 1989; Landon 1987; Morzowski et al 1996), Ludlow, CO (Chicone 2011; McGuire and Larkin 2009; Wood 2004), Michigan (Cowie 2011; Stofer 1997), and Helvetia, PA (Metheny 2007) one company controlled each town. This centralization of company power typically heightened tensions between management and workers. In these examples the company controlled access to food, either through direct control of company-owned stores and boardinghouses, control over the merchants who rented retail space from the company, or taking advantage of workers’ limited mobility outside of the town. More recent studies of foodways in company and industrial towns
have focused on ethnic identities (Sportman 2011) and gendered roles (McMurry 2011). In similar studies of dam construction camps (Maniery 2002) and the lumber industry (Conlin 1979), single-company camps were also responsible for the importation of food for their laborers. Unlike the mining industry, within the lumber camps labor food demands overpowered company thrift and heavily influenced company food policies (Conlin 1979).

Coloma differed from these contexts in that it was a multi-company town. The presence of many companies of varying sizes, however, did not prevent Coloma from becoming a company town. In one definition, company towns are “communities occupied by employees of one or more companies that own all or most of the land, housing, and support services…” (Cowie 2011:57). Companies in control of towns often employed a management strategy known as paternalism to impose order on the laborers in their employ. Early forms of paternalism, such as the incarnation at Lowell, were heavy-handed and strict in the regulations meant to govern both the working and domestic environments of the factory girls, under the pretense of moral or “paternal” interest. Beginning in the Progressive Era, management styles began to shift from more extreme controls to more benevolent policies with overtones of investing in worker welfare (Crawford 1995; Metheny 2007:5-11). Dominating paternal practices often resulting in worker resistance, ranging from consumption choices (Shackel and Palus 2006) to armed conflict. Unlike Lowell, Ludlow, and Michigan, there is no evidence for strikes, union resistance, protest, or significant complaints at Coloma. Evidence for completely congenial relations is similarly sparse, except for a single reference to laborers volunteering to build a company library (Bear Mountain News [BMN], 27 January
Coloma's history as a mining community thus raises important questions integral to the history of labor relations in American extractive capitalism. The power structures enmeshing companies and workers cannot be discerned through archival sources or simply by applying traditional labor models. Instead, I will assess evidence of company control over food to examine the extent of company paternalism and manipulation at Coloma.

I hypothesize that because of the importance of competing for and retaining workers in a multiple-company town, companies in Coloma used food provisioning systems to manipulate labor relations by dominating the purchase, distribution, and consumption of food. These companies controlled the importation of food to the town, used the distribution of food at the store and boardinghouses to create labor-defined households, and offered food as a lure to attract laborers. Unlike company towns with traditional markers of paternalistic dominance and worker resistance, such as scrip, company stores, and strictly segregated housing that "enforced dependency" (Metheny 2007:14), the strategies employed by companies at Coloma were more manipulative than overtly paternalistic. Coloma was an open town (Cowie 2011:66), meaning that workers had easy access to neighboring settlements for food and entertainment. This is contrasted with "closed towns," in which companies operated as "fiefdoms," having total control over where and how workers lived, shopped, and entertained themselves (Crawford 1995:30). While Coloma was an open town, company management manipulated workers' food choices by providing easy alternatives. Instead of requiring travel to nearby owns, food was available within easy reach of laborers residing in Coloma. The combination of porous town boundaries and a paternalistic industrial power structure may seem
antithetical within the typical study of managerial capitalism. However, this study will build off of Sarah Cowie’s (2011) recent work discussing the complexities of power and control in mining communities by offering insight into how paternalism can “be interpreted on a continuum of power” (Cowie 2011:15) through the lens of a food provisioning system. This continuum ranges from oppressive manipulation to more supportive, yet still manipulative, company policies adopted during the Progressive Era (Metheny 2007:4-10).

The control of food supply by the industrial elite of Coloma created a new set of dependent relationships with the laboring population; not only were miners dependent upon the mine owners for their wages, they were also reliant on them for some, if not most, of their food supply. The provision of Coloma and its industry were tightly enmeshed, a common phenomenon in the mining West (Conlin 1986; Hardesty 2010). At Coloma this was manifested through the creation of company-owned boardinghouses, company-supplied meals, and a cash-based store owned by a man with stakes in multiple outfits. As a type of company store, the Miners Cash Store owned by John W. Moss, not only provided items for his own companies, but also to other members of the mining elite and individual laborers from many companies. The Miners Cash Store, and its proprietor Moss, can therefore be understood as an institution that could reach beyond the confines of its own corporate structure to enact extra-company control as a nexus of food distribution.

Control over food distribution occurred on multiple scales, and in this study I will use the system of provision as a framework to structure and organize my exploration of the components of this multivalent system (Orser 1996:186-190). A provisioning system
consists of “local production of food and fuel, importation of foods and fuels from other regions, transportation of these goods to market, food processing by intermediaries, distribution of these essentials to consumers, and the social connections that facilitated economic exchange” (Walsh et al. 1997:5) as well as the preparation and act of physical consumption within various household structures (Anderson 1971:2).

I will demonstrate the extent to which mining companies at Coloma utilized managerial techniques to manipulate laborers and generate profit by examining each layer of the system of provision. At each scale I will employ a particular theoretical approach to address questions of control, manipulation, and enticement through the lens of food.

![Figure 1.1: Towns and mining settlements around Coloma.](image)

**Coloma, Montana**

Charles Wassenburg’s home was established many years after the major mineral rushes in California and Nevada. Following a dwindling subsistence mining period in the 1870s and 1880s, Coloma briefly became a successful hardrock mining camp in the mid-
1890s. By 1916 there was little activity in the town and most of its inhabitants had left (Pardee 1918). Located approximately 35 miles east of the growing city of Missoula, Coloma was situated near rapidly expanding rail lines and agricultural communities (Figure 1.1). This fortuitous placement meant that the residents of Coloma could have had access to a variety of local fresh foods as well as those produced for regional and national markets.

![Figure 1.2: Coloma during its boom phase (origin of photo unknown, gift to project from Kenneth W. Brown).](image)

The town itself was an amalgam of small independent mines and small corporations (Figure 1.2). The number of different claims was in direct contrast to some of Montana’s mining centers, such as Butte, that operated as large, single-company towns. Historical records indicate that some of Coloma’s mining companies provided living quarters and meals for their laborers, whereas others left no record of how they maintained their employees. There was at least one boardinghouse and a hotel in the town, the owners of which held stakes in some of the largest claims. In addition to miners and company management, the
town was also populated with other professionals who supported the mining industry, such as Wassenburg’s tailoring business. Miners and independent professionals had a few options available to them in regards to food choices: at least one restaurant, a non-company specific boardinghouse in the town center sold both individual meals and provided monthly packages, and a general mercantile provided a plethora of food items as well as hardware, household sundries, and shipping arrangements. The local processing mill provided laborers with a bunkhouse and boardinghouse with cooks.

In a town that was defined by its prime industry, there were few amongst the residents whose sole task was to procure, provide, sell, or prepare food. Typically, miners had three scenarios in which to find food: to purchase and prepare food on their own, to find a boardinghouse or boarding restaurant and purchase meals, or to receive employer-provided meals or boarding services. Previous studies have demonstrated that miners often preferred to find their own boarding situations (Conlin 1986:160). Coloma’s labor structure included both medium-size companies and small outfits, some of which provided food and others not. For the residents of Coloma, a person’s labor situation had a significant impact on his or her acquisition and consumption of food products, ranging from autonomy to considerable dependency on one’s employer.

The structure of the provisioning system provides a framework for conducting a multi-scalar analysis aimed at how food is controlled, distributed, and consumed in an extractive industrial community. In this study, I will outline the laboring contexts and economic landscape of Coloma using an ecological Marxist perspective, approach which directs attention to the organization of production, contradictions inherent in extractive production, and the ecological collapse often associated with mining. I will apply a
world-systems analysis to reconstruct the national and regional food distribution networks. I will address the question of purchasing patterns through the lens of consumer choice, informed by available backgrounds and employment of the particular individuals present in store account ledgers. I will then explore the eating options available to the various segments of Coloma's population by defining the various households and commensal communities (Dietler 2003:275); including those formed by industry, in which people potentially consumed food. Lastly, I will explore the variation in foods consumed to identify potential dishes prepared within the Victorian conceptualizations of cooking and eating.

Theoretical Framework

This study incorporates several theoretical themes applied to specific research questions stemming from the system of provision frame. These include the organization of the industrial landscape at Coloma, the origins of foods, its distribution to companies and laborers, and the types of foods eaten. The overarching theme of the relationship between labor and food will be used to tie these various questions together.

The very nature of mining makes it an unsustainable endeavor for a prolonged period, save for extraordinary circumstances. Investors often introduced new technologies to solve the insufficiencies of their current tools, which typically required a modification in the labor structure (Hardesty 2010). Company owners at Coloma established industrial landscapes, offered room and board for their employees near mines, and heavily invested in new mining and milling technologies. Due to the limits of both the technology and the quality of local minerals, the enterprises were short-lived despite
numerous attempts to re-invest in new technologies. Given this context for a mining town, an ecological Marxist (i.e. Foster 2000; Moore 2007; O’Connor 1998) approach is informative, particularly for a settlement with such a short lifespan. This perspective places greater emphasis on the environment within a Marxian discussion to highlight the relationships amongst environment, labor, and technology. Ecological Marxism characterizes extractive capitalism, as well as capitalism in general, as a contradictory system that eventually leads to its own self destruction; by its very nature, extractive enterprise removes and does not replace resources thereby creating an existential sustainability crisis (O’Connor 1998:158-165).

Within the mining industry, solutions to these contradictions included new technologies or shifting extraction to new sites, generating cycles of prosperity and decline, colloquially known as the “boom and bust cycle.” Ecological Marxism foregrounds this antagonistic relationship between industry and exploited natural resources through the concept of metabolic rift, the self-destructive consumption of resources (Foster 2000:156-164). The application of an ecological Marxist perspective emphasizes the repetitive exploitation of both resources and laborers as well as the importation of new technologies more effectively than previous Marxian perspectives (Ogborne 2007). This is because ecological Marxism compels the inclusion of the environmental conditions in which production occurred. This perspective of capitalism is not only appropriate in mining contexts (Hardesty 2009) but also broader discussions about the relationship between economy and environment (Mrozowski 2010). An ecological Marxist perspective is key to understanding the industrial core of Coloma because it emphasizes instability and unsustainability within extractive capitalism.
The instability of the extractive industries was sharply contrasted by the increasingly stable and extensive network of food supply in the late nineteenth century. Company elites, specifically Moss, took advantage of growing transportation networks and food preservation technologies to generate profit through feeding the town’s labor force. Mass-produced products, like canned foods, placed Coloma within the larger context of consumerism and late nineteenth-century capitalism. Consumption practices evident in patterns in archaeological faunal remains and locally-produced goods such as vegetables and flour demonstrate Coloma’s position within the local and semi-local provisioning system of fresh foods. The distribution of these materials across Coloma’s landscape provides evidence for probing different patterns of consumption within the community. A world-systems perspective (Cronon 1991; Purser 1999; Wallerstein 1974, 1980, 1989) highlights the social and economic connections made between mining elites and laborers at each level of interaction through the movement of foods and food-related artifacts into Coloma from these locations. Ratios of fresh and preserved food products found within archaeological features and historical documents provides insight into the possible preferences for fresh foods or those that could be stored for long periods.

While miners were free to leave town and shop elsewhere in the valleys or further away in Missoula, Moss almost exclusively controlled the food market options at Coloma as well as a large cold storage facility and a major boardinghouse. In order to obtain food without leaving, other mine owners either ordered items or purchased food supplies from Moss. Social relationships among miners, managers, boardinghouse owners, and other professionals may be discerned through the purchasing patterns at the local store. Accounts of individuals and companies highlight food preferences based upon
employment, economic feasibility, potential responsibility to dependents, and possible meal offerings. The mine managers’ control over food resources, specifically in their acquisition and distribution, restricted the choices wage-laborers could make. I will draw on themes in consumption studies (i.e. Cook et al. 1999; Mullins 2004; Wurst and McGuire 1999), exploring how and where individuals chose to shop.

Companies offered food through formal boardinghouses, as well as less formal boarding arrangements, as labor mobilization techniques to lure miners for employment. This section will draw on conceptualizations of households within mining communities (Conlin 1986; Hardesty 1992; Johnson 2000; Stofer 1997) as well as feasting studies. In paternalistic communities, the social relations of production were often one in the same with domestic arrangements, and as such an individual’s “source of labor influenced what he ate and how he obtained it” (Bowen 1990:4). I will suggest that work mobilization feasts observed in pre-capitalist societies (Dietler 2001; Dietler and Herbich 2001) are also a valid concept within exclusively wage labor contexts. I will reference other wage labor based extractive industries that employed this technique (Conlin 1979), and similar techniques (Finn 1998), as effective recruitment and maintenance tools. I will use the concept of feasting, typically not utilized within exclusively wage-labor contexts, to reveal the extent to which company owners employed manipulative managerial techniques to attract laborers. Specifically, I suggest how a new category of feasting, the doxic feast, can be used to explain how these everyday meals are similar to the traditional concept of a feast within a managerial capitalist context. This category combines the supposed banality of daily meals offered in a company dining room with the manipulative aspects of a work mobilization feast, a meal offered to entice laborers to
provide services. My choice in creating an apparent oxymoron is deliberate: while lacking in the festive qualities of the typical work mobilization feast (Dietler and Herbich 2001:243), the coercive qualities behind this offer of food in a mining context was completely obscured because of its commonplace nature. Good quality daily meals offered in addition to wages were no less a manipulative lure to attract laborers to a potentially unsustainable employment situation than the non-capitalist work mobilization feasts.

Quantities of individual foods items from archaeological contexts and historical resources revealed patterns of large volumes of carbohydrates and sugars in the everyday diet of a laborer at Coloma. Faunal remains and company account books also revealed potentially high quality dishes along with a variety of fruits and vegetables. The quality, variety, and range of foods indicated in historical and archaeological materials illustrate the potential dishes consumed by the various households and individuals living at Coloma during its initial boom phase.

**Data for the Study**

The data utilized for this study stem from archaeological work conducted at the Coloma ghost town (24MO172) in 2006 and 2007 in conjunction with historical research. The principal archaeological data set is derived from a midden (Feature 172) of kitchen-related materials located away from the center of town (Figure 1.3). The midden was approximately 48 square meters on the surface and about 20 centimeters deep (Figure 1.4). Material remains recovered included artifacts (ceramics (n=2753), metal cans (n=6662, excluding 1658 unidentifiable fragments), and glass (n=1448)) and faunal remains.
Feature 172 was primarily comprised of kitchen waste, specifically utensils, ceramic vessels, food containers, and faunal remains. The ceramic assemblage was relatively homogeneous, consisting of almost entirely ironstone and semi-vitreous wares and dominated by saucers, plates, and serving vessels. There were few wild species within the faunal remains, the majority of the fragments originated from domesticated animals, primarily cow, pig, and chicken. Feature 172 is relatively isolated from other features, particularly domestic structures. It is therefore not possible to connect this midden to a specific domestic structure. However, given the lack of diversity in the assemblage, it has been hypothesized that the refuse stems from a large household, such as a boardinghouse.1

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1 For a complete discussion of the feature, and related features, please see Ogborne 2012, included as Appendix A.
Figure 1.4 Excavation map of the surface of Feature 172.
Figure 1.5: Base of stratum II (top left), base of stratum III (top right), and pre-excavation photograph of Feature 172.
In conjunction with these archaeological resources, account books from the Miner’s Cash Store (Billings Curation Center, Billings, Montana [BCC], Bureau of Land Management, Miner’s Cash Store [MCS]; subsequent citation=BCC, MCS) located at Coloma also provide a valuable dataset about food procurement and consumption within the town. The books yielded 18,311 useable entries that contributed to this analysis.

Significance of Study

This dissertation articulates with broader anthropological themes that seek to address the rapid industrialization of food systems, the changing relationships with markets due to this industrialization, control of resources within industrialized communities, defining power relations between laborers and company elites within paternal contexts, and feasting as a type of labor mobilization. I will also add complexity to the already significant body of literature on the labor relationships within extractive industry communities, such as Ludlow and Michigan, in the Progressive Era, a key point in the emergence of contemporary capitalism. I also suggest a new way of discussing the concept of feasting by offering the category of the doxic feast as a labor mobilization technique within exclusively wage-labor contexts.

This study will also contribute to the increasing trend within industrial archaeology to emphasize the everyday lives of laborers, rather than the machines and technologies they used. In this I will emphasize the “social dimensions...[and] the impacts of industrialization on the working peoples of the recent past” (Casella 2005:9,10, italics original). I will also address the consumer behavior of individual actors.
living within industrialized communities (Casella and Croucher 2010; Shackel and Palus 2006).

The subject of food in the American West has most frequently been part of discussion of ethnicity and identity within frontier communities (i.e. Clark 2011, Dixon 2005; Lightfoot 2005; Longenecker and Stapp 1993; Praetzellis and Praetzellis 2001). In these cases, food remains were used to show how identity was forged in particular pluralistic contexts or how socioeconomic class can be inferred from the remains. The discussion of food in mining contexts has included the utilization of food as a tool of striking community cohesion (Jacobson 2009; Saitta 2005; Wood 2004) and company hegemony (Chicone 2011). Joseph Conlin’s (1986) study of mining foodways does not engage with these anthropological arguments, but provides a wealth of detail about various food practices amongst mining groups in urban and rural settings. I will add to this discussion by demonstrating the food can be used as a lens to discern the production relationships within a more benevolent form of mining managerial capitalism.

The hierarchical power structures present in classic company towns such as Lowell and violent strike camps like Ludlow were not present at Coloma. These power structures were significant components of mining communities (Hardesty 1998a:82). As a multi-company town, rigid company control was not possible. Each company operated amidst a collection of others such that none was more powerful than the others. In this situation, no single company exercised complete control over the lives of the workers. Perhaps the best way to characterize the relationships amongst the companies would be to describe them as heterarchical (Crumley 1979, 1995; see also Saitta and McGuire 1998; Rautman 1998). Heterarchy is a circumstance in which “the relation of elements to one
another when they are unranked or when they possess the potential for being ranked in a
cnumber of different ways” (Crumley 1995:3). Heterarchy provides a useful term for
describing social settings organized by a set of interrelated, yet unranked, institutions.
This concept has been previously been applied in mining contexts to describe the
relationships amongst economics, ideology, and ethnicity (Hardesty 1998, 2011) and
class, bio-power, and status (Cowie 2011). My use of the concept is to characterize the
status of the various companies at Coloma; as a multi-company town in which
corporations could shut down as quickly as they sprung up, none of the companies
exercised complete industrial control over the town. However, hierarchical relationships
were created and reinforced through the movement and distribution of food throughout
the community. In operating the general store, Moss dominated the food supply. Within
companies, labor was mobilized through the use of food.

The Progressive Era saw both violent resistance to oppressive, domineering
managerial practices as well as more benevolent, yet still manipulative, corporate
strategies that included provisions for workers’ welfare (Metheny 2007:4-10). Coloma
was a town that existed somewhere along the spectrum of corporate power, neither
completely oppressive nor magnanimously benevolent. The type of managerial practices
utilized by Coloma’s many companies can only be discerned through the lens of food
distribution and consumption.

What part does Wassenburg’s coconut play within this network of industrial labor
relations? A total of fifteen individuals purchased coconuts from Moss for 15 cents each.
Among these men were a wagoneer and the owner of a saloon, the remaining individuals
identified by name only. That these coconuts were available in a small town in western
Montana demonstrates the remarkable reach of the increasingly complex food distribution system available for Moss to access. They also demonstrate that within a system dominated by a single store, individuals of various professions could choose to purchase a delicacy to vary their food consumption. Such food choices illustrate the complex role that food provisions played in the recruitment and retention of laborers in this industrial community.
Chapter 2: Situating Coloma

The territory that would become Montana was home to the Cheyenne, Blackfeet, Assiniboine, Gros Ventre, Salish, Pend d'Oreille, Kootenai, and Nez Perce peoples before its colonization. Within the borders of the current state are several diverse geographic zones. The eastern part of the state is dominated by flat, high plains and rivers whereas the western portion is much higher in elevation with mountainous regions and valleys. The first recorded American presence was the Lewis and Clark expedition in 1804. This expedition traversed the length of the state and their many campsites dot the southern half. Throughout the first half of the nineteenth century, Montana was dominated by missionary and fur trading activity. This included expeditions and settlements established by American, British and French entrepreneurs and clergymen. At the time of gold discovery, Montana was still a territory, once being a part of the Dakota territory, and subsequently the Idaho territory (Bigart 2010:3-23; Toole 1959:43-56).

The settlement of western Montana by EuroAmericans was primarily driven by mining. Beginning with placer booms, these settlements became heavily reliant on evolving territorial infrastructure, such as roads and ships, to allow them access to everyday supplies and technologies that paved the way for expansion. While placering outfits are easily started and maintained by only a handful of people, it was the hardrock boom that created the enormous influx of capital and created an economically, and eventually politically, powerful class of individuals that drove the industry in the late nineteenth and early twentieth centuries. Communities attached to mining enterprises were subject to the capricious nature of mining. As such, these settlements were often
short lived, sometimes abandoned in a matter of days. However, while living in these isolated locations defined entirely by their singular industry, the people in mining boomtowns created social bonds based on ethnic ties, laboring relationships, and economic dependency. As inhabitants of one of these short-lived boomtowns, the residents of Coloma staked claims and built structures to last. High in the mountains, they constructed roads to connect them to other mining towns and the ranching settlements in the valleys below. But the limits of the available technology meant that the camp was not to last. Repeated attempts to revitalize with influxes of new capital were not sufficient to continue viable extraction, revealing the contradictions of extractive industry and sustainability. Despite connections to other towns such as Garnet, Bonner, and Missoula, Coloma could not be sustained when the industry collapsed, and was subsequently abandoned by its inhabitants.

**Early Montana Gold Rushes**

The first recorded precious mineral strike was in 1858 in what is now Gold Creek east of present day Drummond, approximately 40 miles from Coloma. During this initial small placer\(^2\) boom, a US army lieutenant, John Mullan, was commissioned to build an extensive wagon road through Montana to the Pacific Northwest to ease travel. The Mullan Road linked Fort Benton to Walla Walla, Washington, as well as the local goldfields along the route. Unfortunately, the road was rather rough, which made wagon travel difficult and it was soon overshadowed by steamboats. The construction of this road allowed for far greater access to the new military, ranching and mining settlements.

\(^2\) Placer mining is defined as the removal of minerals in alluvial deposits. Common placer methods include panning, sluicing and hydraulicking.
in the territory. This first discovery of gold did not amount to a rush, unlike the subsequent discovery on Grasshopper Creek in 1862 (Figure 2.1). This resulted in the city of Bannack, which was renowned for its extreme lawlessness and sensational violence in its early years. Two additional rushes followed in 1863 at Alder Gulch (Virginia City) and in 1864 at Last Change Gulch (Helena) (Malone et al. 1991:64,65-67,72).

![Figure 2.1: Early mineral rushes in Montana.](image)

Montana's early gold rushes exploited placer deposits. These deposits occurred near the surface and were accessed along river and creeks. The simplest way to work these deposits was bed-sheet dry washing in which a shovelful of sand was placed onto a sheet. Miners lifted the fabric in order to toss and agitate the soil. This method could be modified by adding small amounts of water to the mix and would, under the best circumstances, wash the sand away from the gold. This technique often led to loss of mineral wealth. The next, and highly popular, method was panning. A miner scooped up sands from the river or creek bed, leaving the pan mostly submerged within the water. The pan was agitated by hand and the pebbles removed, the sand exiting over top of the
pan’s lip. The dregs at the bottom of the pan once the process had been completed would, expectantly, yield gold. A miner could expect to process approximately 50 pans in the course of a work day (Young 1970:108-109; Safford 2004:8). More elaborate methods of placering included a variety of rockers and sluices meant to accelerate the process but applied the same general idea as the panning method. These operations varied in complexity, a single person could operate the simplest, while intricate sluicing systems were worked by groups of miners. All placering methods were, with the exception of highly intricate sluices, rather small in nature and required water to operate. These methodologies led to the developments of hydraulic mining and river dredging.

Placer mining enterprises, excluding large scale hydraulicking and dredging, are small scale operations and typically require only minimal capital. But placer mining was not any less risky than hardrock mining. Placering requires access to water, and in the sometimes rather arid mountains of Montana, sufficient water was not available, resulting in the collapse, or “bust,” of these small outfits.

Montana’s gold rushes attracted more than just miners to the territory. One of most profitable business ventures on the gold rushes was freighting, assembling pack trains to carry goods overland. Many pack trains departed from Fort Benton to supply mining populations. A typical Montana pack train consisted of eight mules or oxen carrying or hauling 12,000 pounds of goods. Each team could complete three round trips per year. In addition to a variety of professions, diverse ethnicities and nationalities were also represented, including African Americans and Chinese immigrants (Malone et al. 1991:85,75-77; Toole 1959:91).
When Montana officially became its own territory in May of 1864, the placer boom was already in decline. By the late 1860s most placer deposits had been worked out and outfits had moved on to other more invasive and complicated methods, such as hard rock and hydraulic mining (Malone et al. 1991:71,96).

Major Mining Activity During The Hardrock Period

The development of Montana's hardrock mining industry was hindered by the lack of infrastructure necessary to transport the heavy equipment needed to process ores. With the placer deposits in decline and the railroads slowly moving into the state in the 1870s, miners and investors were poised to exploit the buried deposits. The first hardrock endeavor was in 1862 at the Dakota Lode near Bannack. Crude stamp mills, brought in via steamboat up the Missouri, pounded the ores that were then shipped out on wagons (Malone et al. 1991:184-185).

These early mills exploited "free milling gold," or those minerals that were near the surface that could be easily milled and amalgamated without further treatment. It would be silver, rather than gold, and later copper that drove the underground mining industry of Montana. During the depression that resulted from the financial Panic of 1873, caused by a drop in the demand for silver, miners stockpiled low grade, easily mined ores and waited for transportation investment to catch up with their stores. Groups of immigrant miners, specifically Cornish miners and families recently from the Comstock Lodes in Nevada, moved to Utah and subsequently to Montana to take advantage of new enterprises as Montana ores began to move out of the territory (Malone et al. 1991:186-187).
In 1875, former gold placer miners in Butte shifted their attention away from the depleted gold resources to silver. By the end of 1876, operations were booming and Marcus Daly, who would become Butte’s most prominent citizen, was beginning to manage operations on many properties. The city of Butte became a small kingdom for Daly (Mercier 2001), whose company attempted to control the daily lives of its employees under the processes of managerial capitalism (Finn 1998). Daly, who possessed strong Irish nationalist leanings, supported his countrymen and hired many. While other mining camps died, Butte remained a small city with a strong Irish working-class population (Emmons 1989; Murphy 1997).

Other smaller silver settlements also appeared in the mountainous regions of Montana. Because silver was used for currency backing, silver mining was a risky business as prices of the metal fluctuated throughout the world. The silver industry was almost devastated by the financial Panic of 1893. During the economic depression that followed, thousands of banks, businesses, and railroads went bankrupt (Walter 2002). Montana’s silver enterprises survived by exploiting easily mined deposits near the surface. Butte, however, had moved on to copper, with silver becoming a mere byproduct of the industry that would define the city for nearly another century (Malone et al. 1991:188-192). Daly constructed the city of Anaconda, located within sight of Butte, to process the copper ore extracted. The town’s waste piles and 585 foot smelter stack are still visible today. The hazardous chemicals used to process the ores, such as arsenic and mercury, and the abrasive particles released into the air through rock breaking generated numerous health problems for the laborers including silicosis (James 1998: 135-136; Mercier 2001; Finn 1998).
While not as apparent at Coloma, with only one recorded major injury (Byrne and Hunter 1899:32), hardrock mining was, and still is, a very dangerous occupation. Even if not injured on the job, the number of recorded health effects reveal the long-lasting consequences of this work. Most significant of these diseases, silicosis, is colloquially known as “miner’s consumption,” a fitting euphemism in terms of both health and the industry (Finn 1998:177-200). Extractive capitalism consumes natural resources in ways that are analogous to humans consuming food to survive, what Marx terms “labor subsistence” (1990:290). Through the process of industry, capitalism consumes and degrades the land and the laborers (Moore 2003a:326,330), a topic which will be further explored in chapter 3.

Mining in the Garnet Region

The earliest gold mining activity in the Garnet Range occurred in the mid-1860s. It consisted of small placer outfits along the few creeks, mainly on the Elk and Bear Creeks (Wolfgram 2005). Prospectors from Deer Lodge first explored the area for gold north of the area that would become the camp of Top O’Deep (Leeson 1885). The subsequent rush was hindered by the lack of roads in and around the Garnet Range. Due to enormous interest in exploiting the easily accessible placer deposits, hundreds of miners flocked to the area establishing camps along the creeks. These settlements included Reynolds City, Yreka, Springtown, Top O’Deep, Beartown, and Bearmouth (Figure 2.2), which was located along the Mullan Road (Daley and Mohler 1973:2). In addition to placering, miners excavated drifts, small underground mines that were only
partially timbered to prevent cave-ins. Drifts were constructed by digging a small shaft, followed by a horizontal tunnel (Hall 1997:7).

Figure 2.2: Major placering settlements near Coloma.

While initially very profitable (Hall 1997:4), many of the camps along the Elk and Bear Creeks did not survive long due to general lack of water required for placering and the size of the deposits. Attempts were made to store the necessary water in reservoirs for the dryer months, but these stores proved to be insufficient for mining needs (Wolgram 2005). The most substantial of the camps was Beartown, speculated to have had as many as 5,000 residents during its apogee. This population estimate, however, conflicts with the 1870 population figures for the entire territory, and may be exaggerated (Hall 1997:7). Numerous businesses were established in the town, including hotels, restaurants, saloons, general stores, a slaughter house, brewery and a wash house (Great Falls Tribune [GFT], 6 September 1931). Beartown’s longevity was cut short when a gold strike in Cedar Creek emptied the town of miners (Daley and Mohler 1973:33) By the early 1870s, the region’s economic viability was in question and the population swiftly
declined as placering became more difficult. The local placering bust reveals the fragile nature of mining enterprises in the Garnet region, but the reinvestment and new technologies generated additional booms.

The gateway to the region was the town of Bearmouth, situated on the Mullan Road and later rail lines. It began as a station for mail and was rather small in size. Small as it was, Bearmouth was significant because the road leading deeper into the Garnet Range began at the settlement. Crucial supplies reached other settlements in the Garnet region only after being ferried, and later transported over a bridge, from Bearmouth (Daley and Mohler 1973:33-34). This settlement continued to act as a regional entrepot during Coloma’s boom phase, serving as one of the access points to the railroad.

Coloma’s Settlement

The first explorations at what would become Coloma were in 1868, led by Jacob E. Van Gundy. Van Gundy began with a placer working in the Washoe Gulch, but soon turned to hardrock. His initial hardrock exploratory shaft was about 20 feet deep and established the presence of viable quartz deposits (BMN, 27 January 1898:1). In 1879 Van Gundy, along with several partners, filed a claim in Deer Lodge. The Mammoth or Washoe Lode, hereafter referred to simply as the Mammoth Lode, was the first claim filed for what would be the Coloma mining district, its claimants numbering four other men in addition to Van Gundy (Bowen 2005). Additional claims were filed in the following years as knowledge of the quartz deposits became more widely known. In order to finance the intensive extraction process needed to exploit quartz deposits, Van Gundy and his partners established the Montana Gold Mining Corporation in 1893. The
company was backed by investors from Boston, who contributed funds for both the principal ore extraction and the establishment and continued mill processing of said ores (Timmons 2006:14).

Three claims were established in 1882: the Cato, I.X.L. and Clemantha. These were followed by the Crystal Spring and Rambler in 1886, the East Mammoth and Grand Prize in 1893, and the Mammoth Mill Lode in 1894. Many unpatented claims were also established within the district, most of which have very little surviving records beyond reference in county annual assessments (Bowen 2005). One hundred and twenty-five unpatented claims were worked in the Coloma district between the 1880s and 1980s, but only two produced significant profit. These unpatented claims include the Clemantha and the Comet.

Despite being patented early, the first records of activity on the Mammoth Lode do not appear until the General Land Office Survey (GLO) in 1894. The primary Mammoth Lode shaft and associated infrastructure were located in the center of the town proper. The claim map produced by the GLO in 1894 (Figure 2.3) depicts only industrial structures at this time, with no accompanying residential or support buildings. Three major shafts are depicted on the map: the primary discovery shaft at a depth of 50ft with a log shaft house, a second shaft at 130ft deep with two horizontal tunnels running 75ft to the north and 90ft to the south, and a third shaft at 50ft and timbered (United States Department of the Interior, General Land Office [USDI, GLO], 1894a).
While the Mammoth Lode was the first patented, it would ultimately not be the most successful enterprise in the Coloma district, nor the first to begin hardrock excavation. The Mammoth has received the most attention in newspapers and still receives a significant amount of attention in historical and archaeological analysis. This is perhaps due to its size relative to the other, smaller, companies. But the Cato, I.X.L. and Clemantha mines were the first to produce gold ores at Coloma. Unlike the documentation on their more famous neighbor, there is little surviving historical literature on these three mines and their associated owners and laborers. The Cato was eventually surveyed (Figure 2.4) in 1895 and was listed as having three timbered shafts and one tunnel at 357 ft. Associated structures included a blacksmith’s shop and cabin (Bowen 2005). While the I.X.L. was patented in 1882, records of its ownership do not begin until 1901, with a D.W. Longfellow. It changed hands in 1903 to J.W. Moss, an individual who would have considerable influence on the town and its associated mines (Bowen 2005).
The Clemantha Lode that was the largest producer of profit amongst Coloma’s mines. An unpatented claim, there was no county record for ownership until 1933 (Bowen 2005). A representation, however, appeared on the Mammoth Lode’s 1892 patent and is discussed in regional newspapers. The Silver State lists the owners as J.W. Moss and J.W. Chamberlain, who were engaged in shipping carloads of ore to Butte for processing (8 April 1896:5). This ownership had changed by 1897 to J.W. Moss, Nellie Chamberlain and Mrs O.C. Warner (Timmons 2006:45). In 1892, the Clemantha was reported to have been shipping thousands of dollars worth of ore. In 1900 the mine was described as being:

…located at Coloma, owned by the Clemantha Mining Co., operated by Sanders & Tallant. Employs eight men. A single compartment incline shaft is down 360 feet. Hoisting is done with 20-horse-power Ottumwa engine ¾-inch cable and cars. Timbering is done with tunnel sets and stulls…(Byrne and Hunter 1900:47)

Ultimately, the Clemantha was the second most profitable mine in the district (Pardee 1918:195-196).
In 1886 the Crystal Spring and Rambler Lodes were patented (Figure 2.5).

Despite their early patent date, records of activities on these claims are scarce and appear later in the mid 1890s. The Crystal Spring patent lists a discovery shaft and four additional timbered shafts with three tunnels. Two cabins are also listed as improvements (USDI, GLO 1916). The Crystal spring was not officially patented until 1916 when the owner is listed as Montana Gold Mines, Inc., but a patent was issued to George Baker in 1897 (Bureau of Land Management 2012). Newspaper articles name A.B. Stone as the owner of the Crystal Spring (Powell County Call [PCC], 25 August 1896:5) and that it was producing sufficient profit to remain open (The Silver State [TSS], 8 April 1896:2). The property changed hands in 1897/8 to one C.E. Moss, who may have been a relation to J.W. Moss of the Clemantha and East Mammoth mines (BMN, 27 January 1898:1).

Less information is available on the Rambler. The original survey data lists the improvements as a discovery shaft, two tunnels and a log cabin in 1886 (Timmons 2006:55). In 1898, the property was leased (BMN, 27 January 1898:1), its owners (or previous lesers) Charles Boggs and a Mr. Cokanspiker (BCC, MCS) relinquishing
responsibility of the workings to A.C. McQuarrie and business associates by 1900 (USDI, GLO 1900). There are no known records of this mine’s profitability.

Activity in the Coloma area increased exponentially in the 1890s, both on existing claims and on new ones. In 1893 the Grand Prize and East Mammoth were patented (Figure 2.6). Unfortunately, no information outside of the original GLO survey and store account exists on the Grand Prize. The East Mammoth, however, has left behind considerable information due in part to its owner J.W. Moss. Previous research had identified the original claimant as Robert B. Sproul (Hoskinson 2000:60). However, by the time of the GLO survey in 1898 Moss is the only owner listed. Sproul and Moss were also partners in a mercantile venture. A store ledger from 1895 calls the enterprise the “Sproul and Moss Store.” However, the 1898 ledger is labeled “Moss Store.” How this shift occurred is currently unknown. By 1898, Robert Sproul had left Coloma for Alaska, possibly selling all of his interests at Coloma (BMN, 27 January 1898:1).

Figure 2.6: Grand Prize and East Mammoth patents (USDI, GLO 1893).

The East Mammoth claim was located in the center of town, similarly to the original Mammoth claim. Two shafts were documented by the GLO, both the map and photographs locate the incline shaft to be directly below the complex of structures built to support the endeavor. Also accounted for are a log bunkhouse, log boardinghouse, frame
blacksmith's shop, dwelling house and a two-storey log store (USDI, GLO 1898).

According to J.W. Moss’ descendants, the East Mammoth was considerably profitable for
the owner, but the vein was lost in the early 1900s. Following the loss of the vein, Moss
closed the mine and moved himself and his family to Ovando where they opened a store
(Terry Peterson, pers. comm. in Timmons 2006:27).

The last major claim in the nineteenth century was the Mammoth Mill Lode (Figure 2.7), patented by the Mammoth Gold Mining Company and located down slope
and to the southwest of their original mineral claim. At the time of the survey the
improvements included a log bunkhouse, log boardinghouse, log cabin, frame office, log
blacksmith's shop and a survey cut intended for the placement of a stamp mill to process
the ores retrieved from the principal claim (USDI, GLO 1894b). While the mill is not
depicted in the survey, newspapers account for its purchase prior to the GLO’s
assessment; a 10-stamp mill was purchased for the sum of $20,000 in Butte, and awaited
the construction of a road for its overland transport to the Mammoth Mill claim (TSS, 3
October 1894:2, 29 November 1895:2).

By 1895 the Mill was processing upwards of 25 tons of ore per day and plans
were publicized for the purchase of an additional 10 stamps to accommodate additional
ores (TSS, 19 June 1895:2). In July of that year, Arthur B. Brown, a mining engineer
from Boston, visited the site and evaluated the plate amalgamation technique being
employed. Finding the process lacking, he adjusted the method to allow for greater profit.
He also recommended a series of improvements to the operation in order to drastically
increase profits. This included deepening the mining shaft, the purchase of additional
stamps to bring the total to 50, and the addition of a wire overhead gravity train that
would transport ores down hill to the mill. Overall, he recommended an investment of $15,000, with the anticipated new net yearly profit to be $270,000 (Missoulian, 23 July 1895:1). Unfortunately, these improvements were never fully realized; newspaper accounts later in the year indicate that the Mammoth Mill had been shut down due to unpaid debts, including wages to employees (Missoulian, 23 October 1895:40). The Mammoth Mill remained closed until the summer of 1896 while the stockholders negotiated financing (Missoulian, 23 October 1985:4,25; October 1985:1). Despite their debts, company management found funds for the installation of a new Masculine engine in their new shaft and began production once more around July of that year (PCC, 25 August 1896:5). The repeated attempts to reinvigorate the Mammoth demonstrate a stubbornness on the part of the mine investors, and the confidence that the rock would yield additional useful ore. But this stubbornness is in direct contradiction to the natural resources available at Coloma.

![Figure 2.7: Mammoth Mill patent (USDI, GLO 1894b).](image)

The Mammoth Mill continued to have financial difficulties into the twentieth century, which resulted in its sale, re-sale and closure. Despite its economic struggles, the Mill area was host to industrial laborers who form a sub-community within the greater Coloma network. Semi-isolated from the rest of the town, they had access to a
boardinghouse that employed a cook, sleeping quarters, and a library and reading room provided by company management (BMN, 27 January 1898:1).

The last notable claim was the unpatented Comet mine, established around 1902 or 1903. The Comet, located to the northeast of the town center consisted of a dual compartment shaft that stretched 1,000 feet in length and 500 feet deep by 1916. Ores removed from the mine were processed in a 15-ton Huntington mill, installed in 1905 by the Quantock Mining and Milling Company. Quantock sold the property due to failure to recover sufficient gold. By 1916 the Comet had been subsumed into the larger Olympiad property (Pardee 1918:198).

Residents of Coloma

In addition to mine owners, administrators and laborers, Coloma was home to families and other individuals engaged in supporting professions associated with industrial mining. Despite the geographic inconvenience of Coloma’s location, occupants of the mining camp found ways to socialize with the individuals living both within the camp and nearby communities (Hilma Hanson Kimball Manuscript, Archives and Special Collections, Maureen and Mike Mansfield Library, The University of Montana, Missoula; 1933 subsequent citation = HHKM 1933). Unlike the much larger and economically powerful city of Butte, Coloma lasted for only a short time. However, within its boom span, the people living there constructed social ties based upon the town’s main industry. Even those not actively mining, such as store owners and school teachers, were deeply enmeshed within the industrial labor structure.
According to the *Bear Mountain News*, a short lived newspaper meant to service the Coloma and Garnet districts, in 1898 Coloma had two boardinghouses, a hotel, a reading room, post office, steam laundry, barbershop with baths, two general mercantiles and three saloons (27 January 1898:1). At its height the town also included a school and livery stable (Missoulian, 2 November 2 1895:4). In 1895 a special correspondent to the *Weekly Missoulian* described daily life for the inhabitants of Coloma: “We have raked all the leaves and burs with little sticks from our front doors and burned them up, giving to our streets a purity and freshness you could not find in the streets of slums” (28 May 1895:1). The recounting of yard and street cleaning activities indicates that the inhabitants were striving for, or wanted the outside world to believe, a clean, orderly and solidly Victorian appearance to their community.

In addition to the bunkhouses available to the mine laborers, Coloma’s town center had two boardinghouses, one owned by the Chamberlains. A frame building, it was also the home of Coloma’s schoolmistress Hilma Hanson Kimball (unmarried during her tenure at Coloma). Hanson Kimball compiled her notes on Coloma at the behest of her daughter in 1933. The Chamberlains were mine owners as well as innkeepers; Swift Chamberlain possessed a stake in the Clemantha that he would later pass to his wife. They had four children, Swift Jr., Frank, Jennie, and Will (HHKM 1933).

If not called for in 10 days return to

**MINERS CASH STORE,**

**J. W. MOSS, Proprietor.**

**COLOMA,** **MONTANA.**

Figure 2.8: Envelope from Miner’s Cash Store.
Coloma's other prominent boardinghouse was owned by the Mosses. John Wesley Moss has already been noted as a stake holder in the I.X.L., Clemantha, and East Mammoth mines. He had additional stakes in the North Star, Golden King, Fraction, Evening, Emily, and Morning Lodes (Bowen 2005) as well as his ownership of the general mercantile. Account ledgers from the Miner's Cash Store (Figure 2.8), also list charges for lodging and for individual servings of beverages. These charges indicate that Moss' substantial non-mining business ventures were closely linked and included a lodging house and saloon. It is not known if they were all located within the three-building complex built atop the East Mammoth's incline shaft (see Figure 2.6). This series of three structures, now completely collapsed, were home to the Moss Store with a large cold storage area attached to the rear and associated warehouses. Moss' numerous financial endeavors were diverse, but all rested upon a foundation derived from the mining industry, both figuratively and quite literally. His far-reaching arm into all facets of the lives of his laborers- their work, their housing, and their meals- demonstrates the inextricable nature of the mining industry and the food resources at Coloma.

Little is known about the early history of John Wesley Moss and his wife Mary. Census data place his birthplace as Iowa and Mary's in Rhode Island, their marriage beginning in 1896 (United States Department of Commerce, Bureau of the Census [USDC, BC] 1900). Family oral history indicates that they arrived in Coloma from somewhere in California, perhaps an earlier gold strike. The Mosses enjoyed their first honeymoon in Japan, indicating prior wealth before settling in Coloma (Timmons 2006). In addition to his numerous industrial purchases, Moss also purchased a frame home for his family, where he and Mary would raise their young daughter Anna Elmira, known as
Billie. The Moss family collection also includes a series of photographs (Figure 2.9) detailing the daily life of this wealthy family living in a mining camp.

Figure 2.9: Unknown woman reading on the front porch of the Miner's Cash Store (Moss-Peterson Photograph Collection).

Hilma Hanson Kimball's brief remembrances provide researchers with a glimpse into the daily lives of some of Coloma's citizens, including those who were either indirectly related to or engaged in professions other than mining. She recounted the living situation of Daniel Morgan, the manager of the Mammoth Mercantile (BMN, 27 January 1898:1), with a background in law from the University of Michigan, who co-habitated with Chester Pray, an assayer whose sister owned a large percentage of Mammoth stock. According to Hanson Kimball, Pray and Morgan were frequently overheard arguing but still remained housemates. She also mentioned the Wassenberg household, stating their European origins in France and Germany (HHKM 1933).

Neighboring Communities

Also along the Mullan Road were a few smaller settlements, such as Wallace (now Clinton) and eventually Bonner and Milltown, but also the major city of Missoula.
(see Figure 1.1) Farmers, ranchers, lumbermen and miners alike moved inland from places such as Wallace into the Potomac Valley. Flat and located along waterways, the Potomac Valley was never a heavily concentrated settlement, but was rather a sparsely populated ranching and agricultural community that developed to support the major industries around it. Cattle became the most important economic staple of the valley’s residents. Farms also produced grains and vegetables. These food products were sold to the miners in the mountains and the lumbermen working the timber stands for Anaconda (Machado and Curry 1981).

During Missoula’s early years, Richard Eddy, Edward Bonner and Davie Welch arrived with the intent to establish a freighting company and mercantile. Their venture would eventually become the Missoula Mercantile, distributing their wares to individuals and communities via pack trains (Peterson 1976:5-6). In 1881 Eddy and Bonner successfully negotiated a contract with the Northern Pacific Railroad to supply lumber from forests to the east of Missoula. Not long after receiving the contract, Eddy and Bonner were joined by Marcus Daly and Washington Dunn of Butte to form the Montana Improvement Company. By 1884 the company had constructed a dam in present day Bonner to catch the logs timber further upstream along the Blackfoot River. A permanent mill followed by 1886. Early logging methods employed horses to haul logs down river, or simply the currents themselves. A camp was established at Greenough and housed approximately 300 horses for the task. This method was largely replaced by railroad, then running through the Potomac Valley in 1910. The Montana Improvement Company changed names several times, eventually becoming the Blackfoot Milling and Manufacturing Company, specializing in lumber but also supporting a general mercantile,
along with the buying and selling of local grain produce, ores and bullion. The biggest client was the Anaconda Mining Company, located about 120 miles upstream along the Clark Fork (Ratigan 1981:7-14; Greiser et al. 1990:32-33).

While not as tightly controlled as coal patches in Pennsylvania or even Butte and Anaconda, Bonner represents a smaller scale example of a company town controlled, to some extent, by managerial capitalism. Unlike Coloma, Bonner still exists, although the closing of the mills resulted in some economic collapse. Within Bonner, the company provided housing, but it was reserved for mill management and skilled laborers. Some members of the unskilled labor force and their families, many of them recent immigrants from Norway, Sweden, Finland, and Canadians of French descent, lived in the nearby Riverside, which became known as Milltown. The Milltown townsite was sold to the Western Lumber Company around 1904, which quickly established its own milling operations and also constructed a substantial dam and hydroelectric power plant by late 1907 or 1908 (Greiser et al. 1990:33).

In Bonner, mill production expanded to process grain and a flour mill was built to accommodate the wheat freighted in by the railroad. The processed flour was shipped out to the Bitterroot area, as well as into the Garnet Range for purchase at Coloma. The mill operation from 1892 to 1904 produced upwards of 250 barrels a day. It was destroyed by fire in 1904. Anaconda took direct control of the lumbering operation in Bonner, and renamed the division to the Anaconda Copper Mining Company Lumber Department. In 1928, Anaconda purchased its competitor, Western Lumber, in Milltown (Ratigan 1977:13,18).
As previously mentioned, the camp of Greenough was established to house the
draft animals and laborers employed by Anaconda’s lumbering arm. Originally known as
Sunset, it became a small community that was frequented by Coloma’s residents for
social events such as dances (HHKM 1933). Not far to the east was the town of Ovando,
settled around 1882. Ovando became a small hub for ranchers, which began with sheep,
and also became the nexus for a freight line that ran to Drummond. After the Moss family
quit Coloma, they settled in Ovando, opening another mercantile (Jacobsen 1977).

Coloma’s Decline

The Mammoth Gold Mining Company was consistently plagued with difficulties
throughout the 1890s resulting in its repeated closures and eventual sale. The most recent
owners, the New York-Montana Gold Mining Group, attempted to revitalize the
diggings. William Walsh and William Orum from the Inspector of Mines for Montana
reported that the Mammoth shaft was 270 feet deep with 2,000 feet of drifts. They also
enumerated the equipment in use, stating that the mine was employed 80 men in 1906
(Walsh and Orum 1906:121-122). When they returned in 1910 they found the company
engaged in driving an additional tunnel towards the original shaft to remove ores to the
milling complex with greater ease (Walsh and Orum 1910:109).

While the Mammoth continued to extract ores, several small unpatented claims
continued to be worked. The only one of any size was the Comet Lode, worked until
approximately 1916. The Comet was located at a lower elevation than the other
settlements on the mountain and was some distance from the town center (Pardee
1918:195-197). In 1905, it was recorded to have had some activity, including the
establishment of a 15 ton Huntington Mill (Sahinen 1957:10). Like so many other of the mining operations, the Comet lacks historical documentation. However, informal archaeological pedestrian survey located the remains of the Comet in 2007. Noted features included partially collapsed cabins, one of which may have served as a boardinghouse as evidenced by the presence of a large midden of fragmented ironstone dishes.

In 1908 the Coloma post office had closed and the East Mammoth operations had shut down as the miners lost the gold vein. In 1916, J.T. Pardee, a researcher for the U.S. Geological Survey, visited the town and only noted one active claim: the Montana Gold Mine Company’s new tunnel, approximately 1,000 feet long at his visit (1918:197-198). When Hanson Kimball returned to Coloma with her daughter in the 1930s she noted that there were several residents in the town during the summer months attempting to prospect for gold in attempt to mitigate the effects of the Depression. Several mines were re-opened during the 1930s (Sahinen 1957:11-16). Among the mines re-opened were the Mammoth, I.X.L., Cato, East Mammoth, Clemantha and several of the smaller claims. Some continued to produce into the 1950s. The last resident of Coloma, Niels Hansen, left in 1960 for medical reasons and died before he could return (Kauffman 1963:26-7).

Today, Coloma is a collection of partially collapsed frame and log buildings, the current state of Coloma is testament to the turbulent boom and bust era of the mining West. In addition to a limited number of tourists, several individuals return to Coloma year after year because of their familial connections or out of a sense of connection to the picturesque landscape.
The area has been subject to several geological and cultural resource surveys beginning with Pardee. Pardee (1918) assessed the geological value of the area and provided brief histories of a few of the mines. In 1953, Uno Sahinen conducted an additional geological study and remarked that the town was completely abandoned. In the 1980s, the Anaconda Mining Company, then a subsidiary of the Atlantic Richfield Company (ARCO, now owned by British Petroleum) dredged portions of the eastern section of Coloma in effort to establish the viability of a gold or copper mine. Results were unfavorable, and they abandoned the project, but not before destroying part of the town.

To date, five archaeological investigations have inventoried and researched the town. The first, in 1973 by Dennis Daley and Jim Mohler, inventoried the remaining structures in Coloma and many of the nearby placer camps as well as including historical account of the area. This was followed by a timber management document in 1981 by John Taylor, who has provided current researchers with the only evidence, outside of the GLO maps, of the layout of the Mammoth Mill Lode. The Bureau of Land Management
office in Missoula sponsored two previous cultural resources inventories and a management plan (Desilvey 2006) prior to this particular project. The first (Hoskinson 2000) expanded the list of archaeological features and the second (Bowen 2005) added to this list as well as documented all of the claims on file in county offices.

Currently, the site is under threat of logging activity, forest fires, and the possible removal of the Mammoth waste rock piles for additional processing. This renewed interest in the mining waste represents a new period in the cycles of technological investment and expected profitable extraction. In interpreting these periods through the lens of ecological Marxism, the repeated efforts in Coloma’s resource extraction become part of a larger cycle of boom and bust.
Three additional boom periods followed Coloma’s major decline in the mid-1910s: Depression Era subsistence mining, a second industrial occupation in the 1950s, and an attempt to dredge the mountain in the 1980s. Each period was defined by different extraction technologies and labor organization. The boom and bust cycle within mining contexts of the American West has often been couched within a world-systems analysis (i.e. Hardesty 1991, 2007, 2010). Within this perspective, “mining colonies” (Hardesty 1991:31) were integrated as “peripheral work settlements” (Van Bueren 2002:2) into the burgeoning industrial and trade networks of the second half of the nineteenth century centered on new cores in Chicago (Cronon 1991) and San Francisco. The abandonment of mining settlements resulted in the significant re-organization (Wilcox 2010:137) of the community, typically migration to the next mining boom. The life cycles of mining communities such as Coloma followed the successive waves of expansion on which capitalism is predicated (Moore 2007:27). The focus of this study, the initial boom from about 1893-1916, experienced small cycles within particular companies.

This chapter will address the particular infrastructure, both industrial spaces and support spaces, of those companies with specific focus on those attributes that directly impacted the sources of food for laborers. These attributes include boardinghouses, stores, and bunkhouses, as well as industrial features such as shafts and adits. While some companies made significant investment in machinery and habitation structures other constructed minimal buildings with only minor infrastructure. The type and scale of infrastructure investment can indicate the magnitude of managerial structure within each.
company. With so many companies with differing levels of size and complexity, there were ranges in support services for laborers.

Within this first boom period, the cycle of boom and bust can be observed at work at a rapid pace within individual companies. I will use the concept of metabolic rift suggested by the proponents of ecological Marxism to problematize the boom and bust cycle within the broader themes of contradictions within capitalism. The use of metabolic rift allows for a more nuanced examination of the relationship between industry and natural resources, and how key this relationship was to the lives of the laborers dependent upon that industry. An ecological Marxist perspective builds on Marx’s concept of dialectical materialism, in which capitalistic economic development creates a contradictory bond between the relations of production and the relationship between nature and production that potentially leads to crisis and eventual substantial reorganization. Marx, as well as Friederich Engels (1972), observed that extractive industries such as mining and agriculture had devastating effects on the environment, which in turn would result in adverse conditions for the sustainability of those endeavors, in effect, destroying themselves. While this existential contradiction was true of all modes of production, under capitalism, the deleterious effects occurred at a far more rapid rate, thus hastening crisis (Engels 1972; Marx 1990).

The proponents of ecological Marxism (i.e. Burkett 1999; Foster 2000; Moore 2007; O’Connor 1998) focus on this central contradiction within an exploration of the interaction of the capitalist mode of production with the environment. This focus highlights how technologically advanced production generates an intensification of extractive output, creating an unsustainable relationship with the environment. The
intermediaries in this cycle, the laborers who used the technology on a daily basis, are also put in harms way through overwork and hazardous working conditions. This process was not only seen in mining contexts, but also in the large agribusinesses that were forming in the late nineteenth century. Both types of extractive industries consume the land needed to create products, a process Marx saw in all modes of production he termed “labor subsistence” and “productive consumption” (1990:290).

The primary focus of most ecological Marxists has been to promote radical alterations in the current incarnation of capitalism in the twenty-first century. This aspect of ecological Marxism (i.e Burket 2009; Foster 2009; Foster, Clark, and York 2011) is not particularly relevant for Coloma and a consideration of its provisioning system. However, it should be noted that mining towns like Coloma were a part of an extractive system that has been building towards the current eco-capitalist crisis observed by scholars such as Foster and O’Connor. Instead, I will draw on the concept of metabolic rift to both characterize and frame the nature of the extractive industry at Coloma as unstable and problematic. In examining the particular investments in industrial landscapes, I will demonstrate that companies employed varying degrees of managerial practices that were directly linked with the natural resources.

**Ecological Marxism in the Mining West**

G.C. Swallow, the State Inspector of Mines for the state of Montana in 1890, had a rather pessimistic outlook at the burgeoning hardrock mining industry of his state. Swallow’s observation of the mining industry led him to conclude the following regarding the failure of enterprises:
First. Mining requires more science, skill and experience than any other business. And yet men who had no science, no skill and experience in mining, came to Montana, bought a prospect, erected a mill, dug out some ore and pounded out a part of the gold. But the bullion could not meet the expenses and it soon appeared they did not know a mine from a badger’s hole, knew nothing about taking out ore and nothing about running a quartz mill.

Second. Men who furnished the money often gave such instructions to their superintendents as to embarrass their operations or make them a total failure. They most usually urge the erection of a mill or furnace before they have discovered enough ore to run it, and have so tested its qualities as to determine what kind of a mill or furnace is needed for working it.

Third. They send out a mill which is not at all the kind needed for the ore.

Fourth. They order shafts sunk and tunnels run where the work will be a dead loss…

(Swallow 1891:7).

The interpretive framework of ecological Marxism joins technology, labor, and natural resources into an effective tripartite analytical tool appropriate for Western mining contexts. Ecological Marxism has a strong resemblance to political ecology, which applies a political economic approach to the dialectics of the earth’s resources with social groups (Blaikie and Brookfield 1987:17), but derives more direct influence and reliance on the original writings of Marx. This more recent interpretation of Marx’s writing has shown that in his discussions of the relations of labor and capital, Marx was also sensitive to ecological issues deriving from the rise of capitalism.
While there are many scholars who have engaged in this discussion, the key contributions have come from James O’Connor, Paul Burkett, John Bellamy Foster, and Jason Moore, the latter’s contribution includes direct historical application rather than theoretical dialogue. Foster has suggested that Marx was heavily influenced by soil analysis conducted by Justus Von Liebig and applied this to the discussion of capitalist agriculture. In particular, Von Liebig’s concept of *Stoffwechsel* can be seen in Marx’s analysis. Literally, *Stoffwechsel* means “material exchange,” or more loosely, metabolism. Von Liebig used this process to explain biological tissue degradation and the loss of nutrients in the soil. Marx applied this concept to describe the relationship between humans and nature, a relationship mediated through labor activities. This metabolic exchange could be seen on both a physical level as ecological degradation, but also on a large social scale as laborers were adversely affected through the machine of capitalistic drive (Foster 2000:155-163).

Marx defined labor as “a process between man and nature, a process by which man, through his own actions, mediates, regulates and controls the metabolism between himself and nature” (1990:283). During the process of laboring, the productive consumption, natural items such as timber and mineral ores are separated from nature, thereby making them the objects of labor. The processing of these natural items, such as mineral refining in mining, these objects of labor become raw materials for the later production of consumer goods (Marx 1990:284-285). In this respect, labor becomes the primary consumer of these goods. This process not only consumes the materials of nature, but also the instruments used to obtain them:
The labour process, as we have just presented it in its simple and abstract elements, is purposeful activity aimed at the production of use-values. It is an appropriation of what exists in nature for the requirements of man. It is the universal condition for the metabolic interaction \([\text{Stoffwechsel}]\) between man and nature, the everlasting nature-imposed condition of human existence, and it is therefore independent of every form of that existence, or rather it is common to all forms of society in which human beings live.

(Marx 1990:290).

Thus, a Marxist interpretation of the relationship of human labor to environment can be seen as a metabolic process. In this respect, Marx had reshaped a biological function into a social function, the metabolism between society and nature. In the process of extraction, key resources are removed from nature, without replenishment, and the cycle breaks down. This breakdown has been termed metabolic rift (Foster 2000:156-164). During this metabolic process, the act of labor uses up the materials being extracted as well as the tools used to obtained them: “It consumes them, and is therefore a process of consumption” (Marx 1990:290).

Ecological Marxism frames capitalism as a contradictory system in crisis: its extractive nature, parasitic in many cases, leads to its self-destruction. Production relations eventually cause the system to self-destruct due to its inability to reproduce the conditions necessary for its sustainability. Instead of recreating the nutrient population of a field or an ore deposit, capitalism hugely impairs or destroys outright these resources, thereby destroying its own means of survival (O’Connor 1998:158-165).
This parasitic relationship inextricably ties the analysis of labor to an analysis of the environment:

Thus the history of nature is in certain discoverable ways the history of the exploitation of one group of human beings by another group. Since their history of exploitation is also the history of labor (and other social) struggles, it follows that the history of nature is in part the history of labor (and other) struggles.

(O’Connor 1998:26)

Marx stated that during the metabolic process, labor consumes not only the raw materials, but also the instruments used to obtain them (1990:290). He describes these “instruments of labor” as a thing that a worker places between himself and nature (Marx 1990:285). The worker then controls said instrument to extract what is desired. In this respect, tools are the mediators between people and nature (Foster 2000:201). In gathering items from nature to create tools, humans adopt tools and nature as new organs to use in laboring activity (Marx 1990:285). Marx refers to mechanical tools as “the bones and muscles of production”(1990:286). Tools, then, and technology become the third member of the metabolic rift triangle when added to labor and environment. The means through which labor exploits nature can therefore not be left out of the discussion. As with all extractive industry, the technologies applied have an exceedingly high influence on production. Mining, both capitalist and non-capitalist forms, is no exception, particularly in the late nineteenth century as the industry adopted many new production and processing techniques that had significant impact on the organization, and re-organization, of labor. Foster posited that tools are the means through which metabolic rift is created (Foster and Burkett 2000:416). In order to continue extracting, an outfit
may need to alter its technologies to cope with failure or insufficient raw material accumulation. An alternation in technology may be sought to relieve declining production. However, technological intervention may only bring relief in the short term.

The relationship between the environment and industry in the American West has been studied within the contexts of California missions (Allen 2010; Arkush 2011; Costello 1989, 1990; Frierman 1982), pastoral economies (Butzer and Butzer 2000; Church 2002, Clark 2011), toxic waste (Hardesty 2001), as well as mining (Isenberg 2005) and ranching (Igler 2001). Archaeologists have also made contributions in the analysis of labor strife and exploitation in the West (Larkin and McGuire 2009), but have not so far connected these struggles in a meaningful way to the environment. While it may seem that a discussion of environmental degradation inserted into an analysis of labor strife, in particular those episodes in which human life was tragically lost, such as the Ludlow Massacre of 1914, would seem almost inappropriate, there is certainly a place for a joint discussion in other contexts.

As so many mining colonies were abandoned due to the inability to extract more resources, the livelihoods of miners and their families were irrevocably damaged, forcing them to uproot themselves. This led to the fissioning of communities and economic hardship. These circumstances not only apply to past contexts, but are also particularly resonant in the modern world. Cities such as Butte, Montana, were almost entirely dependent upon the extensive copper mines. The population was forced to re-define its identity after the closure of the copper mines, and now must face the consequences of the water-filled enormous Superfund site that sits not far from their homes.
Residents of Coloma did not stay when the mining industry closed, they moved elsewhere. In each new wave of occupation, the original industrial spaces were re-inhabited by a new group of laborers with new technologies for mineral extraction. Michael Wilcox offers a compelling metaphor from his studies of the Pueblo Revolt (1680) that is apropos for mining contexts. He considers abandoned sites not as dead, inert spaces, but rather as shells: “the living organism creates, inhabits it, and then moves from it only to construct a new home and preserve the life inside somewhere else. Abandonment, like mobility, is a social strategy, and not evidence of a social failure (Wilcox 2010:137). This perspective relies on the existence of spaces to which a group can move, or expand, to re-organize and re-constitute. This is very similar to the successive cycles of expansion within a capitalist economy (Moore 2007:27). However, when societies run out of room, the crisis becomes sharper and brings society closer to a catastrophic re-organization. This is the dialectical contradiction that is central to the concept of ecological Marxism; in order to continue “healthy” productive consumption, there must always be a location to move industry to in order to continue the cycle, otherwise, it may cease to function. To avoid this, new technologies may be introduced to reinvigorate the industry.

The application of ecological Marxism to an historical context is most aptly constructed by Jason Moore (2003a, 2003b, 2007). Moore constructed what he has termed “world environmental history” in order to examine how the growth of capitalism within the world-system impacted various environmental zones. Capitalism and ecology are dialectically bound within the world-system: “the rise of a capitalist world-economy and the rise of a capitalism world-ecology were two moments of the same world-
historical process. This ‘separation in unity’ (as Marx would say) constitutes a dialectical antagonism between capitalism’s drive to accumulate endlessly and the demands of ecological sustainability” (Moore 2003a:323).

Moore suggests that it is the exhaustion of resources at commodity frontiers that brought about what is now known as the capitalist mode of production by creating a system that was premised on “infinite economic expansion” (2007:2). Colonial powers could avoid the pitfalls of boom and bust by expanding their colonial territories and “through the endless commodification of nature” (Moore 2007:10). This resulted in the rapid degradation of the land and the laborers performing the extraction (Moore uses enslaved African on sugar plantations and enforced miners at Potosí as examples). This established “a remarkably consistent cyclical phenomenon of boom and bust. Thence the search for new frontiers began anew, and with it the cycle of expansion, crisis, and expansion” (Moore 2007:9).

In looking at the expression of metabolic rift in extractive industry, Moore called the locations of these industries “commodity frontiers.” These places, in their single commodity pursuits, reorganized how space and labor were exploited. This situation is very dramatically manifest in the slave labor of plantation economies and mining activity. In both of these situations, but perhaps mining more strikingly, the act of extraction needed resources from the periphery the core does not supply adequate replacement to the periphery nor considers the health of the workers. Therefore, the periphery declines until it is of no more use. Hence, the degradation of the soil and/or mine becomes the destruction of the worker as well (Moore 2003a:326,330).
In physical terms metabolic rift can be defined as the pumping of nutrients from one ecosystem into urban landscapes and commodification. This labor subsistence process continues until there is little to nothing left of the particular resources and the environmental conditions cannot produce additional quantities, thus inhibiting economic profitability. While the object of extraction can change, the basic expansionist qualities of capitalism are repeated: capitalism cannot survive in a closed system, it must constantly seek fresh lands with new sources of natural resources.

The relationship between extractive industry and nature is key to understanding the economic foundations of a context such as Coloma. This is not only manifest in monetary backing, but also in the investment of these funds in attempts to generate profit through technologies. Coloma’s short history as a boomtown is an appropriate situation to explore this theme, as multiple attempts to restructure ore extraction and processing occurred in a short span of time. Rather quickly, investments proved futile in some cases and profitable in others. However, despite constant re-investment, it was not sufficient to sustain the community for more than punctuated periods of productivity.

**Industrial Landscapes in Historical Archaeology**

Early placer mining settlements were haphazard and organic in development, with miners setting up their equipment along rivers. This contrasted greatly with the more rigidly controlled managerial capitalism embodied by hardrock settlements due to the drastic difference in the organization and scale of labor, such as the company town, required to engage in this type of industry.
The most famous company towns in the United States are those of the Lowell Mills in Massachusetts and the coal patches of Pennsylvania. Archaeological analyses of these sites have concentrated on the themes of corporate paternalism and/or worker agency (Metheny 2007; Mrozowski 2005; Mrozowski et al. 1996). These towns were part of a larger trend within American industry in which the mill owners created strict paternalistic systems that resulted in tightly controlled labor and domestic spaces. In these mill towns, the “‘mill lords’” (Shackel 2009:25) could be in control of all of the money and goods that flowed into the town. In addition to keeping strict control over the movement of capital and products, they also provided clothing, domestic spaces, and sometimes food and education for the workers and their families (Shackel 2009:25).

Companies applying this direction, called the Rhode Island system, took a very active, and sometimes heavy-handed, role in ensuring that the lives of their workers adhered to good moral standards and were neat and orderly. Under this umbrella of moral authority employees were supervised 24 hours a day at work and in their company-run boardinghouses, reminiscent of Foucault’s metaphorical panopticon at the Walnut Street Prison in Philadelphia (Shackel 2009:22).

This type of paternalism, known as formal or corporate paternalism, often resulted in extreme levels of social control. In some cases, particularly in the coal patches in the East, companies paid in scrip. This enforced worker dependency on the company for everything. In these cases, the laborers could not gain access to legal tender that would allow them to shop anywhere instead of the company stores (Metheny 2007:11,14). During the Progressive Era, this type of paternalism shifted to “benevolent” paternalism. While the company owners still expressed a considerable level of control over the daily
lives of the workers, it was expressed in the guise of worker health, safety, and general well-being (Dinius and Vergara 2011:3; Metheny 2007:14). In this phase, companies began constructing more community-oriented facilities such as libraries, medical services, churches, recreational facilities and sports fields (Crawford 1995:37; Stofer 1997:101). However, companies could still enact tremendous power over workers, such as in the Berwind community in Colorado. In 1902 the Colorado Fuel and Oil Company began to criticize the housing available in town and began to build uniformly designed and “sanitary” housing facilities, typically isolating families with particular ethnic identities to prevent solidarity movements (Shackel 2009:36). Similarly, George Pullman exercised strict control over the appearance of his workers’ homes by having them inspected. He also heavily regulated recreational activities by banning liquor and enacting curfews (Crawford 1995:37-40).

Many towns, and most cities, in the American West were laid out on rigid grid patterns, and company towns were no exception. The grid patterns “reflected order and rationality...[which] allowed owners to easily account for their work force” (Shackel 2009:37). Control over the labor force was often expressed in this rigid control of the landscape (Hardesty 1998a).

Workers’ response to these severe rules sometimes resulted in violence, such as the case with Ludlow and Pullman. Labor unrest that stemmed from strict company policies resulted in the Colorado Coalfield War, which included the Ludlow Massacre in 1914. In her study of the Helvetia coal company town of Pennsylannia, Karen Bescherer Metheny found that while under the thumb of a somewhat oppressive corporate regime, the workers and their families were able to express themselves within this system. In their
<table>
<thead>
<tr>
<th>Year</th>
<th>Company</th>
<th>No. of laborers</th>
<th>No. of managers</th>
<th>Size of workings or milling</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1894</td>
<td>Mammoth</td>
<td>increased by 5 men</td>
<td>3</td>
<td></td>
<td>Manager brought in five months of provisions, plans were made to purchase a 10-stamp mill and build a road.</td>
</tr>
<tr>
<td>1895</td>
<td>Mammoth</td>
<td>unknown</td>
<td>At least 5</td>
<td></td>
<td>In debt to Missoula Mercantile $2,200 and owed back pay to laborers.</td>
</tr>
<tr>
<td></td>
<td>Crystal Springs</td>
<td>unknown</td>
<td>2</td>
<td>Huntington Mill</td>
<td></td>
</tr>
<tr>
<td>1896</td>
<td>Mammoth</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td>“some little work” (TSS, 12 February 1896:2) one car load of ore to Butte per week.</td>
</tr>
<tr>
<td></td>
<td>Clemantha</td>
<td>unknown</td>
<td>At least 2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unnamed John Renault Co.</td>
<td>unknown</td>
<td>At least 1</td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Unnamed Loomis Co.</td>
<td>unknown</td>
<td>At least 1</td>
<td>Active</td>
<td></td>
</tr>
<tr>
<td>1897</td>
<td>Mammoth</td>
<td>26 (either increased to this or reduced to 12)</td>
<td>At least 2</td>
<td>2 compartments, 285 ft of diggings (125 recently dug), Kendall &amp; Sons engine with cage, square sets and stulls 366 ft of diggings (132 recently dug), whim operated</td>
<td>Laborers were divided into 14 underground, 10 topmen, and 2 engineers.</td>
</tr>
<tr>
<td></td>
<td>Clemantha</td>
<td>8 (reduced to or increased to 15)</td>
<td>At least 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1898</td>
<td>Mammoth</td>
<td>50 or 56</td>
<td>unknown</td>
<td>Whim and bucket</td>
<td>Closed down by end of year, seized by sheriff.</td>
</tr>
<tr>
<td></td>
<td>Clemantha</td>
<td>0</td>
<td>unknown</td>
<td></td>
<td>Closed down.</td>
</tr>
<tr>
<td></td>
<td>I.X.L.</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Valley</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rambler</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Crystal Spring</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rosie Darling</td>
<td>unknown</td>
<td>unknown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1900</td>
<td>Clemantha</td>
<td>8</td>
<td></td>
<td>Ottumwa engine with $\frac{7}{4}$ inch cable and car operated by Sanders &amp; Tallant</td>
<td></td>
</tr>
<tr>
<td>1905</td>
<td>Mammoth</td>
<td>unknown</td>
<td></td>
<td>Several tunnels, 2000 ft of drifts, hoisting engine with boilers and compressors</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comet</td>
<td>18</td>
<td></td>
<td>550 ft shaft, 400 ft of drifts, 10-stamp Huntington mill</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Cato</td>
<td>unknown</td>
<td>active</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1906</td>
<td>Mammoth</td>
<td>30 (by summer)</td>
<td>New timber boss, new superintendent</td>
<td>Nic Thienes starts work</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Comet</td>
<td>looking for more</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1916</td>
<td>Mammoth group*</td>
<td>closed by late summer</td>
<td></td>
<td>100-man bunkhouse reported</td>
<td></td>
</tr>
</tbody>
</table>

Table 3.1: Summary of employment statistics for documented companies at Coloma.

*The Mammoth group was a consolidation of mines (Mammoth, Mammoth Mill, Mammoth Jr, Rambler, Valley, and Crystal Springs).

allotted domestic plots, families utilized the ground space as they saw fit and modified the interiors of company housing to suit their needs (2007). Metheny’s work highlights the fact that while there were many instances of violent protest to the paternalist regime, some communities were able to negotiate these controls and create their own spaces.

Many industry owners applied ideas of paternalistic capitalism in their towns and factory systems throughout the nineteenth century. This resulted in high levels of corporate control over the daily lives of workers, including their domestic spaces. As a conglomerate of many companies, this tight control of the corporate landscape was not as rigid at Coloma. However, there were instances of small corporate landscapes, such as at the Mammoth Mill and the East Mammoth complex. Under these regimes, workers were immediately disadvantaged due to the company’s control of the land. Earlier forms of paternalism, particularly those at Lowell, were highly structured and exacted control over worker’s lives. Later forms of paternalism, beginning with the Progressive period, were more benevolent. Or, a pretense of benevolence was maintained while still attempting to control the lives of workers and their families (Metheny 2007:4-8).

Approximately 85 companies were active at Coloma during its initial boom period. Historical records for some of these companies are almost non-existent save for claim filings with land offices. Only seven were patented at surveyed by the General Land Office (Figure 3.1). The dearth of information on the vast majority of these companies points to instances of failure to sustain production. Both patented and unpatented companies made extensive purchases in the Miner’s Cash Store and appeared in local newspapers. Table 3.1 outlines the number of known employees and equipment
investments for many of the mining companies based upon newspaper accounts, Montana Inspector of Mines reports, and Pardee's account in 1916. Table 3.2 details the mining equipment purchased by companies at the Miner's Cash store in 1895 or 1898. While some of the companies (the Mammoth, Clemantha, I.X.L, and Crystal Spring) appeared in both newspapers and the ledgers, others did not. Similarly, half of the companies that purchased mining supplies did not buy food products from Moss. The following will discuss those companies with both industrial investment and food purchases.

Figure 3.1: Claims located in the center of Coloma based on General Land Office survey maps (USDI, GLO 1882, 1886, 1893, 1894a, 1886, 1907). Claim names in brackets were noted on original maps but not drawn.
Undetermined Mining Investment Companies

There are no known General Land Office or other patent maps for four of the companies that purchased mining supplies from Moss. Similarly, inspectors and journalists did not document these four companies: Cambell and Company, Johnson and Company, Reely and Company, and the A.L. and D.A. While each of these companies bought food, little is known about their industrial investment outside of the powder and fuse purchases (see Table 3.2).

Of the food purchasing companies, Johnson and Company and Cambell and Company were the smallest investors in mining equipment, buying less than 1000ft of fuse and few blasting cap packages. They did, however, purchase equitable amounts of powder to the other companies. These two companies purchased only limited quantities of food; the transactions in store ledgers may document only one or two provisioning events at the Miner’s Cash Store. The small quantities of mining equipment coupled with limited food purchases indicates that these two companies had a limited impact at Coloma, perhaps only operating for a short period before folding.

This assessment stands in contrast with the activities of Reely and Company and the A.L. and D.A.; large quantities of food purchases (see chapter 5) indicate a heavy investment in company infrastructure and laborer maintenance. In addition to large quantities of foods, these two companies purchased significant amounts of industry supplies, indicating more longevity and investment than the previously mentioned companies. Unfortunately, with little documentation as to where they were located or how many laborers they employed, it is difficult to assess the extent to which these two
companies established managerial practices, or even how long they operated. Further consideration of these companies’ food purchases will be discussed in chapter 5.

<table>
<thead>
<tr>
<th>Company</th>
<th>Blasting Caps</th>
<th>Candles (lbs)</th>
<th>Coal (lbs)</th>
<th>Fuse (ft)</th>
<th>Machinery</th>
<th>Powder (lbs)</th>
<th>Sticks of Powder</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammoth Gold Mining Company</td>
<td>8</td>
<td>2</td>
<td>305</td>
<td>1800</td>
<td>1300</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>A.L. and D.A.</td>
<td>6.25</td>
<td>113</td>
<td>-</td>
<td>1850</td>
<td>-</td>
<td>300</td>
<td>-</td>
</tr>
<tr>
<td>Johnson &amp; Company</td>
<td>3</td>
<td>40</td>
<td>276</td>
<td>830</td>
<td>-</td>
<td>296</td>
<td></td>
</tr>
<tr>
<td>Reely &amp; Company</td>
<td>13</td>
<td>69</td>
<td>1093</td>
<td>4100</td>
<td>-</td>
<td>346</td>
<td></td>
</tr>
<tr>
<td>Campbell &amp; Company</td>
<td>4</td>
<td>11</td>
<td>-</td>
<td>950</td>
<td>-</td>
<td>101.5</td>
<td>44</td>
</tr>
<tr>
<td>George Baker</td>
<td>10</td>
<td>88</td>
<td>1006</td>
<td>3100</td>
<td>-</td>
<td>408.75</td>
<td></td>
</tr>
<tr>
<td>I.X.L. Leasing Company*</td>
<td>5</td>
<td>16</td>
<td>-</td>
<td>300</td>
<td>-</td>
<td>36.25</td>
<td></td>
</tr>
<tr>
<td>Crystal Spring*</td>
<td>4</td>
<td>7</td>
<td>1000</td>
<td>2500</td>
<td>-</td>
<td>675</td>
<td></td>
</tr>
<tr>
<td>Clemantxy Mine Company*</td>
<td>9</td>
<td>46</td>
<td>3</td>
<td>1200</td>
<td>-</td>
<td>606</td>
<td></td>
</tr>
<tr>
<td>Southern Cross*</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1100</td>
<td>-</td>
<td>175</td>
<td></td>
</tr>
<tr>
<td>Eleanor Manning*</td>
<td>51</td>
<td>7</td>
<td>150</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

*Companies with no food purchases at the Miners’ Cash Store.

Table 3.2: Mining equipment purchases by companies represented within the Miner’s Cash Store ledgers in 1895 and 1898.

**Moderate Investment Companies**

The Rambler and Grand Prize companies purchased large quantities of food (see chapter 5 for discussion), but their industrial landscapes were almost completely undocumented. Neither company, owned by T. Sugro and George Baker respectively, bought mining supplies in their companies’ name from Moss in the years represented by the ledgers. The Rambler company, surveyed in 1900 by the GLO, was located at the north end of Coloma near the Melhorn Gulch. The claim also straddled what the GLO termed “old diggings,” most likely old placer workings. It operated two tunnels with an unknown number of men. The only other infrastructure was a single log cabin (see Figure 2.5). The sparseness of the claim map stands in direct contrast with the volume of foods purchased by the owner and in the company’s name. The Rambler company was also the
only company to purchase equipment for cooking: a stove box. Limited structures on the
claim may indicate that the single cabin served as a location for food consumption, or that
food was served less formally out of doors. The absence of housing indicates that the
Rambler had limited impact on the living arrangements of its laborers. While they may
have received meals at the single cabin, there were no structures built to house them.

When the GLO surveyed the Grand Prize lode in 1897 they did not document any
structures, only two mining shafts. Baker purchased large amounts of food products in his
name as well as in his company’s name, including one purchase for 94 pounds of beef.
There were no mining equipment purchases made in the company’s name, instead Baker
personally bought the fuse and powder in amounts equitable to other larger companies
(see Table 3.2). Baker purchased cheaper meat products, beef instead of ham, and very
little expensive specialty products than his counterpart at the Rambler, perhaps indicating
an attempt to economize.

The amount of foods purchased by these two companies indicates some degree of
food provisioning for employees. Without documentation of buildings to house cooking
and eating facilities, it is difficult to gauge the degree to which these two companies
managed the meals of their laborers. These could have included full board for an
unknown period or mid-shift meals sent down the shafts.

Significant Investment Companies

In many instances, paternalism took the form of a moral authority with the near
constant supervision of its employees (Shackel 2009). Strikes, increasing unionization
and social welfare movements led to the breakdown of these types of communities within
the United States. However, restrictive company towns persisted elsewhere in the world well into the twentieth century (see Finn 1998). Corporate paternalism was also expressed through control of landscape layout and usage (Hardesty 1998a; Metheny 2007; Mrozowski et al. 1996; Pappas 2004; Shackel 2009). These imposed landscape structures visually represented status and prestige. This often had a familial connotation to the structures, expressing a symbolic fictive kin relationship between the management and the workers. This relationship has been characterized as an enforced childhood, with the management acting in a parental role (Pappas 2004:160).

The East Mammoth

Figure 3.2: Industrial structures, including the bunkhouse and boardinghouse, associated with the East Mammoth mine (USDI, GLO 1893).

The East Mammoth company was owned, in part, by John W. Moss. As discussed in chapter 2, Moss held several properties in Coloma that included the cash store, boardinghouse, saloon, bunkhouse, a personal home, and the Clemantha mine. The original GLO survey, which listed the claimant as Moss, depicts several structures on the East Mammoth claim (Figure 3.2). These include a log bunkhouse, log warehouse, log boardinghouse, frame blacksmith’s shop, frame house and two-storey log store. Two
shafts are also noted, a discovery shaft and a working shaft located directly under two of buildings.

Some documentation of workings and employees for the Clemantha (often referred to as the Clemanthy) appeared between 1896 and 1900, with at least one instance of closure in 1898. With no records for the equipment investiture for the East Mammoth, it is not possible to speculate if it housed a similar Ottumwa engine present at the Clemantha (Byrne and Hunter 1900:47). The East Mammoth operated one shaft, located directly under the Miners' Cash Store complex. Moss did not document food purchases in his ledger books, either in his name or his companies' names. The Clemantha company accumulated just over 600 pounds of powder and 1200 ft of fuse, a considerable amount of powder but only a moderate length of fuse. The East Mammoth was absent from the store ledgers.

While company food provision was nonexistent in the ledgers, the East Mammoth's support structures indicate managerial practices that provided both sleeping quarters and meals for employees in the bunkhouse and boardinghouse. With many options available for housing and food acquisition in town, East Mammoth employees may have chosen to lodge outside of the confines of the company. However, arrangements so close to the wok place may have been a desirable option. Chapter 6 will consider the East Mammoth boarding details in greater depth.

Archaeologically, the two storey log store and frame house are easily identifiable. A third structure was added between them, another frame building, as shown in both historical photographs and the current ruined state (Figure 3.3). The location of the bunkhouse, warehouse, boardinghouse and blacksmith shop are more problematic. An
overlay of the current ruined structures (Figure 3.4) reveals that these original East Mammoth company buildings do not fit with the available structures. Features 84, 85, 85 and 82 are too small to be these original structures. While features 39, 35, 36 and 37 are a better fit, they are located too far away from the original surveyed location. The current landscape between the two sets of features is a gully, partially filled by a trash dump. This gully is too rough of a terrain to have had structures resting in it. It is, however, possible that the original East Mammoth personnel structures were dismantled and used for other buildings. Another possibility is that the original GLO survey was slightly
inaccurate in its placement of these rather substantial buildings, and they are what are known today as Features 39, 35, 36 and 37.

While the claim is quite substantial, all domestic, industrial and economic activity is concentrated on the eastern portion of the claim. Moss, as the proprietor of the various properties and major shareholder in the mine, could potentially oversee his entire empire from the vantage point of his log store. The placement of his store atop the mine adit can be viewed as a symbolic statement of power and status (Pappas 2004:174). From his store, Moss was literally the apex of his mining operation, above all else in his enterprises. However, he had his family resided in a frame house located a short distance away from the complex. Ironically, his family’s home sat upon the Mammoth claim.

Figure 3.4: Current feature map with the original GLO East Mammoth survey map overlaid.

As a mine owner in several claims, Moss held considerable power over the local environment. In addition to the mine ownership, he also owned several additional profit-generating properties. These holdings situated Moss as an economic center to social life in Coloma, having key roles not only in the hiring of labor, but also in the housing and feeding of these men, a position that placed him as a head of an economically-defined industrial household.
It is unknown where John Moss started out in life, but his choices led him to marriage with Mary and eventually settling in Coloma. Moss was not the sole proprietor of his numerous economic ventures, acting as a joint claimant on many properties and began the Miners' Cash Store with Robert Sproul. Sproul left Coloma in 1898, having gone to Alaska to pursue his fortune in the new mineral rushes (BMN, 27 January 1898:1). When the camp declined, Moss moved his family to nearby Ovando. As previously detailed, Moss was a shareholder or owner in at least nine operations and was the principle claimant in the East Mammoth. In addition to the many commercial enterprises he operated within the town (Figure 3.5) he also acted as the local post master in 1898 (Record of Appointments of Postmasters, 1832-Sept. 30, 1971, pp742-743 (National Archives Microfilm Publication M841, roll 75) Records of the Post Office Department, Record Group 28). The only substantial historic photograph collection from Coloma comes from the descendents of Moss daughter Billie, born in 1904 (UDSC, BC 1910). These photographs depict both the town and East Mammoth complex as well as informal daily activities of Moss and young Billie. Through his numerous economic ventures, Moss managed to amass a considerable enough fortune to make himself and his family comfortable. He and Mary traveled to Asia twice, once on their first honeymoon and again later in life for a second (Figure 3.6). Hilma Hanson Kimball, the town's schoolmistress from 1897-1898 mentioned that Mary Moss had traveled to the Philippines as well. It is unknown if this was prior to her marriage. Hanson Kimball,
however, was not a great admirer of John Moss: “[I] Can’t conceive of a good woman marrying Moss” (1933:27). This may have been due to Moss’ occupation as a saloon and gambling house owner.

Moss did not operate his store within an economic vacuum; newspaper and primary accounts note another store run by the Mammoth’s owners called the Mammoth Mercantile Co. and managed by D.H. Morgan (BMN, 27 January 1898:1). The location of this store has not been identified, nor have any historical records from it been recovered. Therefore, it is unknown what sort of competition the Mammoth Mercantile Co. posed for Moss and Sproul. It is possible that this mercantile’s success was closely linked to the successes of the Mammoth mine, which were untenable at best. The records from the Miner’s Cash Store show that the business was thriving with multiple accounts, including that of the Mammoth Mining Company (BCC, MCS). The company’s dependency on Moss’ store may indicate a closure of the Mammoth Mercantile Co., perhaps linked to the company’s vacillating success (see below).

Individuals and mining companies of various sizes held accounts in the Miner’s Cash Store. The types of items purchased by individuals ranged from everyday household
goods and food items to accounts entirely comprised of beverage purchase and boarding charges. Many of the accounts track the number of whole meals purchased by the account holder. This indicates that Moss kept a tight control on the private accounts of many types in one location, tracking cash merchandise purchases as well as lodging and boarding records. One of the more colorful boarding accounts lists “13 ladies to Board” (BCC, MCS 1898:20). According to Hanson, there were two or three prostitutes living in Coloma during her time there as schoolmistress (HHKM 1933:23), but it is possible that Moss housed a later group of such entrepreneurs.

Company accounts stand out amongst the private accounts in the amount of items purchased. Particularly notable in company accounts are the quantities of food items and large freighting charges (for further discussion see chapter 5). The presence of these records indicates that Moss was either the intermediary between freighting companies and mining outfits, or outright controlled the heavy freighting in and out of the town. Further examination of the industrial accounts reveals that Moss rented horse teams and wagons to move freight down the mountain to the Mammoth Mill. Coloma’s regional freighting system will be discussed in further detail in chapter 4.

It appears, then, that Moss was at least heavily involved, if not in control of, much of the economic activity within the town of Coloma. His numerous business and industrial ventures provided him with enough profit to remove himself from the declining town and re-establish himself nearby as a somewhat wealthy individual. The presence of the photograph collection and the two honeymoons taken by Moss and his wife are indicators of a significant disposable income available to them. His position within the community made him a center of both productive and economic consumptive acts, as
well as a head of an economically-based household for his laborers and boarders at the 
East Mammoth boardinghouse.

The Mammoth

![Figure 3.7: Road from Coloma to Mammoth Mill.](image)

The Mammoth has often been considered to be the driving force behind the 
growth, survival and ultimate demise of the Coloma (Timmons 2006, Cushman 1964). 
While it may have been one of the largest claims, occupying a prominent place within the 
industrial and residential landscape, it was one of the least successful. According to the 
GLO survey, the Mammoth claim, located down slope from the town (Figure 3.7) housed 
the shaft, shaft house and related structures (see Figure 2.3). Historical photographs, 
however, show that other structures surrounded the active mining area (see Figure 1.2). 
These structures are of frame construction. The purpose of these buildings is unknown, 
although the collection of connected structures across the street from the shaft house may 
have been mining offices. The photograph also demonstrates the sheer size of the waste 
rock piles that resulted from the Mammoth’s activity, which were encroaching upon the 
first frame structure.
The Mammoth Mill was surveyed in 1894 and the following structures were enumerated: boardinghouse, bunk house, office, blacksmith shop and a cabin. A discovery cut for the eventual mill construction was also noted, but the ore-crushing stamps and the building that housed them had not yet been constructed (USDI, GLO 1894a). There are few archaeological remains from this area; modern logging and burning activities have virtually destroyed all surface remains of the structures, with the notable exception of the mill and a possible icehouse. In 1981 John Taylor surveyed the property (24MO169) for archaeological resources, providing the only record of these structures and their associated middens.

Figure 3.8: The Mammoth Mill site. No surface remains were found of the structures Taylor identified in 1981 due to timber clearing. He may have located the boardinghouse and bunkhouse from the original GLO survey. The discrepancies between his map and the GLO map are likely due to either slight inaccuracies in both maps or an alteration to the buildings after the initial surveys in the 1890s.

Taylor located the remains of eight structures and a series of roads and waterways meant to service the mill. The mill itself is still located on the site in a ruined state. Due to the dangerous nature of the ruin, the remains of the mill were only mapped around the
exterior. Taylor states that all of the machinery within the mill, the stamps, the Blake crusher, and Wiffley tables (see discussion below) were removed after the mill was closed (1981:1).

Across the gulch from the mill, Taylor describes a residential complex consisting of an office, an icehouse, log bunkhouse, and log boardinghouse (Figure 3.8). Taylor based his assessments of building function on the 1894 GLO survey designations. He also located a midden with soldered cans, faunal remains, and an aqua Anheuser-Busch bottle manufactured between 1890 and 1892 (Taylor 1981:1-2).

Mill laborers and administrators were isolated from the remainder of the town's population, both in their actual laboring context and in their living context. The company provided them with lodging and food, thus negating a pressing need to visit the town up the slope of the mountain. Due to the lack of records associated with the Mammoth company, and its subsequent owners, it is impossible to determine if the company practiced a heavy-handed corporate paternalism or was more lenient with the eating activities of its employees.

The workers' isolation from the rest of town is notable. At the mill complex, they were provided with all of the necessary equipment for living: a place to sleep and a place to eat. In this separation in which the workers did not need to provide anything for themselves it is possible to suggest the enforced childhood status often associated with types of managerial capitalism (discussed in chapter 6). With the manager's office located near their bunkhouse, the workers would have been under constant surveillance as they walked to and from the mill. In addition to basic needs, the company also provided its workers with facilities for "self-improvement." The Mammoth company
funded a library and reading room stocked with over 400 books. In addition to books, the company also supplied tables, chairs, and games such as chess and checkers. Drinking and gambling were prohibited within the building. The library had been suggested by the mother of the then current company president, W.B. Hasmer, for the improvement of the workers (BMN, 27 January 1898:3). There was, however, no mention as to where the library was built. The library could have been located at the actual mining claim at the town center. However, neither of the General Land Office maps or other sources indicate the exact location of the library, nor have archaeological investigations located this structure.

Early reports on the mining activity at the Mammoth Mine and Mill were optimistic; upon reaching a depth of 125 feet in the shaft, two veins of free milling gold were located that assayed at $47 to $60 per ton. The principal stockholders of the Montana Gold Mining Corporation, J.E. Van Gundy, Edward Scharnikow, Ed Simpson, and V.B. McQuestion considered this development a fortuitous circumstance. Their optimism was so high that they began negotiations for a 10-stamp mill (TSS, 16 May 1894:3). By October of 1894 the company had purchased the milling equipment. Unfortunately, due to lack of proper infrastructure, the machinery had to be left in Butte until a suitable road could be constructed to get it to Coloma (TSS, 3 October 1894:2).

Despite this early optimism, even at its earliest outset, the Mammoth Mine and Mill were plagued by financial difficulties and hampered by the inability of their technology to extract the needed profit to offset these debts. The gold veins under Coloma, though rich, were quite narrow and as such, investment would far exceed the possible profit from the extant deposits (Pardee 1918:160,195). One of the earliest reports
from Coloma indicates that unnamed "Eastern parties" had purchased the Mammoth Gold Mining Company from its original founders. However, Van Gundy retained a large percentage of the stock (TSS, 3 January 1894:3). Why this transaction occurred is unknown. It is possible that in order to accumulate the capital necessary to begin such a large endeavor, the founders of the company sold to investors while still retaining control over the company operations. The company's purchase of a $20,000 10-stamp mill (TSS, 4 March 1896:2) was their first major investment in addition to the excavations of shafts and drifts.

A general optimism was still communicated to the public in June of 1895 when it was reported that the company was processing about 25 tons of ore per day. This amount appeared to be so productive that the company was considering buying an additional 10 stamps to process an even greater amount (TSS, 19 June 1895:2). Reports of the intention to buy more stamps would be echoed several more times during the company's lifetime.

Arthur B. Browne, a chemical and mining engineer, had worked in Mexico, Arizona and Colorado before arriving in Coloma. He provided the Missoulian with a report on the workings at the Mammoth. Before his arrival, he stated, the company was losing a considerable amount of gold with their milling system. He updated the mill's technology, claiming that he was adding about $15 per ton. He also recommended that an additional five stamps be added to the existing 10, which would require an increased output from the steam plant. Browne was exceedingly optimistic about the Mammoth mine, claiming that the output would soon require up to 50 stamps to process the ores. He also suggested the construction of an overhead gravity tram to move ores down the slope from the mine.
to the mill. The total cost of his suggestions, according to his estimates, was about $15,000 (Missoulian, 23 July 1895:1).

By November of 1895 the mill was no longer in operation due to the company’s debts (TSS, 29 November 1895:2). The mine itself, however, continued with limited work and produced some ores, although it was not certain if the ore would be sent elsewhere or left to wait for mill operations to resume (TSS, 12 February 1896:2). A single newspaper account indicated that the Mammoth was also operating a company store in 1895 (Missoulian, 28 September 1895:4). However, given the number of transactions at the Miner’s Cash Store and the company’s financial struggles, it is likely that the store did not last long. Additional accounts in March and April of 1896 indicated that work would resume after poor management practices and debt were rectified by obtaining additional funds (TSS, 4 March 1896:2; 8 April 1896:2). Somehow, additional funding was obtained and company management installed a new Masculine engine to haul ores out from the underground diggings and began production once more around July of that year (PCC, 25 August 1896:5).

A visit from the state mining inspector in 1897 found the mine and mill once again functioning with a manager/superintendent and foreman. In addition to these two supervisors, an additional 26 laborers were reported at the mill and mine: 10 topmen, 2 engineers and 14 underground. The inspector also reported recently excavated tunnels at 125 feet in length, timbered with square sets and stulls. A single deck cage was listed as shaft transportation, hoisted with a Kendall & Sons engine (Byrne and Hunter 1898:81). In addition to revitalization at the mine, the company installed a new Wiffley concentrator with a Blake crusher to process the ores (BMN, 27 January 1898:1).

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1 Framing to reinforce the structural integrity of tunnels.
The Blake crusher was first developed in Connecticut in conjunction with road building. Designed in 1853 and patented in 1858, the crusher operated with a fixed jaw and a paired moving jaw. The moving jaw operated on a toggle which applied an amount of force sufficient to crush ores. By 1861 the Blake crusher had been adapted to mining enterprises and was a successful addition to Comstock investors (Lynch and Rowland 2005:61). The Wiffley table, invented in 1895, further processed crushed ores. It consisted of a vibrating table onto which the crushed particles were deposited along with a thin film of flowing water. The table was grooved, similarly to earlier placer mining riffled rockers. The vibrating motion separated heavy ores from the lighter quartz sands (Lynch 2002:202).

In the following year, the mine inspector recorded the shaft to be 270 feet deep, with the Kendall engine hauling a safety cage and 50 employees. However, the inspector admonished the manager that while the escapement at 150 feet complied with law, the lack of one below the 150 foot mark violated safety codes, and the owners were ordered to address the issue. However, the mine closed around September 1 (Byrne and Hunter 1899:25-26).

By 1898 the company was in trouble again and the property was seized by the county sheriff for failure to pay $40,000 in liabilities. At the time of the Mammoth’s sale at sheriff’s auction later that year, the debt was listed at $15,000. Although sold, the company administration, the owners now from Massachusetts, could redeem the property if they paid the debts within a year. This did not occur and the property remained in the hands of its new owners from Deer Lodge, MT (Journal of Engineering and Mining
Two more sales occurred in quick succession, first to a Dr. H.W. Martin from Chicago, and then to Arthur B. Browne and William O. Raupt of Missoula (JEM, 10 March 1900:298, 8 June 1901:732). It is not until 1905 that the Mammoth appeared again in published accounts; it is unknown if the mine sat idle or if was not enumerated in reports. In 1905, a new vein had been located and a new drift started to access it. New purchases were made that included more boilers and a new engine to supplement extant equipment at the mine. Plans to expand the mine were made (Salt Like Mining Review [SLMR], 15 November 1905:4).

Work continued at the Mammoth into 1906 with 20 men working the veins (Walsh and Orem 1906:121-122). However, local newspapers reported that earlier in the year, the mill had not been processing ores for some time and that the men had been refurbishing equipment (PCC, 21 July 1906:5). It appears that the mill had become operational again at the time of the visit of the state inspectors.

Sometime in the intervening years before 1916, a new company, the Montana Gold Mine Company, formed to administer the Mammoth, Mammoth Mill, Rambler, Mammoth Junior, Crystal Spring, and Valley claims. A 10-stamp mill was listed as still being on the mill property. In addition to the mill equipment, a bunkhouse for 100 men was also listed (SLMR, 15 May 1916:4). When J.T. Pardee arrived in 1916, he encountered the Montana Gold Mine's only active enterprise: the excavation of a 2,000 foot tunnel to intersect and crosscut the known veins. At the time of Pardee's visit, the tunnel was halfway constructed and in good condition. This tunnel had been in
construction since the state inspector’s visit in 1910 (Orem 1910:109). The older workings, which included the Mammoth shafts and drifts, were inaccessible; the engine to the hoist in the shaft had become too dangerous to operate due to disrepair (Pardee 1918:196-198).

There is some indication that the Mammoth was still in operation in 1917, but by the following year only one underground mine, unnamed, was in operation. However, several placer outfits had begun (Sahinen 1957:11). At this point records for the Mammoth operations cease.

The Mammoth properties changed hand no fewer than three times and the men employed there experienced three periods of short boom followed by a bust. The first was from 1894-1895 with an initial purchase of a 10-stamp mill and plans to build a road to move the equipment. However, in a year the company was in debt to the Missoula Mercantile (see Table 3.1) and owed back pay to the miners. After a period of “some little work” (TSS, 12 February 1896:2) the Mammoth hired more miners in 1897 and purchased a Wiffley concentrator and Blake crusher. Within a year, the sheriff had seized the property for failure to pay debts. Production resumed in 1905 with an influx of new employees, a new engine, and a new cook. The various investors in the Mammoth tenaciously held onto the idea that the Mammoth would be profitable, yet in each instance work was short-lived until new equipment could be purchased and the company rescued from crippling debt. Perhaps the relative success of nearby mines, such as the East Mammoth and Clemantha, bolstered confidence. The Mammoth’s attempts to negotiate the poor veins demonstrates the proclivity for extractive industry to patch the holes in the increasing metabolic rift. Work slow downs and eventual closings would
have heavily impacted the lives of the miners employed by the Mammoth, who would have had to move on to other towns or attempt to find work locally. Despite the uncertainty of the industrial production, the Mammoth made effort to provide benevolent institutions to maintain and perhaps attract laborers to their precarious enterprise; provided meals, sleeping quarters, and a library may have distracted from the impending closure.

Summary

Despite the successes of other companies, the town of Coloma was almost empty at the time of Pardee’s 1916 visit, indicating that these other mines had since ceased operations. How drastic the population decline was and how quickly the town emptied are unknown. When she visited Coloma with her daughter in 1933 to “see the ghost town” (HHKM 1933), Kimball encountered subsistence miners attempting to eke out an existence during the Depression. Archaeological work conducted in 2006 located a midden dating to this period. This midden, located almost in the center of town amidst the buildings, yielded cans (n=1155), bottles (n=1117), ceramics (n=43), and tobacco paraphernalia (n=14) (Woody 2009). Mining surged again in the 1950s with a new input of laborers and their families. Many of the town’s original structures were re-occupied and altered to suit the new occupant’s needs. However, this effort only lasted a few years before the population once again left Coloma in search of more gainful employment (Sally Staggs, personal communication 2006).

As mining and mineral extraction technologies have changed over the last 50 years, Coloma’s potential ore deposits have again become of interest. Areas of the town,
portions of the northwest section, were significantly trenched down to the bedrock layer by the Anaconda company, then ARCO. The results of the trench activities were not sufficiently positive to warrant additional activity. In 2005 the mineral rights on the principle claim at Coloma, an amalgamation of the original Mammoth claims, East Mammoth, and several other smaller claims, were sold to a processing company. The intent of this sale was for the removal and reprocessing of the Mammoth waste rock piles. The piles were to be reprocessed with new techniques in order to extract additional gold ore that was unattainable with the technologies in use during the Mammoth’s operation.

In synthesizing attempts to mine at Coloma with the historical record, six major periods of technological and labor movements occurred in the town. The first was the initial placer boom, dominated by smaller mining outfits utilizing water and small-scale technologies. The second was the largest boom. It was characterized by the largest population, greatest building effort, a variety of social institutions such as a library and school and the greatest investment in tunneling and technological adaptation. The Great Depression settlement, consisting of subsistence miners, is the third period and the fourth was the 1950s. The last two periods, Anaconda’s stripping and the current imminent waste rock extraction, differ from all previous periods due to the lack of a resident population. In each of these periods, only short bursts of a boom are observed, followed quickly by a bust. As mining technology increases in sophistication, changing the tools for labor subsistence, capitalistic interest was renewed at Coloma as new tools were believed to enable investors to accumulate a profit.

During each of these periods, a strikingly different organization of labor was established to either begin or re-begin extractive enterprises. What began with a small
amount of capital and independent, loosely organized labor, shifted dramatically to companies with large monetary backing and more rigid labor structures and economic hierarchy. This boom population was forced to re-organize as the industry collapsed, moving on to other towns in the area or to places unknown. New forms of informally organized labor appeared in the Depression, followed by another wave of small scale organized labor. In recent decades, new tools have allowed large multi-million dollar companies to invest more in their technologies than their laborers, hiring only a few to operate heavy machinery. Coloma, therefore, has become the shell described by Wilcox (2010:137), re-inhabited multiple times by new organisms that temporarily call it home.

In each of these circumstances, the community at Coloma does not die and disappear, but disperses and re-organizes in other locations with individuals joining other communities.

During each mining phase at Coloma owners and investors attempted to solve their difficulties by importing newer technologies and reinvesting. However, none of these efforts were able to successfully negotiate the ore veins of the district and revive productive consumption. These efforts led to the collapse of the mining outfits, and eventually the town itself.

This discussion of the mining boom and busts outlines one aspect of the productive consumption on which the residence of Coloma were reliant. The extraction of the raw materials, objects and products of labor (Marx 1990:284) were dependent on new instruments of labor. The failure of this equipment resulted in the breakdown of the metabolic relationship between the enterprise and the earth, resulting in the fissioning of the community. The other system of productive consumption, the growing national and regional food production, is the second essential foundation for Coloma's system of
provision. This industrialized food system made life possible in a region where farming was not an easy or predictable. In order to maintain physical consumption needs, this system needed to be accessed and goods brought into the mining community and subsequently distributed to meal consumers.
Chapter 4: Moving Food to Coloma

The provisioning of participants in the mineral rushes of the West has typically been studied from the perspective of socioeconomic class (Dixon 2005), gender (Johnson 2000), transportation difficulty, and volumes of products (Conlin 1987). The food supply of mining camps was closely tied to the increasing globalization of foods and expanding capitalist systems (Wilk 2003). Because of this growth, many food related products demonstrated increasing homogenization, such as ironstone pottery and canned foods, resulting in a lack of variability in archaeological assemblages. The production of foodstuffs such as beef also underwent significant changes in which entire environments were altered to feed beasts (Igler 2001). The changing national and regional food system represents the second body of productive consumption on which Coloma was reliant. This included the expanding cattle husbandry and canned goods industry.

It has been suggested that mining colonies lack material culture variability due to the transient nature of the population and their geographic remoteness (Knapp 1998:5). However, a better understanding of the production and distribution patterns of late nineteenth-century capitalism will prove that this statement is overly general (Purser 1999; Casella 2005:4).

The dependency of mining colonies on outside resources has been explored to some degree in the preceding chapters. Technological developments in the nineteenth century related to transportation (i.e. railroads) and food preservation technologies (i.e. refrigeration and canning) significantly altered how people obtained food in relatively isolated areas such as the Garnet Range. Access to transportation arteries and regional
distribution centers was key to how these communities supported themselves. The mining elite played a significant role in moving supplies too Coloma. Specifically, John Moss played a pivotal part in this procurement and redistribution role. It is in this position as a central player in the distribution of food resources that Moss became the dominate node within this peripheral context, even as he was reliant on regional and national supply chains for his mining equipment and food resources (Moore 2003a:334).

Coloma’s procurement and supply chains will be explored in the following sections and discussed in terms of broader national trends that played a key role in Coloma’s food distribution system. These trends are best observed by examining the mass-produced ceramics and canned foods found within Feature 172, as well as the more regionally-based items from California and local products from nearby settlements such as Bonner and Potomac. I will explore the ratios of preserved (i.e. canned or salted) and fresh foods within company accounts and Feature 172 to begin to identify any discernable patterns of preference or indications of access to food storage.

Building Systems of Distribution

The application of a worlds-systems analysis is again appropriate for the consideration of this level of the provisioning system, with an emphasis on the interconnected relationships created by the movement of goods across space. The permutation of capitalism in the late nineteenth century is remarkable and unique in that the ways in which goods were made and moved were significantly different than in previous historical periods. Margaret Purser further emphasizes analytical techniques that connect relationships across various scales, linking the small scale of the individual with
that of the larger global and national commodification processes at work during this

Working in Nevada, Purser found the presence of bottles, tin cans, plates, and
machine parts to be indicative of the improving supply networks after the Civil War.
Available items were not limited to commercial goods, items such as mass-produced
food, pattern-book houses, and federal town/county grid plan settlement structures could
also be ordered. These manifestations of late nineteenth-century capitalism were
“increasingly a material culture made by one group of people to be lived in and used by
others…” (Purser 1999:123).

The introduction of catalogues and railroads forever altered the ways in which
people related to others through their purchases of goods and foods. The expansion of the
market economy was enabled by technological advances such as the railroad,
standardizing the landscape and time. William Cronon echoes Purser’s assessment of the
atomization of relationships due to these capitalist incursions: “In a world of farms and
small towns, the ties between field, pasture, butcher shop, and dinner table were
everywhere apparent, constant reminders of the relationships that sustained one’s own
life. In a world of ranches, packing plants, and refrigerator cars, most such connections
vanished from easy view” (Cronon 1991:256). However, this process was not confined
solely to the movement of goods out of metropolitan centers, but also into such centers.
Cronon describes this process through his discussion of the rise of the Chicago
stockyards and standardization of grain elevators. Upon delivering their goods to the
metropolitan center, farmers could receive goods from around the world in these central
market locations (Cronon 1991:60,79-81,310,378).
Cronon characterizes Chicago as a gateway between the East and the West. He applied a modified world-systems model to demonstrate how city and country were connected through the movement of goods such as livestock, lumber, and grain. From the countryside, these raw materials were moved to the city center and in return, merchandise was moved to the countryside. Like Braudel and Wallerstein, Cronon applied von Thünen’s mathematical model of hierarchical levels of interaction to illustrate the connection and market relations between city and country (1991:7,51,307,310).

The particular market exchanges examined by Cronon were harder to discern in large, metropolitan Chicago. Technological developments, such as the consolidation of the meat packing industry center around railroads with refrigerator cars, obscured the social relationships replicated through market interaction. Mail order catalogues produced a similar result; an individual consumer did not need to be concerned with how things were produced or transported, the picture in a catalogue was sufficient information (Cronon 1991:256,339). Cronon suggests that the relationships that demonstrate connections amongst food producer and food consumer are difficult to discern in this period. However, the data collected from Coloma suggest that while the relationship between primary producer of food and the consumer was obscured, the relationship between food procurer (such as Moss or company bosses) and the consumer was the opposite.

Cronon also explored how new technologies driven by relentless capitalist expansion pushed markets beyond barriers that had previously been difficult or impossible to breach: “Where ever the network of rails extended, frontier became hinterland to the cities where rural products entered the marketplace. Areas with limited
experience of capitalist exchange suddenly found themselves much more palpably within an economic and social hierarchy created by the geography of capital" (Cronon 1991:92).

Much of Cronon's work has focused on the role of environment within American history. He has combined a Marxian analysis of market relations between core and periphery with ecological themes. According to Cronon, a mode of production is "the set of relations among those human and nonhuman members of the larger ecosystem that play a significant role in maintaining and reproducing the economy and cultural life of a particular human group" (1990:1125). Instead of applying the concept of metabolism, such as Moore's approach, Cronon suggests that the relations of production be characterized as the relations of consumption (1990:1124).

In combining Moore's and Cronon's perspectives on the world-system, an approach can be generated that explores the changing relationships people had with the animals they raised for food productions and the ways in which these animals were processed for consumption. As the cattle industry, for example, became more industrialized, the relationship between cattle owner and beast expanded to include large-scale environmental alteration to fit the needs of large numbers of animals. This ecological modification affected other, non-domesticated plants and animals and in some cases, made the land eventually unfit for cattle habitation. On the other end of the spectrum, people consuming cattle products became almost completely removed from the living animals. Preservation technologies and transportation improvements made it possible for an individual in New York to consume safe beef from San Francisco. Instead of a relationship created with a cattle rancher, individual consumers formed economic relationships with store owners or restaurant owners, cattle and fields disappearing into
obscurity. Similarly with canned products, one could obtain fruits and vegetables without having to live near farming regions, or grow them with the household's available land. Canned products also erased the dependence on seasonally available products; tomatoes, peaches, and even seafood were no longer limited to their harvest seasons. By sealing them inside a package that did not require specialized storage requirements, manufacturers could provide a year-round bounty of fruits and vegetables. The consumer therefore had within easy reach a quasi-cornucopia of foods obtained with minimal effort.

**Developments in Food Technologies in the Nineteenth Century**

The shifts in food technologies included not only the materials, such as the alteration in animal tending, but also packaging, storage, transport, and the ways in which the consumer markets responded to these changes (Farrer 1980:3). It is during this period in the latter half of the nineteenth century that many of the names, devices, and packaging that are familiar today were established, such as Swift, Gold Medal Flour, the California Fruit Grower's Exchange and grocery chains such as Kroger and the Great Atlantic and Pacific Tea Company (A&P) (Levenstein 1988:42).

**Pre-Industrialized Preservation**

Before industrialization, people had devised various methods to preserve their foods, some developed to work only in specific climates. The simplest method of preservation was drying, but was difficult to achieve usable results in wetter climates (Wilson 1991:6). Another key technique was smoking, an adaptation of the drying process. In addition to preserving meats, smoking also added new flavors (Wilson 1991:15). Grains could be preserved similarly to meats and left out to dry on clay
surfaces or parching in large storage vessels (Wilson 1991:14). The best preservers before industrialization were sugar (as well as honey) and salt (Muller 1991:105). Other popular home preservation techniques included pickling, bottling, and alcohol (Hunter 1991:138).

Salting was a popular form of meat preservation that also added to the flavor. Salt was obtained from both mining enterprises and in several cultures, from the ocean (Wilson 1991:16). The easiest method of salting is dry salting. In this process, the meat is rubbed with salt several times. The meat is then either hung to dry or sealed in a container with more salt. During this process, the meat absorbs the salt, which aids in the drying process, and the addition of salt inhibits bacterial growth (Shephard 2000:66). However, dry salting could only keep meat preserved for so long. Wet salting, also known as brining, had a longer shelf life. In order to wet salt meat, a brine that consists of coarse salt, saltpeter, sugar and a variety herbs such as cloves, thyme, peppercorn, allspice, coriander, tarragon and bay leaves. After the brine was prepared and poured into an appropriately sized vessel the meat was added and the vessel covered. The combination would then be stored until the salting process was complete. After the meat was removed, the brine had to be boiled and new salt added to kill any bacteria that may have infected the liquid. Beef and pork were salted using both methods, although beef was more frequently found in wealthier households (Shephard 2000:66-67,74). The salting of pigs had become far more popular than other meats in Britain by the eighteenth century. Bacon, in particular, was popular as the fatty meat accepted salt well but did not ruin its taste. While bacon could be rather cheaply produced, large salted hams required too much salt for the typical household to be able to afford (Stead 1991:72-77).
Salted foods could also be preserved in pots. These vessels were typically large and ovoid, either earthenwares or stonewares. Potting salted meats remained popular in Britain well into the twentieth century. The potted meat evolved from pies and pasties that were popular in the medieval period. In order to seal perishable meats in an airtight container, meats were cooked in a pastry crust and sealed with butter to maintain freshness. By the Elizabethan period, pots of various shapes were taking the place of crusts. Vessels, usually black glazed earthenwares or tin glazed earthenwares, had to be large enough to accommodate entire joints of meat. By the eighteenth century, meats were being chopped or pounded into pastes before potting. Both earthenware and stoneware pots were produced in Britain through the Victorian period into the twentieth century for both shop and home use (Brears 1991:32-39,44-45).

The pickling of foods, such as vegetables, created highly acidic environments in which bacteria could not live (Shephard 2000:95). Ceramic vessels used for pickling had to be made of stoneware; the acid in the vinegar dissolved the lead glazes used on earthenwares and thus poisoned the food being preserved. Salt glazed stoneware vessels were the primary containers used in pickling until the mass production of glass wares overtook ceramics in the mid-nineteenth century. Pots were also used to store dry goods, such as breads or grains (Brears 1991:55-63). Dairy products were also preserved for their nutritious properties. These forms included cheese, a very portable product, and butter (Wilson 1991:17-18).

In addition to sustaining families and communities, armies and navies also demanded large quantities of foods that could last over long periods of time. Often away from shore for long periods of time, both private and naval ships required large stores of
preserved foods. As voyages grew increasingly longer, nutritional deficiencies such as scurvy plagued crews. Because of the damp conditions aboard ship, stores often rotten even if they had been preserved. Dried peas and biscuits rotted and were often riddled with weevils and eaten by rats. Salted meats had to be monitored in the event they were contaminated (Shephard 2000:203). Sailors created inventive dishes to cope with the miseries of shipboard food, which included weevily bread and meat that was so heavily salted that no amount of soaking could make it truly edible by itself. These concoctions, such as lobscouse and figgy-dowdy, combined the difficult to digest comestibles into more appealing dishes (Shephard 2000:205). In order to combat scurvy, navies tried several different types of fruits and vegetables. In the 1840s, the British army tried drying vegetables. The technique was also tried during the American Civil War, but proved to be an insufficient supply of vitamin C (Muller 1991:110).

Refrigeration had become more popular in the nineteenth century as natural ice became more available commercially (Muller 1991:115). A large ice cutting industry developed along the Great Lakes to supply the meat packers in Chicago and brewers in Milwaukee (Weightman 2003:10). Packers could keep meat cold in the factories using ice and ventilation systems, but not while it was being shipped. The first foray into mobile refrigeration was in 1868 when George Hammon, a Detroit packer, designed an icebox to fit into railcars to move fruit and beef to Boston (Cronon 1991:233). In 1874, Nelson Morris devised another solution: shipping frozen dressed beef during the winter months (Skaggs 1986:92). Gustavus Swift applied a similar principal by shipping dressed beef in open railcars during the winter in 1877. Shipping dressed beef with ice or with opened doors presented several problems; the meat could not touch the ice or buffet other
cuts or the sides of the car and bruise. Swinging carcasses could also overbalance a car and tip it off the rails. To confront these problems, Swift’s engineer devised a system in which boxcars could keep meat cool using a constant current of cold air. The air was circulated around the meat and containers of ice and brine located at the ends of the car. In order to supply his cars, Swift established a system of ice stations along the rail lines to replenish the ice in the boxcars, linking the packing industry with the ice industry (Cronon 1991:233-235). In 1878, Swift hired Andrew Chase to improve the refrigerator car. Together they patented the Swift-Chase car (Skaggs 1986:93). Shipping dressed beef was far more economical than shipping live animals; only 55% of a live animal’s body weight is edible meat, the remainder consisting of bones and entrails. By shipping just the meat, profits could potentially increase exponentially as three dressed carcasses could take the place of one live animal (Cronon 1991:236; Skaggs 1986:94).

Canning Technology

Historical canning methods are thought to be derived from bottling methods described in cookbooks of the seventeenth and eighteenth centuries. These recipes described a process for placing fruits in loosely corked bottles, which are then heated with boiling water, cooled and sealed (Muller 1991:123). The man credited with pioneering the field of canning was Nicolas Appert, born around 1750 in the Champagne region of France (Shephard 2000:226). Learning some of his skills in the family business, Appert was a chef in royal households by his early 20s. In 1780 he was a confectioner in the city of Paris. Appert invented a process to preserve foods using heat. He began with fruits and vegetables and eventually applied the process to meat stews and soups (Farrer 1980:5,35). In 1809 Appert demonstrated his process to the French government, and the
publication of his book *L'Art de Conserver pendant plusiers Annés tuoutes les Substances Animeales et Végétales* followed in 1810. The book was translated into German later that year and to English in 1811 (Farrer 1980:36).

Appert’s technique did not utilize what is now the familiar metal can due to the dubious quality of French tin plate, instead Appert used glass (Farrer 1980:39). The first step in Appert’s process was to place the food item in a glass bottle and to compact it. The bottle was then corked. The cork was firmly beaten into the bottle, tied and sealed with quicklime. A group of bottles was placed in a canvas bag, in the event they cracked, and then heated in a water bath. After cooling, the corks were coated in a resin (Muller 1991:125-126). Appert’s factory was divided into four rooms for this process. The first was for cooking the foods, the second for dairy products, the third held the bottle racks and the fourth room the large copper boilers (Shephard 2000:230). Through the application of heat and the enclosed packaging, Appert was able to preserve foods for far longer than had been possible before, and his factory enabled preservation on a large scale (Farrer 1980:63-37).

It was not until Appert’s process was disseminated to Britain did the canning industry begin. Two patents were filed in 1810, one for iron cans in February and another for tinned canes in August (Muller 1991:126). Also in 1810, Peter Durand patented a process very similar to Appert’s that covered not only glass vessels but also those of ceramic and metal (Farrer 1980:40). Durand then sold this patent to Bryan Donkin, partners with the owners of the Dartford Iron Works, and the British canning industry began (Shephard 2000:233). By 1812 Donkin and his associates were selling two pound
cans of preserved foods to the armed services for testing and in 1818 began to supply the Admiralty directly (Farrer 1980:41-42).

The canisters used by early canning enterprises were made of tin plate. This was created by coating both sides of an iron or steel plate with a layer or metallic tin in a rolling mill (Farrer 1980:39-40). After the plate was pressed, two men could produce about 120 tinned cans per day using hand techniques. The plate was bent around a cylinder and then soldered in place. The bottom disk with raised flanges was fitted onto the cylinder and soldered on. An opening of about a half inch was cut into the top disk through which the food and gravy or brine was added. A cap with a small venting hole was placed on the top disk and then heated with boiling water. After boiling, the vent hole was sealed (Shephard 2000:243). By 1850, canning factories could produce up to 1500 tin plated cans per day (Williams 1985:96). The venting hole, or a variation thereof, was used until about 1900 when the sanitary can became widely adopted (Muller 1991:128). Some of the earliest canned foods included lobster, salmon and oysters (Williams 1985:95).

Canning in the United States began among British immigrants. In 1817, William Underwood, then of Boston, began processing food in glass containers. By 1839 Underwood, and other new entrepreneurs, started using imported English tin plate for their food preservation (Farrer 1980:46). In Britain, canning companies packed mostly meats, Underwood and his contemporaries favored fruits and vegetables such as tomatoes and corn (Farrer 1980:151). Commercial canning in the United States allowed new classes of people, including laborers, access to food items such as fish, fruit, milk and vegetables (Levenstein 1988:26).
Key technological developments improved both the quality of the foods that were canned and also the methods for constructing the vessels. Early canning methods heated the cans from the outside (Farrer 1980:80). The application of steam pressure in 1874 improved the heating process and increased the shelf life of products (Levenstein 1988:36). By 1900, the ends of cans were no longer soldered into place, but rather crimped, which increased the rate of production. Mechanized can making technologies produced up to 35,000 cans per day in 1910 (Levenstein 1988:37).

The Changing Meat Packing Industry

Most individuals at Coloma did not personally interact with larger scales within the system of supply, but Moss and other mine owners did so on a regular basis. The purchases of Moss and company owners formed the conduit through which goods flowed into Coloma and the plates of individual consumers.

At the same time that animal slaughter was becoming mechanized and exponentially larger in scale, so was the herding system that supported it. As the cattle industry on the prairies continued to prosper, the cattle industry in California moved on from its Spanish ranchero system to large-scale production. The hub of this activity was the firm of Miller & Lux. In order to create their cattle empire, Henry Miller and Charles Lux purchased large amounts of land and transformed the chaotic natural landscape into a well-ordered garden designed to feed immense herds of cattle. To do so, they diverted or destroyed rivers, created monocropped fields, slaughtered an entire popular of rabbits and moved elk to new ranges. The result was a powerful empire built on cattle husbandry in the hinterland and a thriving disassembly industry in San Francisco’s Butchertown. However, the environmental changes were unsustainable and began to fail. Miller & Lux
were never able to recover from a fire resulting from the 1906 earthquake and the Gang of Five were quick to move in and assert themselves as the predominate beef supplier of the region. The drastic measures employed by Miller and Lux to redesign the environment of the San Joaquin valley demonstrates the close relationship between ecology and industry, and highlights how fragile these ecological modifications were, resulting in the groundwork for the collapse of the local industry (Igler 2001).

In addition to large scale herding, the methods by which animals were slaughtered, butchered and transported became industrialized. Until the mid-nineteenth century, the most popular meat in the United States was pork, the most popular cuts being hams and bacon (Shepard 2000:68). Pigs were relatively easy to care for and brined pork kept very well in barrels for long-term storage (Conlin 1986:12). While beef could be smoked and salted, pork yielded far better results, both in taste and in shelf life (Cronon 1991:225).

Meat packing was a seasonal enterprise practiced by farmers and butchers during the colder months when it was easier to store and preserve meat in lower temperatures. This would change, however, with the development of the railroads and the adoption of butchery on an industrial scale (Skaggs 1986:7). The first major concentration of butchering activity was in Elisha Mills, Ohio in 1818. Due to its proximity to the nearby city, the river, and a large number of pig farms, the area quickly became a nexus for butchering (Skaggs 1986:36). Soon, Cincinnati was home to several packinghouses, slaughtering and distributing pork products using the river as means of transport to consumers as far away as Europe (Skaggs 1986:37).
In these increasingly larger facilities the animal was first stunned or killed by a blow to the head. It was then hung by its heels and bled. The hair was boiled off in cauldron of water and the entrails removed by the gutter. The carcass was then moved to a cooling room, usually a well-ventilated room circulating cold air. After chilling, the cutter removed the feet, then the legs at the knee joints. The carcass was split in half lengthwise and cut into hams, shoulders and middles. A 400 pound pig would typically yield approximately 200 pounds of meat and 40 pounds of lard. Once butchered, dry salt was rubbed into the meat. It was then pickled in a large vat filled with a brine for about 24 hours, then shifted to a clean brine for an additional 24 hours (Skaggs 1986:39-40).

Packed pork was divided into three classes: clear, mess, and prime. Clear pork, consisting of the top cuts with no ribs, was packed in alternating layers of salt. Mess pork (top cuts with ribs and two rumps) and prime (lowest grade consisting of shoulders, jowls and sides) were packed in a pickle (Skaggs 1986:40).

During Cincinnati’s tenure as the meat packing capital, the majority of the packing process was completed by hand methods. Only limited adoption of mechanized techniques occurred before Cincinnati lost its prominence to Chicago. The earliest step was a large wheel hung horizontally that turned on an engine. Carcasses were hung from it and turned slowly, allowing each worker to perform a specific task repeatedly (Cronon 1991:228). Until the 1860s, pork was the most popular meat in the United States. Mutton was considered a lesser meat, as it was conceived of as dry, coarse and flavorless (Skaggs 1986:23). Beef was considered to be a prestigious meat, along with poultry and lamb, but could not be preserved as well as pork (Levenstein 1988:4). This would change with the rise of the Chicago stockyards.
Cincinnati thrived on the pork trade, earning the nickname Porkopolis. In comparison Chicago had only six independent stockyards in 1861. New yards being constructed were located strategically near new railroad lines (Skaggs 1986:45). The amount of salted beef shipped throughout the United States increased steadily throughout the 1860s. This increase was due in part to the burgeoning railroad industry and the demand for meat by the Union Army during the Civil War (Rifkin 1992:97; Cronon 1991:210). The scale to which the cattle industry would eventually explode far outpaced the original beef-producing Spanish ranching system in California and would become a dominating political and social force in the American West (Skaggs 1986:31; Rifkin 1992:257).

The earliest Chicago cattle pens also housed pigs; swine wandered amongst the larger beasts and ate the left over cattle feed. At this time, Chicago was poised to become the next meat packing center; it was located along railway lines and near a steady ice supply. The original layout of the Chicago stockyards was organic in design, with yards dotted around the city which made travel between them slow and inconvenient. To solve this, a single unified stockyard was created to consolidate the disparate yards. The stockyard consolidation benefited from the earlier grain centralization, which had led to the establishment of the Chicago Board of Trade. As with the grain industry, the stockyards’ consolidated resources and altered the ways in which beef was conceived of, and acted as, a capitalist commodity. The Chicago stockyards were seen as the apex of Chicago’s economic development and changed the very basics of the American diet (Cronon 1991:116,209-223,231).
Packinghouses in Chicago introduced the industrial revolution to the meat industry, incorporating assembly lines and a specific division of labor to disassemble animal carcasses (Rifkin 1992:119-120). Rail companies moved both grains and meat from Chicago to points in the East and West (Levenstein 1988:31). However, railroads were not greatly utilized in the initial stages of the industry; it was difficult to move live animals well over rail and dressed meat could not be carried over long distances without a supply of ice to keep them from deteriorating (Skaggs 1986:43).

The beef packing industry was controlled by only a handful of companies that quickly snapped up new developments in technology and often worked with each other to drive under competition. Known initially as the Big Four, eventually the Big Five, they were also referred to as the Beef Trust. The original Big Four were Armour & Co., George H. Hammond Co., Morris and Swift, with the Cudahy Packing Company (established in 1887) as the fifth. Together they divided the market and controlled prices. As their own particular entities, they controlled 564 business endeavors which included: ranches, stockyards, packing plants, railroads, private car lines, cold storage warehouses, poultry and egg operations, creameries and dairies, fish canneries, pineapple plantations, banks, publishing companies and sporting goods manufacturing (Skaggs 1986:96,103; Levenstein 1988:39).

Because meat packing had become centralized there was less need for skilled butchers. Laborers working in meat packing plants endured appalling conditions (Skaggs 1986:108-110). Public outrage resulting from packinghouse conditions resulted in the Pure Food and Drug Act of 1906 to prevent adulterated products from being sold (Rifkin 1992:133). Despite this, the industry continued to boom and beef was considered to be
the best meat for consumption (Levenstein 1988:24). Both archaeological and historical
from Coloma suggest that beef products played a large role in the eating habits of the
town’s occupants.

Reconstructing Coloma’s Supply Network

Coloma’s location in the Garnet Range afforded its residents access to national,
regional, and local food supplies. Roads leading down the mountains to the west and to
the southwest provided access to railway depots at Bearmouth, Bonner and Missoula.
While these roads were initially narrow, they were altered to allow for larger wagon
traffic. From Bearmouth, the Northern Pacific and Chicago, Milwaukie & St. Paul
railroads could be reached (see Figure 1.1).

National Supplies

Identifying from where John W. Moss obtained fruits, vegetables, and canned
goods is difficult if not impossible. The account ledgers do not contain the records of the
importation of goods or their source, simply their purchase by individuals once they were
on the shelves of the Miner’s Cash Store. Similarly, canned goods do not come stamped
or otherwise marked with their manufacturing origin, unlike ceramics and bottles. Any
identifying marks on the cans would have disappeared with the disintegration of the
paper label.

It is, however, possible to determine the origin of the ceramics found in various
features around the town. Three features in particular, 172, 152 and 150 (see Figure 1.2),
contained ceramics with identifiable maker’s marks. Unfortunately, it is impossible to tell
how these items made their way into households and boardinghouses in Coloma. They
may have been purchased through the Miner's Cash Store, but the surviving ledgers contain no records of ceramic purchases. Or, it is possible that if the ceramics were ordered direct from catalogues, the shipment may have gone through the Miner’s Cash Store without a detailed description; there are just over 400 instances in which customers, both individuals and companies, ordered goods through Moss. These transactions are listed as either “stage freight,” “rr freight,” or simply “freight.”

<table>
<thead>
<tr>
<th>Mark</th>
<th>Company</th>
<th>Range</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>“HL Green”</td>
<td>Homer Laughlin</td>
<td>1901-1915</td>
<td>79</td>
<td>59%</td>
</tr>
<tr>
<td>“HL Black”</td>
<td>Homer Laughlin</td>
<td>1880-1900</td>
<td>11</td>
<td>8%</td>
</tr>
<tr>
<td>“HL Eagle &amp; Lion”</td>
<td>Homer Laughlin</td>
<td>1877-1900</td>
<td>2</td>
<td>1.5%</td>
</tr>
<tr>
<td>K.T.&amp;K.</td>
<td>Knowles, Taylor, and Knowles</td>
<td>1890-1910</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Waco</td>
<td>Goodwin Pottery Company</td>
<td>1896-1901</td>
<td>12</td>
<td>9%</td>
</tr>
<tr>
<td>Goodwin Bros.</td>
<td>Goodwin Pottery Company</td>
<td>1885-1897</td>
<td>12</td>
<td>9%</td>
</tr>
<tr>
<td>Royal</td>
<td>East End Pottery Company</td>
<td>1894-1901/1903-1907</td>
<td>2</td>
<td>1.5%</td>
</tr>
<tr>
<td>Unidentifiable</td>
<td></td>
<td></td>
<td>14</td>
<td>11%</td>
</tr>
</tbody>
</table>

Table 4.1: Ceramic maker’s marks from Feature 172.

Seven distinct maker’s marks, representing four different companies from East Liverpool, Ohio, were identified on 133 sherds from Feature 172. The majority of the makers (Table 4.1), were Homer Laughlin’s semi-vitreous hotel mark (Figure 4.1), used between 1901 and 1915 (Gates and Ormeod 1982:135). Two other Homer Laughlin marks were observed: the ironstone hotel ware (1880-1900) and distinctive eagle and lion mark used on ironstones and semi-vitreous wares from 1877-1900 (Gates and Ormeod 1982:111,132). This mark was adopted to convey the symbolic triumph of the American ceramics industry over that of the British (Cunningham 1998:34).
Other East Liverpool companies represented include: Knowles, Taylor and Knowles, The East Liverpool Pottery Company, Goodwin Brothers, and the East End Pottery Company. It is notable that all marks originate from the same geographic location.

Feature 152, unlike Feature 172, is a diffuse midden that is characterized by surface scatter. It was not possible to determine if there was subsurface integrity to this feature. Given that the area is subjected to high traffic by both humans and wildlife, it is conceivable that there are subsurface deposits within the surface scatter area. Amongst the cans and few faunal remains on the surface of this feature were ceramic sherds with two maker’s marks (Figure 4.2): Greenwood China Company (Greenwood Pottery) located in Trenton, New Jersey and the Homer Laughlin mark. The Greenwood China Company mark present in this feature came into use in 1886 on ironstones/white granite wares. It is unknown as to when its application ceased, but it was likely around the time of the adoption of another mark in 1910 (Lehner 1988:180).
Located to the southeast of both Features 172 and 152, Feature 150 is located near the potential location for the Chamberlain House hotel. A large earthen foundation is located directly uphill from Feature 150 and the hill is dotted with isolated finds and potential features. The feature itself is a potential midden with undetermined subsurface integrity; artifacts on the surface were collected to preventing looting. One mark (Figure 4.4) from this feature, found on a large stoneware crock, is that of the Union Stoneware Company. This outfit from Red Wing, Minnesota, was a selling agency for the firms of the Red Wing Stoneware Company, Minnesota Stoneware Company and the North Star Stoneware Company, operating from 1894 to 1906. The other mark is from the Knowles, Taylor and Knowles company from East Liverpool, Ohio. It is different from the one found in Feature 172, bearing a shield-like design (Lehner 1988:238). This mark was used on ironstones from 1890-1907, appearing on sanitary wares, toilet wares and tablewares (Gates and Ormerod 1982:119).
All of these maker’s marks date from a similar range that encompasses the primary boom phase of Coloma (the 1890s to early 1900s). The three features are quite far from each other and it is not possible to determine if they were all created by the same household or boardinghouse; both Features 172 and 152 are located at some distance from any structure. These marks do show that residents of Coloma tapped into nationally available ceramics from various sources that included New Jersey, Minnesota, and Ohio. As previously stated, it is unknown how these ceramics came to Coloma, whether they were imported via catalogue order, or even arrived with their owners upon initial settlement.

There is one particularly notable regional product from Feature 172. While the majority of the bottle fragments from this feature did not have identifiable marks, at least two vessels from A. Schilling & Co. of San Francisco were found in the midden. A producer of spices, A. Schilling & Co. was the dominant source of spices in the American West by 1905. It was also one of the first companies to include volumes of food items on their products’ vessels (Toulouse 1971:53-53). It is unknown what these two vessels originally contained. However, they represent the growing commercial power of San Francisco as a regional, and increasingly national, core and producer and distributor of
goods. The presence of these nationally available goods in Coloma middens demonstrates the availability of these products to more remote regions, and a reliance on the part of the individuals living there on these mass produced goods. Because the can remains from the archaeological features do not exhibit company marks, it is impossible to determine their origins. Therefore, the canned goods represent products from potential national and regional production sources, as they could have been manufactured as close as the Pacific Northwest or as far away as Boston. Of the foods purchased at the Miner’s Cash store, 17.4% of the food transactions were for canned products, representing 8.15% of the total number of units of food.4

The Local Region

Coloma is located near the historic cities and villages of Missoula, Bonner, Milltown, Ovando, Greenough, and Wallace (Figure 4.4). At the time of Coloma’s peak, Missoula was the major local center. Initially settled with small posts and eventually a sawmill and flour mill, Missoula Mills was established in 1864 and was soon a thriving center. Missoula’s importance was increased in 1877 with the construction of Fort Missoula, and again in 1883 with the extension of the Northern Pacific Railroad. The city’s early commercial power was held in the hands of the Missoula Mercantile, founded by Richard A. Eddy, Edward Bonner, and Davie Welch in the early 1880s. The mercantile outfit was soon large enough to establish branch stores in Deer Lodge and Butte. From its headquarters in the city, goods were distributed via pack trains to the surrounding region (Peterson 1976:5-6).

4 A unit of food is defined as the most common amount a food item was sold. For example, a single can or pound of apples.
Eddy and Bonner expanded their capital in 1881 by obtaining a lumber contract with the Northern Pacific Railroad. They allied themselves with the powerful Marcus Daly of Anaconda and local railroad superintendent for the Northern Pacific, Washington Dunn, to form the Montana Improvement Company (Toole 1959:160-161). In 1884 the company constructed a dam in present-day Bonner to catch the logs floating down the Blackfoot River. In order to reach the timber stands, men went over-land through Wallace, as there was no road along the Blackfoot from Bonner at the time (Ratigan 1976:7-10). In the early 1900s, a road was constructed from Bonner along the Blackfoot into the timbering areas (Peterson 1976:20-24).

The Montana Improvement Company changed names a few times before it was sold to the Anaconda Copper Mining Company in 1898. It continued to produce lumber in addition to selling general merchandise and grain and purchasing ores and bullion. It soon became the largest mill in the territory, its biggest client being the Anaconda Company. The enterprise built a flour mill in the town of Bonner near their mercantile. Local farmers shipped their grains in through the new rail lines. After milling, the flour
was freighted out throughout the Bitterroot region. It operated from 1892 to 1904, when it burned, and produced as many as 250 barrels of flour a day (Ratigan 1976:11-13).

On the opposite side of the river, a small bedroom community for Bonner was established in 1903. The bulk of the residents of early Milltown were from Finland, earning the town the nickname “Finntown.” While dominated by Finns, other Scandinavian groups, French-Canadians, Irish, and Germanic peoples also inhabited the town. A rival lumber company, Western Lumber Company, relocated their operations to Milton in 1910. It was purchased by Anaconda in 1928 (Raitgan 1976:18; Dofrense 1976:49-50). The towns of Bonner and Milltown also housed railway depots. The Northern Pacific Railroad built a single track through Milltown in 1883. The Chicago, Milwaukee and St. Paul Railroad built a line on the other side of the river in 1909, which would eventually extend up the Blackfoot Valley to access the logging camps (Dofrense 1976:51).

The local butchery, the Beadle-Wagner Butcher Shop, ran its own slaughterhouse from about 1912 to 1928, where butchers processed their own pigs. The slaughterhouse, and accompanying pasture for the pigs, was located in the Pinegrove neighborhood (Fontaine 1976). In addition to selling poultry, pork, beef, and mutton, they received weekly shipments of salmon from the west coast. They also kept large barrels of pigs’ feet, sauerkraut, and salted herring in the center of the store (Dofrense 1976:51).

Miner’s Cash Store records indicate that flour from Bonner was sold at Coloma (BCC, MCS). Flour specifically labeled as “Bonner flour” represented 10.2% of flour sales from the years available. The only other specifically named flour product is “Star flour,” representing only 3% of total sales. The other categories are referred to as “a
flour” (25.3%), “b flour” (9.8%), and simply “flour” (51.7%). It is possible that additional sales of flour produced in Bonner were included in those categories, especially when taking into account creative spelling and differences amongst bookkeepers. While there is no specific evidence that Colomans purchased other goods either produced in Bonner or brought in through that town, but Bonner served as one outlet into the region to either Missoula or to the railway depot.

The farming settlement of Potomac, located about 13 miles from Coloma occupies the valley between the hills and mountains. Initially, traffic into the Potomac valley came in through the town of Wallace (Machado & Curry 1981:106). The primary industry of these inhabitants was to supply the logging camps that began to work in the area around 1902 or 1903 (Machado & Curry 1981:14,77). Loggers initially floated their harvest down the river to Bonner until the railroad along the river was established (Machado & Curry 1981:15). Cattle raised in Potomac, mostly the shorthorn breed, were sold to the logging camps, but were also driven to Missoula for market or shipped by rail out of Potomac after the decline of the local logging industry (Machado & Curry 1981:18, 86, 124). Pardee observed farmers producing grain and hay in the valleys during this trip, and also noted that “hardy fruits” such as cherries and apples were also possible (1918:161).

Speaking in 1976, Potomac resident Ray Wills remembered his father’s contract with the grocer from Garnet. Living in the Clinton area at the time of his father’s contract, Wills recalled the pigs and beef cattle that were sent first by rail to Bearmouth and then by wagon to Garnet. Wills’ father butchered the animals on their ranch before shipping them, as this brought him more money. In addition to the meat products, the
Wills also shipped “anything that grew on the ranch” (Machado & Curry 1981:126) to Frank Davey’s store in Garnet, which opened around the time of Coloma’s beginnings and lasted well past its decline. Wills specifically made reference to the potatoes that were shipped during the winter and the damage that was caused by the freezing temperatures. Davey was not the Wills’ only client; Wills recalled that buyers would come to the ranch in the fall and select the animals they wished to purchase (Machado & Curry 1981:126).

Log books from Davey’s store reveals the potential for an individual to obtain a variety of food items from the region. His accounts enumerate sources from throughout Montana including Butte, Helena, Corvalis, and Missoula. He also received goods from Seattle and Walla Walla, Washington; Chicago, Illinois; and St. Paul, Minnesota. These items were moved by rail to Bearmouth and then carried by wagon on the cannonball road to his store in Garnet (Howser 1997). The road described as the “cannonball” was completed by February 1896 and included nine bridges over its length, leading from the Coloma mines to Bearmouth. It was characterized as a sleigh road, and in need of expansion to accommodate wagons (TSS, 16 February 1986:2). Another road up from Bearmouth to Garnet was the “China grade,” but it is unknown when it was completed (Hammond 1983:17).

Popular history of Garnet has indicated that fresh milk and eggs were available from families living in town. When these families moved elsewhere in the region, they continued to sell these items to Garnet citizens. Fresh produce was also purchased from local ranchers in Sunset and lower down Bear Gulch (Hammond 1983:19,38).
As the logging industry declined, the residents of the Potomac valley concentrated more on the cattle industry. In addition to supplying meat, Russel Early Hall, born in Potomac in 1895, remembered his family selling dairy products such as cream and butter to Garnet as well (1981:78). Coloma residents also received dairy products from Potomac; Coloma resident Nellie (surname not given) reported that “Milk from the valley is sold in our streets” (Missoulain, 29 May 1895:1). Another Potomac resident, Myrtle Cook, remembered her neighbors driving to Coloma (in wagons or cars—she does not specify) in the 1890s and early 20th century to pick huckleberries near the gold camp (Machado & Curry 1981:195).

The small towns and ranches in the valleys surrounding Coloma were potential sources for a variety of fresh foods including fruits, vegetables, and meats. Flour from the mills at Bonner appear in the Miners’ Cash Store and town residents consumed milk made at local dairy farms. Just as foods from the valley were transported overland to Coloma and Garnet, so too did the people from the valleys trek up into the mountains to harvest local huckleberries growing wild near the mining camps. These local connections created economic exchange networks between local farms and food procurers living at Coloma. One of these procurers enmeshed in the local system was Moss, importing locally made flour from Bonner to Coloma. While the relationship between Coloma consumers and mass-produced foods is distant and ill-defined, the economic relationship between their intermediary, Moss, is more clear.

The Movement and Preservation of Foods at Coloma
The Miner’s Cash Store was located within the town proper (see Figure 1.4, Figure 4.5), and although on one “edge” of the town, it was within walking distance from residences. However, accessibility to the store was drastically different for those satellite mines that were located further away. While the roads to the Comet have become obscured, the road leading to the Mammoth Mill is still visible. The rather steep descent would have been traversed by wagons during the town’s boom. In addition to all of the purchase transactions, there are a handful of entries for rental of horses and wagons to transport items down to the mill. Teamsters also hauled ores via wagon down this road (HHKM 1933:22). The ability to rent transportation services to the mill further highlights Moss’ role as a central node for distribution of foods and sundries to the Coloma community; goods came into his store and are distributed outwards, carried either by individual consumers or in his wagons pulled by his horses.
Although the Miner's Cash Store records do not reveal the sources of Moss' foods, the presence of food items that would have been produced in factory settings, and those items that would not have been able to travel far without spoiling, can indicate his reliance on various levels of the available food system. A total of 23,573 units of food were evaluated for their state of preservation. When all food items are considered together, the most frequently occurring category were fresh items followed by salted, canned, and dried (Figure 4.6). Pickles, cheese, preserves, and bottled foods were present, but in small amounts. These most basic of categories indicate that there were large amounts of fresh foods available and purchased by residents of Coloma. This graph does not specify which fresh foods are available, but it is likely that starches, such as potatoes, that can last for some time in cool dry storage, were more frequently purchased than vegetables or fruits that spoil without refrigeration or drying.
When each class of food is broken apart, specific patterns emerge (Figure 4.7), the largest group (vegetables) is overwhelmingly fresh, which is, again, a result of a massive amount of potatoes that were purchased. The second largest group, meat, was mostly fresh but also had large quantities of salted examples. Fruits were also mostly dried to ensure lasting shelf life, followed by fresh and then canned varieties. While the overall amount of seafood was limited in comparison to other meats, fruits, and vegetables, products were most frequently canned. These included seafoods such as oysters, sardines, and salmon. Fresh milk had very few occurrences, most of the milk purchased through the store was either the canned varieties of condensed or evaporated. Or, it appeared in the altered, and salted, state of butter.

At least 24 different types of fruit were purchased at the Miner's Cash Store. Of those, apples, apricots, bananas, oranges, peaches, pears, prunes, and raisins were purchased in the largest amounts. Bananas, oranges and a small percentage of the apples were purchased fresh (Figure 4.8). Apples were available from nearby Potomac, but the bananas and oranges would have been shipped from warmer climates. Both of these fruits were almost ideal long-distance travel foods because they did not require a cold storage
environment and their thick outer rinds withstood minor buffeting during transit. Other fresh fruits including coconuts, lemons, and limes also traveled great distances to reach Coloma. The coconut would have been a very hardy traveler and the lemons and limes would travel about as well as oranges, although they eventually required cold storage. The last citrus fruit purchased was the citron, desirably primarily for its rind that was used for flavoring and medicinal purposes.

![Figure 4.8: Fruit preservation methods.](image)

The largest quantities of fruits were purchased dried. These would have kept for very long periods of time without the need for cold storage. Apples, apricots, peaches, prunes (dried plums), and raisins (dried grapes) were purchased in large quantities. Dried fruits would have provided variety to the diet and could easily be incorporated into dishes as flavorings. Dried apples, while they kept and traveled well (unless they exposed to water), had garnered an odious reputation amongst miners in California. Due to widespread availability, they were so commonly eaten that men were sick at the sight of them (Conlin 1986:112-113).

Canned fruits were purchased in smaller volumes compared to dried and fresh varieties. While a vast portion of these canned fruits were not identified by variety in the
ledgers, peaches, pears, and plums were the most commonly purchased canned fruits. These fruits were not available fresh in Coloma, although peaches and pears were also available dried. Dried peaches were sold in one pound lots, at an average 13 cents per pound, whereas canned peaches sold for about 18 cents per can. A can of peaches was likely to occur in a No. 3 cylinder can, which held approximately three pounds of food (Schwaab 1890:60). Interestingly, while canned peaches were the more economically sound purchase and were very flavorful, dried peaches were overwhelmingly preferred.

Figure 4.9: Preservation methods of vegetables (fresh potatoes removed for clarity).

Vegetables purchased at the store were either fresh or canned. Fresh vegetables (Figure 4.9) included cabbage, onions, and parsnips. Onions and parsnips keep very well in dry, dark storage locations and would have shipped and stored very well. Quickly perishable food including corn, peas, and tomatoes were available for about 15, 20, and 24 cents respectively, making them more expensive than the canned fruits. Both the canned fruits and vegetables could have come from any of the major canning centers.

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5 Potatoes were removed from the graph generated for this analysis due to their overwhelming amounts purchased. A total of 5001 pounds of potatoes were purchased during the years the ledgers represent, all fresh.
producing foods during the 1890s. The cans were shipped in via railroad, most likely through Bearmouth, and ultimately reached Coloma by wagon or sleigh.

These raw counts of canned and fresh items reveal the total amounts of canned goods purchased by consumers shopping at the Miner’s Cash Store. This does not reflect how significant canned products were to the diets of these individual consumers, rather, it reflects a community-wide purchasing pattern. These raw counts also do not take into account the amount of food contained within food unit; a three pound can provides more food per unit than a one pound can.

Traditionally foodways studies of overall diet contribution have relied heavily on biomass analysis derived from zooarchaeological remains. Using the data from Feature 172 and the data from the ledgers, the overall dietary contribution of canned and fresh meats can be evaluated. Feature 172 most likely represents a large eating group, such as a boardinghouse (see chapter 5). Canned foods represent 11.95% of the overall biomass from this context. Because fresh or dried vegetable and fruit information was not available for the feature, this was compared to the contributions of cow and pig biomass estimates. The canned food contribution was approximately one third of that of cow (43.88%) and almost twice as much as pig (7.12%), indicating that while this household had a strong reliance on beef for their diet, canned foods also made up a large portion of the overall diet for this eating group.

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6 “Biomass” for cans were calculated by inferring can type based on measurements or calculating approximated weight based upon volumes. The approximated weights were then converted to kilograms to be compared to zooarchaeological biomass estimates (see Ogborne 2012 and Appendix B for a detailed analysis of this methodology). For a full accounting of the biomass estimates, see Table 7.1.
Table 4.2: Percentages of cow, pig, and canned good biomass weights. Biomass totals from Feature 172 are different from later discussions due to the inclusion of can data into the overall biomass estimates. All subsequent references to faunal biomass estimates will not include can data. Only cow, pig, and canned biomass data were included in this comparison; biomass estimates for broader mammalian categories, avians, and undetermined animals were not included as there were not corresponding data in the ledger accounts.

<table>
<thead>
<tr>
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<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Cow</td>
<td>43.88</td>
<td>15.77</td>
<td>48.64</td>
<td>12.92</td>
<td>23.87</td>
<td>8.83</td>
<td>48.21</td>
<td>7.47</td>
</tr>
<tr>
<td>Pig</td>
<td>7.12</td>
<td>44.4</td>
<td>29.13</td>
<td>41.43</td>
<td>22.7</td>
<td>41.65</td>
<td>33.93</td>
<td>33.78</td>
</tr>
<tr>
<td>Cans</td>
<td>11.95</td>
<td>33.39</td>
<td>14.15</td>
<td>45.65</td>
<td>28.05</td>
<td>48.47</td>
<td>17.85</td>
<td>58.74</td>
</tr>
</tbody>
</table>

The overall contribution of canned goods was also estimated for particular accounts in the Miner’s Cash Store ledgers (Table 4.2, Figure 4.10). The percentages calculated for all the ledgers represent a community-level consumption pattern that includes individual private accounts as well as corporate accounts. Each account holder had differing access to storage for food, and as such this total should not be regarded as an over-arching pattern for residents of Coloma, rather a summary of the entire town. Seven accounts were selected for comparison due to their significant purchases of cow and pig products.
The poundage of meats purchased (including bacon) were converted to kilograms. An estimate of the overall canned food weight (estimated based on the typical size can for each food type) was also converted to kilograms.

When looking at all of these various cases, there is no over-arching pattern of preferences. However, when the accounts are grouped by consumption patterns, it becomes apparent that there are particular account holders that have similar preferences. Similar to Feature 172, the two accounts held by George Baker, one account with just his name and another under his company Baker, Lowery, & Co., are dominated by beef purchases. Baker’s accounts have a stronger reliance on pig products than Feature 172, likely due to the presence of bacon in the ledgers. Because bacon is a cut that does not produce faunal remains, the presence of bacon from the Feature 172 assemblage cannot be accurately reflected. The discrepancy in the overall contribution of pig meats between Feature 172 and the accounts highlights the importance of considering faunal data in concert with documents. According to David Huelsbeck, pig bones only represent a small portion of faunal assemblages in the West (2011:130). The purchases of these companies and individuals demonstrate that various pork products were integral dietary contributors in this community. A sole reliance on faunal data in similar contexts therefore can drastically underestimate the potential contribution of pigs to a group’s diet. The high percentage of beef for these contexts indicates that beef was either purchased and used so quickly that cold storage was not required, or that cold storage was available for the procurers of food in the households represented by the accounts.

Four accounts demonstrate high percentages of canned foods and pig products with very little utilization of beef. T. Sugro was a miner owner of the Rambler company.
The quantity of foods he purchased indicates that he was likely feeding more than just himself (for a more detailed discussion of this see chapter 5). High percentages of products that preserve well and keep for longer periods demonstrate a lack of cold storage facilities. The A.L. and D.A. Company account also exhibits this pattern. Very little is known about this company, but their purchasing pattern indicates that the company paid for the meals of its owners, employees, or both.

The accounts of R. Ledwich and Paul Becker also reflect a reliance on better foods with longer shelf lives. Ledwich has not been identified outside of his store account. Becker was a mining supervisor for the Mammoth shopping for an undetermined household. The overall lack of beef purchases may be due to flexible budgets or a heavy reliance on better preserved foods necessitated by storage issues.

One account stands out in its relatively equal contribution of beef, pork, and canned products. William Ross was an ore miner that may have lived in his own household. Census data from 1900 lists him as a head of household with several lodgers who were also employed as ore miners (USDC, BC). It is unknown if his household was similarly comprised at the time of the ledger enumeration. Ross' position as a head of household may have cast him as the primary food procurer. The proportion of the fresh meat to other food types suggests that he may have had access to adequate cold storage that allowed the storage of beef for future meals.

These cases demonstrate that there are particular purchasing patterns that indicate the types of companies and eating groups most heavily reliant on the national food system for their subsistence. Just as Moss served as a central node for food distribution,
so did these various heads of household (or company) serve as nodes of food distribution for household/company food consumers.

Food Storage

Choices made to purchase canned and salted goods may have been strongly influenced by access, or lack thereof, to cold storage facilities. Because of the danger associated with entering the partially collapsed structures at Coloma, it is impossible to enumerate the number of subterranean storage facilities, such as root cellars, that may have been constructed by residents. This does not preclude that these features may exist, and future remote survey techniques may be able to locate them.

There are two probable candidates for the location of cold storage facilities within the town. The first is the lowest level of the Chamberlain House (Feature 141). Historic photographs indicate that a two-storey board and batten structure sat atop a foundation large enough to enter from the exterior. The extant earthen foundation attests to this with an opening of approximately two meters in the southeast wall. The foundation was constructed of soil and rocks and faced with vertical boards. This basement level would have kept foods colder than in the above-ground larders and pantries. Despite the advantageous layout of this space, records of Chamberlain’s account at the store do not include any large food purchases. Quite the opposite, the majority of the purchases were for prepared meals, both for himself and for the school mistress. Given that the structure sits on a slope, the large lower floor may have been constructed to create a flat surface for living spaces, rather than food storage. But as the ledgers only account for approximately
two years of the town's life, it is possible that food with specific temperature requirements was stored within this structure at some point.

Figure 4.11: Cold storage facility behind store (photos by author).

Behind the collapsed remains of the Miner's Cash Store, Features 74 and 75 (see Figure 1.4), there is evidence for a cold storage facility immediately adjacent to the back of Feature 74. This space is currently about 6.5 meters by 3.5 meters on the interior with a depth (now uncovered) of approximately 2 meters (Figure 4.11). It is currently
unknown how the structure was enclosed; there were no remains of a timber roof within
the pit, but these may have been removed.

The location and configuration of this feature is similar to the cold storage facility
at the Davey's Store in Garnet. That space was larger and constructed with much more
permanent architectural materials and has been refurbished to allow tourists to enter. The
Moss storage space was excavated out of the short slope behind the store and reinforced
with a stone and earth foundation. The entrance was also supported within the stone and
earth foundation with the addition of timber elements, possibly a door and frame, of
which little remains. This space may have been connected to the store building as it is so
close to the building, but not enough timber remains make a definitive determination.

During his survey of the Mammoth Mill, Taylor suggested that one of the
structures was an icehouse (see Figure 3.2). The substantial earthen foundation does
suggest that this may have been an icehouse with significant "subsurface" space for
storage. However, the original GLO survey identified this building as an office. It may
have been re-purposed as an icehouse after the survey. This area has not been excavated
and therefore the identification of this feature as an icehouse remains in question. With a
boarding system substantial enough to require a night cook, the Mammoth Mill would
have needed sufficient storage facilities to maintain the food supply for the Mill laborers.
It is therefore not unreasonable to suggest that this structure may have served as an
icehouse at one point during the Mill's operational period.

Summary
Residents in Coloma were dependent on the national food system to supply some of their foodstuffs. The productive consumption of the animal husbandry industry was beginning to generate a metabolic rift similar to that of the mining industry. This larger network of supplies also produced a myriad of canned products, allowing Coloma residents access to fruits and vegetables out of season. However, a desire for canned food was not widely felt. Although fresh foods were generally preferred, there was significant variation amongst different types of account holders for preferences for canned or fresher foods. The data indicate that those who were procuring food for larger groups, with the exception of George Baker, may have had a stronger reliance on canned and salted products. In addition to a national system, Coloma had access to local food production enterprises that grew fruits and vegetables and raised animals for meat. This demonstrates that Coloma was not so isolated, and people like Moss could create economic relationships with local farmers based on the need for food procurement.

By looking at the overall contribution of canned food to a diet, this discussion has hinted at the next portion of the system of provision: the purchase of these foods at Moss' store. George Baker’s account, and the accounts of the various companies, indicate a responsibility on the part of the company management to procure food for a group. My focus will now shift from productive consumption to economic consumption, or the individual acts of purchase of foods. The account books from the store represent the result of Moss’ centralization of food products: the subsequent dispersal of foods throughout the town to companies and individual consumers.
Chapter 5: Shopping at the Miner’s Cash Store

The act of purchasing goods in a market economy, in the case of this study the purchase of foods, is more than an economic interaction; it is a communicative social event that forms and perpetuates the social relationships that create a community (Bourdieu 1984:2,7; Cook et al 1996:52; Henry 1992:3; Wurst and McGuire 1999:196). Consumption models previously developed to address foodways (i.e. Henry 1991; Huelsbeck 1991, 2011; Kinchloe 2001) have stressed aspects of product availability and consumer preference. Older product availability studies (i.e. LeeDecker 1991; Spencer-Wood 1987) have been critiqued (i.e. Cook et al 1996; Wurst and McGuire 1999) for their reliance on absolute socioeconomic status and failure to address internalized factors that may influence consumer choice. More recent models (Cook et al 1996; Mullins 2011; Wurst and McGuire 1999) have moved the emphasis to the individual and the reasons behind the choices that are made during purchase. Product availability models formed the basis from which more recent studies have built upon with greater emphasis on choice.

The question of product availability has been discussed in the previous chapter. According to this evidence, the people of Coloma had no trouble obtaining goods, even fairly exotic items, for the years that the ledgers represent. The purchasing of food also provided consumers with considerably greater choice. A meal is an abstract purchase in which a consumer has little to no say in its composition, thereby eliminating much of the choice in food consumption. This is contrasted with the purchase of a specific food object, an apple for example. When it is purchased a consumer makes a decision to
prepare and eat that apple. They could choose the color, texture, and time that apple is eaten. In a boardinghouse context, meals would be served at a particular time, and food choices made by cooks and keepers. The choices available to those who boarded would be to alter their location of boarding, selecting a new keeper from whom to purchase meals. In the cases of strict managerial capitalism, these choices would have been restricted or unavailable.

The food purchase choices made by the individual residents and companies of Coloma communicated unique information about their lives and responsibilities as food procurers. Their decisions were driven by a multitude of circumstances particular to each. These included not solely socioeconomic status, but also frugality, personal impulse, responsibility to dependents, and religion. I will emphasize an approach that considers consumption as a “continual albeit largely unexpressed process of self-definition and collective identification” (Mullins 2001:135). To address the process of food purchase choice, the act of economic consumption of individual food products, I will construct a perspective on consumer behavior.

Archaeological Frameworks of Consumption

Early models of consumer behavior in archaeology stressed socioeconomic status and commodity flows. These studies examined the prices of particular goods, the direction of commodity shipments, and the time needed for goods to travel to a destination (Riordan and Adams 1985). In this respect, these studies were closely related to world-systems analysis. Similar to these types of studies, other consumer behavior models focused heavily on the external factors that influenced consumed choice: price,
availability, and advertising (Henry 1991:4,9). While researchers gave some attention to the internal factors in consumer choice, they linked the selection of goods to a consumer’s absolute socioeconomic status (Branster and Martin 1987; Spencer-Wood 1987).

One of the defining aspects of product availability was geography; the further removed a particular location was from a distribution center, the more limited the choices of products at their shopping location would be (Riordan and Adams 1985). These accidents of geography implied that communities such as Coloma would have limited access to a diversity of goods due to the limits of transportation to its location. Indeed, this circumstance was true for many communities in the West during this period. Camps in the Klondike and settlements in Alaska such as Skagway, were far removed from distribution centers and had few close neighbors (Cooper and Spude 2011; Hammer 2011; Huelsbeck 2011). The physical terrain that surrounded them was potentially prohibitive to the movement of goods and people, a circumstance that has changed very little today. The restrictions imposed by geographic location are certainly a limiting factor to the diversity, amount, and delivery time for products moving into mining settlements. However, expansion of the transportation network, such as the railroads and road construction through the Garnet Mountains, mitigated the isolating aspects of Coloma’s location.

Consumption studies that focus primarily on product availability and absolute socioeconomic status markers have been heavily critiqued for their lack of attention to agency and idiosyncrasies of the individuals, with their concern primarily focused on objects instead of people. The narrow focus on this aspect of consumerism does not
adequately address the reasons why individuals choose particular goods over others, nor
does it infuse these economic acts with meaningful insight into individual choice or
social relationships (Cook et al. 1996:51-52). Rather than using the absolute measures of
availability and socioeconomic status, current consumption studies have placed the
individual consumer in the role of an active decision maker in the social relations that
create the act of purchase and consumption (i.e. Adams et al. 2001; Cook et al. 1996;

One of the key aspects of this perspective of consumption is that the act of
purchase creates, maintains, and reproduces social relationships and through this, the
individual consumer becomes a social being (Carroll 1999:133). The focus on the
individuals and the reasons for their choices has the potential to highlight how they
understand themselves, how their everyday lives are created and reproduced, and their
position within the community (Cook et al. 1999:52; Mullins 2004:197; Wurst and
McGuire 1999:192). The purchasing choices of Coloma inhabitants were not merely a
reflection of an essentialized identity that can be distilled into a replicable pattern, but are
rather instances of "active and meaningful negotiation of personal and social
subjectivity" (Mullins 2004:199).

Studies of consumer choice within societies dominated by mass produced goods
have often been framed within themes of resistance to dominant ideologies. For example,
Paul Shackel and Matthew Palus' study of industrial working-class consumers in the
Gilded Age found that despite being enmeshed within a system populated with mass
produced objects, individuals chose to exploit wild food resources and self-medicated,
even while participating in the market system. In choosing to purchase some items rather
than others, working-class laborers were selecting aspects of the dominant classes to be used in personal ways. Even as these workers made particular non-market choices, they concluded that in participating the consumerist market, these individuals simply reinforced their status as objectified laborers (Shackel and Palus 2006:835).

Studies of consumer behavior focusing on foodways within complex market systems in the West have predominantly focused on socioeconomic status and ethnicity (Dixon 2005; Kinchloe 2001). These studies can be classed with the earlier consumer behavior models, as they have focused on essentializing particular aspects of consumer behavior, such as absolute socioeconomic status and a distilled definition of characteristics that imply a particular identity. This is not to dismiss these contributions, rather, to suggest that they can be used as a point of departure for formulating a more nuanced interpretation of food purchase choices within Coloma.

David Huelsbeck (1991) offered a comprehensive methodology for the examination of consumer choice using faunal remains. He made a critical observation that when looking at consumer choice, one must identify the variables affected by the availability of meats and the units of analysis that were relevant to the context. The key factors that Huelsbeck stressed are similar to the older consumption study models, but he added another variable, seasonality, which can be a particularly limiting factor for the availability of foods in an area. While these factors must be taken into account in a faunal analysis, the perspective implies that an individual can only obey the limiting factors ascribed to them from a list of attributes. Issues of seasonality are applicable when considering only food products that are significantly affected by temperature; in a food-
system where so many of the products are preserved for transport and long shelf lives, seasonality becomes less of a limiting factor.

The remaining notable factor that offered was identifying the appropriate unit of analysis of meat purchased by the consumer. The use of butchering units, while appropriate for some scales of consumption, would not be appropriate for an individual consumer purchasing for a small group. Instead, smaller retail cuts would yield more accurate and meaningful results (Huelsbeck 1991:66).

Creating a perspective of economic consumption at Coloma should find its foundation within those models suggested by Huelsbeck, but forefront the individual consumer not as a passive shopper who obeys "rules" of ethnic patterning or product availability, but as someone who works within the larger and local food procurement system to purchase particular foods items for specific reasons that could be governed by any number of variables. This study explores the food purchasing habits of both companies and individuals, including a broad spectrum of occupation and household population, will be explored. Corporate purchasing patterns found in the account books suggest issues of responsibility to dependents within corporate structures. Bowen’s (1990) analysis of eighteenth-century account book from Suffield, CT, demonstrates that labor relationships could be discerned through food exchanges. Building from this, I will identify those companies whose accounts indicate the potential for the redistribution of foods to dependents, thereby implying a type of managerial relationship with employees. I will also highlight diversity of diet and limiting factors of purchasing power. Both company owners and individual miners had access to the Miners Cash Store. This places the two groups on a similar footing in regards to access but highlights differing economic
status. To do this, a sample of the numerous accounts was selected based on the presence of food items. The accounts were categorized according to type, such as a company, company owner, or individual purchaser. The following discussion details the items purchased by the account holders and suggests further routes for interpreting these shopping actions.

Corporate Shopping

The Mammoth Company

While company employees working at the mine site in town were not provided with a boardinghouse, the mill workers ate at the company’s table. The Mammoth’s account with Moss was mostly composed of shipping transactions, both in and out. Items moving out of Coloma (metal ores) were the company’s labor products. Incoming transactions were left mostly vague, such as “rr freight” or “stage freight,” but many specific food items were also purchased. The greatest amounts of items were sugar, eggs (by the dozen), and flour (see Figure 6.5). Other larger volume items were butter and milk, both canned and undetermined forms. Fruits and vegetables included onions, raisins, potatoes, and undetermined canned products. Smaller amounts of meats, such as pork and fish, contributed the least to the company account at the store.

The large volume items point to a considerable amount of baking, indicating a kitchen output of meals very high in carbohydrates. The meals served were also accompanied by smaller amounts of canned fruits and vegetables. What is striking is the small quantities of meat products, notably bacon, one of the most popular food purchases.
at the store. The company did purchase ham, almost the entirety of the total meats purchased, but only four ham transactions are in the ledgers. In three of these transactions, the poundage of ham purchased exceeded 20 (23.5 lbs and 31 lbs twice), a sizeable amount of meat. However, the other meat purchases were for much smaller portions of pork chop cuts. It is plausible that the company made its meat purchases from another individual, such as the meat market, or had them shipped in along with their other large freighting purchases.

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>66.5% (313)</td>
<td>33.5% (157.5)</td>
<td>-</td>
<td>--</td>
</tr>
<tr>
<td>Fish</td>
<td>31</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>100% (36)</td>
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</tr>
<tr>
<td>Meat</td>
<td>2.81% (2.5)</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>97.2% (86.5)</td>
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<tr>
<td>Vegetable</td>
<td>93.2% (136.5)</td>
<td>5.5% (8)</td>
<td>-</td>
<td>1.4% (2)</td>
<td>-</td>
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</tbody>
</table>

Table 5.1: Mammoth food preservation.

High amounts of preserved foods suggest that the mill was importing foods from greater distances, in the case of canned foods, or storing them for long periods (Table 5.1). The overall amounts of fruits and vegetables were small, the majority being cabbage and onions. While onions keep rather well in cool, dry places, cabbages require some preparation for storage. However, they do preserve well in modified forms such as sauerkraut, which requires a fermenting process. Cabbage can also be pickled, although low amounts of salt within the account do not suggest many pickling endeavors. Once fermented, the cabbage can be saved for some time. The majority of dairy products were heavily preserved in the forms of canned milk and salted butter, which indicates a lack of

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7 Bacon represented 4.6% of all food transactions and 45.8% of the total poundage of meats purchased at the Miner's Cash Store.
cold storage facilities. Similarly, the only fruit purchased was raisins, which arrived dried and can keep for a long time so long as they remain dry. It is difficult to ascertain how meat was stored given that so little appears in the account. The hams that were purchased would have been cured or brined, thus allowing for long term storage, but also come in large quantities sufficient for serving larger numbers. The amounts of preserved foods purchased suggests that the mill was not storing large amounts of perishable items.

The volumes of the items purchased indicate that the procurer of food, the Mammoth Company, was serving a sizeable group of individuals. In 1898 the procurers and cooks could have been Charles Harvey and John Hughes. The overall lack of food items in their store accounts suggests that they were eating at the boardinghouse along with the men working at the mill.

A.L. and D.A.

While there are no historical records for this account, including record of its location within Coloma’s mining landscape, the company’s considerable food purchases at the Miner’s Cash Store clearly indicate that it was responsible for feeding a labor force. Where the cooking and dining were performed is unknown. The industrial purchases for the A.L. and D.A. company are considerably less varied and in much smaller volumes than the Mammoth, save for powder and fuse. The greatest variation in purchase is in its food purchases, which included considerable amounts of flour. Similarly to the Mammoth, A.L. and D.A. also purchased large amounts of sugar, which reveals a heavy-carbohydrate diet.
This account contains a variety of fruits and vegetables including apples, peaches, prunes, and tomatoes (Figure 5.1). Apples account for the majority of the fruits consumed. These were purchased dried and would have lasted for some time if stored properly. Similarly, the majority of the vegetables are represented by potatoes, which also would have stored well. A similar pattern of preserved foods was observed in the meat purchases (Table 6.2); 82.6% of meats bought had been preserved in some fashion, either salted or cured in the forms of bacon and hams. Only 16.6% of the meat products were purchased fresh. Dairy exhibited a similar pattern with high amounts of canned milk and butter.

![Figure 5.1: A.L. and D.A. food purchase totals.](image)

<table>
<thead>
<tr>
<th>Food Item</th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
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<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>40.43% (123)</td>
<td>59.57% (181.25)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fish</td>
<td>4</td>
<td>26</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>2.8% (4)</td>
<td>14.1% (20)</td>
<td>-</td>
<td>83.1% (118)</td>
<td>-</td>
</tr>
<tr>
<td>Meat</td>
<td>16.6% (58)</td>
<td>0.6% (2)</td>
<td>41.6% (145.75)</td>
<td>-</td>
<td>41% (143.5)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>66.67% (251)</td>
<td>32.95% (124)</td>
<td>-</td>
<td>-</td>
<td>0.4% (1.5)</td>
</tr>
</tbody>
</table>

Table 5.2: A.L. and D.A. food preservation.
The overwhelming percentage of preserved foods indicates that the A.L. and D.A. was buying foods that could be easily stored without elaborate facilities to maintain their quality. Items that stored with minimal effort, such as potatoes, ham, and butter, were purchased in larger quantities. The average potato transaction was at or exceeded 30 pounds, whereas ham and butter averaged 20 and five pounds, respectively. The average bacon transaction was about 10 pounds, but was as high as 25. Bacon does not keep very well over the long term, and would require cold storage or large amounts of salt to prohibit the growth of bacteria, sliced bacon lasting much less time than unsliced slabs. This shows that bacon would have to have been eaten rather quickly, and therefore cooked in somewhat larger quantities for several mouths. While some products could be stored for further use, items such as bacon would have required a quick purchase-to-table turnaround.

**Reely and Company**

Similar to the A.L. and D.A., not much is known about Reely and Company outside of the store ledgers. Their account details many food purchases, some quite large. These more sizeable purchases included flour, sugar, butter, and potatoes (Figure 5.2). In addition to large amounts of carbohydrates, the company purchased many fruits and vegetables, most often in larger purchases around 10 pounds or by the case in terms of canned products. Potatoes, which account for the majority of the fresh vegetables, were bought in lot sizes of 44, 92, 100, and 109 pounds. Of the nine ham purchases, the size bought ranged from 14 to 31 pounds, with one case of a very small three-pound purchase.

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8 The number of individual cans per case varied per product. For example, a case of canned milk could have as many as 48, whereas a case of tomatoes was 24 cans.
Bacon was also bought in large quantities, ranging from 17 to 26 pounds at a single transaction. Similarly, butter and eggs appear in large quantities; butter was often bought in lots of 20 pounds and eggs by the several dozens.

The amount of preserved foods (Table 5.3) in the Reely and Company account shows a reliance on foods that would store (the fresh vegetable portion attributable to the large quantities of potatoes). The individual transactions demonstrate a need to feed many mouths; products such as large amounts of bacon indicate a rapid transition of economic commodity to consumable food. While this account shows a variety of food items based on a foundation of flour-based carbohydrates and starchy potatoes, its fervor was short lived; Reely and Company appear only in the 1895 ledger. How this company broke down is unknown. It is entirely possible that sufficient quantities of profit were generated for the owners and investors to leave the site. Or, the results of ore extraction were not
sufficiently profitable to sustain the physical needs of the workers or the wallets of the owners, and production ceased.

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>52.7% (264)</td>
<td>35.7% (179)</td>
<td>-</td>
<td>11.6% (58)</td>
</tr>
<tr>
<td>Fish</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>9.4% (17)</td>
<td>-</td>
<td>-</td>
<td>90.61% (164)</td>
<td>-</td>
</tr>
<tr>
<td>Meat</td>
<td>-</td>
<td>-</td>
<td>48.8% (146.75)</td>
<td>-</td>
<td>51.2% (154)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>74.26% (453)</td>
<td>25.74% (157)</td>
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<td>-</td>
<td>-</td>
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</tbody>
</table>

Table 5.3: Reely and Company food preservation.

The Rambler Company

The Rambler’s claim was located on the north side of town, just outside of the town proper, and straddled the Melhorn Gulch and older diggings (likely old placers). The GLO surveyed two tunnels and a cabin. One of the owners of this company, T. Sugro, is later listed as a claimant in the Garnet district at the Lucky Strike and West Pacific Mines in 1900, indicating that he was financially comfortable. The corporate account of the Rambler and Sugro’s account will be considered in conjunction.

Figure 5.3: Rambler Company (left) and Sugro (right) food purchase totals.

The foods in the corporate account were much less diverse than those of its owner; it primarily consists of potato transactions (Figure 5.3). While there were only
three transactions for these potatoes, one transaction consisted of 200 pounds. Other large
volume purchases on the company account were ham and sugar, a similar trend with
Sugro's account. Together, the total amount of ham and sugar purchased were around
300 pounds for each food item. Only a few pounds of beef were present in Sugro's
account and the only other meat product was a small amount of bacon. Some fresh fruits
and vegetables were purchased by the company, the majority (with the exception of the
potatoes) either dried or canned (Table 5.4). The largest volumes were from Sugro's
account and included over 500 pounds of flour, 271 pounds of sugar, 128 pounds of ham,
and 77 pounds of lard. In addition to these common items he also purchased figs,
horseradish, limes, raspberries, and citrons in small quantities. While the larger purchases
indicate cooking for a large group (the Rambler had also purchased a stove box for
cooking), the unique items were in comparatively small quantities. Perhaps these items
were for personal consumption or for special occasions. Census data in 1910 indicates
that Sugro (spelled Sughroe that year) had married a woman named Alice in 1898
(USDC, BC). Perhaps these unique purchases were related to courtship or his new wife.

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>40.4% (21)</td>
<td>60.3% (32)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fish</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>-</td>
<td>-</td>
<td>100% (40)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Meat</td>
<td>-</td>
<td>-</td>
<td>22.9% (39.25)</td>
<td>-</td>
<td>77.04% (131.75)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>87.36% (332)</td>
<td>12.6% (48)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>12% (4)</td>
<td>48.5% (16)</td>
<td>-</td>
<td>39.4% (13)</td>
</tr>
<tr>
<td>Fish</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>61.9% (72.25)</td>
<td>12.85% (15)</td>
<td>-</td>
<td>25.35% (29.5)</td>
<td>-</td>
</tr>
<tr>
<td>Meat</td>
<td>25.7% (52.25)</td>
<td>0.5% (1)</td>
<td>10.6% (21.5)</td>
<td>-</td>
<td>63.2% (128.25)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>18.9% (15)</td>
<td>80.8% (64)</td>
<td>-</td>
<td>-</td>
<td>0.35% (.25)</td>
</tr>
</tbody>
</table>

Table 5.4: Rambler Company (top) and Sugro (bottom) food preservation.
A large percentage (32.7% of volume, 17.5% of transactions) of Sugro's account is fresh food items, with the exception of ham. While the majority of the vegetable purchases were canned (tomatoes) he purchased the majority of his fruits fresh rather than dried or canned. This may point to greater economic means or access to cold storage. While the Rambler may have played out rather quickly, Sugro was able to re-situate himself and file additional claims.

**George Baker and the Grand Prize**

![Figure 5.4: George Baker food account.](image)

In addition to the substantial food purchases Baker made, which included over 800 pounds of flour and 600 pounds of potatoes (Figure 5.4), he also purchased several thousand feet of fuse and several hundred pounds of powder. The inclusion of industrial products in his personal accounts reveals a blending of personal and corporate purchases in the account bearing his name. His purchases of 12 and 15 dozen eggs in single
transactions also points to his position as a food procurer for a large body of laborers. These large egg transactions also reveal the amount of egg-laying hens from which Moss could collect eggs.

<table>
<thead>
<tr>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>90.7% (190)</td>
<td>9.3% (19.5)</td>
<td>-</td>
</tr>
<tr>
<td>Fish</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>-</td>
<td>-</td>
<td>83.4% (70.34)</td>
<td>16.6% (14)</td>
</tr>
<tr>
<td>Meat</td>
<td>56.65% (361)</td>
<td>-</td>
<td>30.44% (194)</td>
<td>12.9% (82.2)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>93.2% (619)</td>
<td>6.8% (45)</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5.5: George Baker food preservation.

Similar to previous accounts, the large percentage of fresh vegetables is due to the amounts of potatoes. Baker’s meat purchases are the most diverse of the corporate accounts and included bacon, beef, ham, and salt side, reflecting the high amount of fresh meat. Beef purchases totaled several hundred pounds, bought in lots ranging from 19 to 94 pounds. At seven cents per pound, beef was far cheaper than ham at 13 or 14 cents per pound, which may account for Baker’s rather small amount of ham purchases in comparison to other companies. While beef does salt, it does not salt as well as ham, and must be otherwise preserved if not stored cold. Perhaps Baker chose to spend his money on quantity rather than more expensive ham cuts. The salted side would be been well preserved for transport and storage, and was almost half the price of the ham at 10 cents.

Baker did not purchase more “novelty” food items as Sugro did, rather more functional foods such as apricots, apples, peaches, and onions. However, he did purchase baking aids like cinnamon and vanilla extract. His indulgences were in beverages; he purchased higher amounts of tea, including Ceylon and other unidentified green teas, than
any other account in the ledgers. These tea purchases were in addition to the coffee
bought at the store, a popular purchase with companies and individuals alike.

Mine company and mine owner accounts both exhibit several trends: massive
quantities of carbohydrates and starches, large purchases of pork products that could be
kept for the long term, and significant amounts of canned and dried fruits. More exotic
items occurred in far smaller quantities and were likely more special or personal
purchases on the part of the actual shopper. The visible shopper for these companies is
the mine owner, who has made these food choices for the eating group that he was
feeding. This requires the mine owner or representative to be responsible to his laborers
for providing foods, thus creating a bond over the dinner table.

Individual Accounts

In the above company accounts, the only economic consumers identified are
mining management/owners. Not all of the individual account owners could be identified
in the historic records. The following accounts were sampled because their occupation
was known and their accounts contained food items. Many of the accounts consist
entirely of drinks, gum, and candy. The economic relationship between these particular
individuals and Moss was not based on the need to purchase foods or boarding for daily
sustenance; these were binge economy relationships. In addition to providing daily
basics, Moss was also one of the centers of leisure activities. While not the only bar in
town, many of the binge accounts are quite extensive. Shoppers on the corporate
accounts are not identified, although they were likely owners/managers, and all but three

9 For example, Joseph Bush's account consisted of 935 transactions, 729 of which were for alcohol or
unidentified "drinks." While his steady employment is unknown, according to the ledgers he had worked
for the Clemantha (and therefore J.W. Moss) for at least a short stint.
of the individual accounts were male. Two of these individuals may have been the companion account to their husbands', but given the popularity of their surnames (Murphy and Warner) it is impossible to determine which were their husbands. None of the women were concretely identified in the 1900 census. A Mrs. Murphy does appear on that list, but it is not certain if she was the same woman.

R.B. Loomas

While the owner and/or operator of the Crystal Spring and Valley mines, Loomas had no corporate accounts; thus it is not possible to separate his personal purchases from his company purchases. A C.E. Moss was also attached to the Crystal Spring, but his account primarily consists of sock purchases. Many of the items Loomas bought are similar to the choices made by other mine owners, such as fuse (although in much smaller quantities) and hundreds of pounds of flour. The Crystal Spring mine utilized a Huntington mill, which would have required some startup capital to buy and transport the equipment to the site.

Figure 5.5: R.B. Loomas food purchase totals.
Numerous personal items are listed in the account, including some clothing items and a stew pan. Very few cooking implements were sold during the period the ledgers represent, making this purchase a rather remarkable one. This stew pan is one of the few representatives of the act of cooking. Without records for the mine company’s staff, or Loomas’ family composition, it is uncertain who is doing the cooking. Stews are very flexible dishes with many varieties of ingredients, can be left for long periods on low heat, and can be stretched to feed many mouths.

<table>
<thead>
<tr>
<th></th>
<th>Fresh</th>
<th>Canned</th>
<th>Salted</th>
<th>Dried</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dairy</td>
<td>-</td>
<td>10.41% (20.5)</td>
<td>80.2% (158)</td>
<td>-</td>
<td>9.39% (18.5)</td>
</tr>
<tr>
<td>Fish</td>
<td>43.34% (13)</td>
<td>56.67% (17)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Fruit</td>
<td>39.06% (75)</td>
<td>27.08% (52)</td>
<td>-</td>
<td>32.81% (63)</td>
<td>1.04% (2)</td>
</tr>
<tr>
<td>Meat</td>
<td>6.74% (19)</td>
<td>-</td>
<td>59.57% (168)</td>
<td>-</td>
<td>33.69% (95)</td>
</tr>
<tr>
<td>Vegetable</td>
<td>-</td>
<td>100% (59)</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Table 5.6: R.B. Loomas food preservation.

Loomas’ food choices included many of the common ones: flour, sugar, canned milk, large amounts of butter, and bacon (Figure 5.5). All of his meat purchases were pork-based, such as bacon, hams, salt side, and unspecified cuts. Aside from the bacon, these cuts could have been kept for storage. The vegetable and fruit purchases also reflect this; the majority were canned or dried (Table 5.6). Fresh foods included oranges and lemons, bought in lots of dozens or half dozens. Citrus fruits had become vital food sources during the early rush periods in California due to a lack of vitamin C. Many miners traveling to the gold fields and those working claims suffered from a lack of key nutrients, resulting in widespread cases of scurvy (Conlin 1986:69-85). No cases of the disease were recorded at Coloma, but these exotic citrus fruits would have been a tempting, and healthy, luxury.
John Thompson

Thompson was listed on two claims, the Rambler and the Cato, and like Loomas his personal account was merged with his corporate purchases. For work, he bought 1200 feet of blasting fuse and 200 pounds of powder. In addition to the common bulk purchases of flour and sugar (several hundred pounds) Thompson also boarded for a short time with Moss and bought the occasional isolated meal at the boardinghouse (Figure 5.6). The overall volumes are not as large as the previous accounts discussed. This may be due to a shorter tenure in Coloma or a more heavy reliance on Moss’ boardinghouse cook for meals. Aside from ham purchases, the amounts in which Thompson bought foods are not overly large. His food supply does point to at least a small role as a food procurer, if not for himself then for a rather small eating group, and a partial reliance on his part on another to supply his foods.

Richard A. Estee
In 1898, Estee was solely employed as an ore miner (HHKM 1933:22), but in 1895 was reported to be the owner of the only restaurant in town. This establishment had recently been equipped for gas to provide lighting (TSS, 22 Mary 1895:2). By the time the school teacher had arrived, the restaurant had closed. However, Estee opened a saloon "someplace up the Blackfoot" (HHKM 1933:22) after he left Coloma. Estee remained in town after the restaurant closed, appearing in both the 1895 and 1898 ledgers. In addition to his food purchases, Estee was also responsible for buying limited industrial supplies. This suggests that he is more than just a mere wage-laborer once his restaurant had closed; he occupied a place within an outfit that allowed him sufficient purchasing power and responsibility to supply some of the necessary equipment to mine.

Figure 5.7: Richard Estee food purchase totals.

His account at the store does not exhibit a large volume of purchases (Figure 5.7). If his restaurant was open concurrently with his account, then Moss was not his supplier. Estee is unique in that, like Moss, he operated as a food procurer and vendor during part of his life at Coloma. Estee also purchased incidental meals from Moss. Thus, Estee occupies multiple roles within the system of provision at various times, roles that were not
necessarily concurrent. He acted as a procurer, a purchaser of foods in a public household, and a purchaser of foods for a “household” eating group, which may have only included himself.

Wallace Warner

Two business at Coloma, the unnamed meat market and the Teakettle Saloon (Figure 5.8), provided residents with food products that were unrelated to Moss’ business. However, records for them are nonexistent and references to them very few in number. Both the meat market and saloon were open in 1898. The owner of both was Wallace Warner, who shopped at Moss’ store in 1895 and 1898. The Teakettle advertisement lists only more leisure items of consumption and no foods, however, saloons were known to offer free lunches to customers to entice them to enter the establishment and spend their money on alcohol and gambling.

![Teakettle Saloon Advertisement](BMN, 27 January 1898:4)

Warner’s account is not overly large in terms of food items, but he purchased about 150 drinks from Moss’ saloon. He also purchased occasional meals, around 20, at the boardinghouse. What is missing from Warner’s account is meat. This should not be
remarkable given that he owned a meat market for a time, but he did buy approximately 50 pounds of bacon from Moss.

Warner's shopping patterns exhibit even more of an overlap than Estee's. As the owner of a saloon and meat market, Warner should have been able to supply himself with bacon and his own alcohol. Perhaps his transactions with Moss represent a period in which one or both of his businesses were not in operation. Warner's food purchases include both basic staples like flour and more exotic items like salmon, oranges, and one coconut. Warner was practicing a very mixed-medium subsistence pattern, preparing and eating foods within a household, eating in public households, and acting as a distributor of food items for the greater community.

Paul Becker

As discussed in chapter 4, Becker worked as a mine supervisor at the Mammoth during part of the time at Coloma. He relied heavily on canned foods and pork products rather than beef; he purchased approximately 100 pounds of ham (Figure 5.9). His food purchases are not as diverse as other shoppers', and he also fed himself in public households. Becker boarded for at least five months in 1895, also buying extra meals. His food choices reflect both a desire to procure food for himself and to give that responsibility to another in the form of long-term boarding and individual meal purchase.
Charles Wassenburg

The tailor's purchase of almost 20% of the entirety of coconuts in 1898 is not the sole remarkable aspect to his account. He also had considerable freighting charges with Moss, and he hired wagons and horses from Moss to move himself and his family to Garnet and back. In addition to the coconuts, Wassenburg also bought citrons, herring, melons, and canned lobster (Figure 5.10). The only meat, outside of seafood, was a single purchase of 8 pounds of bacon. These food choices may indicate that the Wassenburg family was adhering to Jewish food taboos (Glasser, pers. comm. 2011), given his occupation and the countries of origin for himself and his wife. Wassenburg also purchased citrons, a fruit that plays a key role in Sukkot. Because there are no dates in his account, it is impossible to definitively connect these citrons to this Jewish tradition. Wassenburg was only one of two individuals who purchased citrons; the other was Sugro.

If the Wassenburg family were Jewish, they represented a growing trend within Jewish families of moving away from traditional practices within their households.
Excavations at the Block House site in Washington, Arkansas, a mid-eighteenth century Jewish household on the Arkansas frontier, yielded a faunal assemblage with large percentages of traditionally forbidden foods, such as pork and catfish (Stewart-Abernathy and Ruff 1989, Markus 2012). David Markus (2012) has hypothesized that the appearance of non-kosher foods in the domestic refuse of the Block House may have been due to the family's isolation from Jewish institutions or outside social forces to fit in with their neighbors. The Wassenburgs may have been responding to similar pressures fifty years later on the Montana frontier; while rarer fruits such as citrons may have been available, kosher butchers may not.

![Figure 5.10: Wassenburg’s food purchases.](image)

Wassenburg did rely on the Miner's Cash Store for basic cooking essentials such as flour, sugar, and salt. He purchased a considerable amount of potatoes, almost 300 pounds. The rather low amounts of food items that would have been paired with this starch point to a
potentially monotonous diet heavy in carbohydrates and starches. His choice of the occasional exotic item may have been a reflection of this more bland daily routine.

Female Shoppers

Only three female shoppers appear in the ledgers, the only other references to women are the “13 ladies” and a purchase of “paper nudes.” These three accounts are not very extensive, they are some of the smallest within the ledgers, and all are married or widows. The smallest account is Mrs. Mruin (Figure 5.11), consisting of only 11 items and three dozen eggs. No other historical documentation for her exists, nor is there a Mr. Mruin in the ledgers.

Figure 5.11: Mrs. Mruin’s (top left), Mrs. Murphy’s (top right) and Mrs. Warner’s (bottom) food purchases.
The other two women had surnames that were very popular at Coloma, and therefore their partners cannot be accurately identified. Mrs. Warner purchased mostly eggs and butter, but also purchased small amounts of rum and unidentified drinks. Rum can be used medicinally and for flavoring in cooking, but it could also reflect hers or her family’s drinking habits. Mrs. Murphy has the most extensive account. Her purchases reflect the general pattern of basic carbohydrates and starches with flour and potatoes, but with only small amounts of meats and butter. The fruits and vegetables she purchased were preserved, either canned or dried, with the exception of the potatoes. Non-food purchases included household items such as soap, duck cloth, and thread.

The accounts held by women do not include industrial items and are dominated by food items. The only kitchen item in these three accounts is a single dish pan purchased by Mrs. Murphy.

**Summary**

Shopping in Coloma appears to have been a male dominated activity; with only three accounts attributable to women, it is difficult to see women in a highly active purchasing role. However, it is possible that married women made purchases under a husband’s account and the three accounts listed under female names represent female-headed households. All of the accounts exhibit a similar pattern of large quantities, relative to their responsibility as a food procurer, of carbohydrates and starches. These basic food items, bread and potato dishes, formed the backbone of meals prepared in these households.
Because Moss (or his bookkeeper) did not date all of the transactions in the ledgers, it is impossible to accurately assess for seasonal purchases or construct a framework of product availability. Many shoppers purchased luxury items such as fresh fruits that would have had to be picked during season and moved quickly to Coloma so as not to spoil before purchase. Rarer fruits included citrons and raspberries, and several account holders purchased oranges, lemons, and limes, which would have been shipped from more tropical climates. Shoppers with access to greater economic means bought exotic items such as these citrons and teas. However, exotic purchases were not limited to those making fortunes in the mining business; Wassenburg’s shopping choices may point to religious values that he and his family followed.

Shoppers articulated with the larger food provisioning network through their economic transactions at the Miner’s Cash Store. Just as Moss was the bridge between these shoppers and the larger networks, so too were these shoppers a procurement bridge with their own families and commensal communities. Through examining these accounts I have identified those persons taking part in these economic transactions. I also identified those who are not taking part in these shopping activities, or, those persons who do shop, but are subsumed under other account names and are thus now invisible in the historic record. Instead, company names and owners appear at the top of account records and become the visible face of economic consumption of food products.

The presence of companies, not laborers, in the account books indicates two key elements of labor relations: the presence of some iteration of managerial capitalism and a certain degree of responsibility for worker health. When the company became the shopper, it deprived the individual laborers of the choice of foods they were to consume.
on a daily basis. This placed a tremendous degree of control in the hands of the companies. What is not visible in the material remains and historical records is if the workers had an active voice in the selection of foods. Did they loudly request that the cooks no longer prepare dried apple pies? Did the workers get tired of beef every day and desire a change? There is no evidence to speak to these questions. What there is evidence for is this responsibility on the part of the company to purchase foods and subsequently prepare and distribute meals to their employees, thereby indicating a hierarchical social structure based on food distribution. These meals, and meals served in non-company controlled boardinghouses, were symbolic expressions of a type of political power structure, often derived from the concepts behind managerial capitalism.
Chapter 6: Commensal Politicking

After the individual responsible for purchasing food returned from the Moss store the items were brought into household contexts to be stored and prepared for serving. These shoppers created a bridge between the individual meal consumers and the main food distribution center, just as Moss served as an intermediary between his customers and the wider food distribution networks. Coloma, like other industrialized settlements, had family-based households and households created by economic relationships - in particular, boardinghouses. The primary function of the boardinghouse was to provide two basic needs to customers: shelter and food. However, in the American West, the definition of the boardinghouse was fluid and often meant only a place to eat, not necessarily to sleep (Conlin 1986:160,169). The relationships created between boarders and boardinghouse keepers were economic ones in which money was exchanged for prepared foods. This may appear to be an indifferent and detached type of relationship, a sort of opposing binary when compared to the bonds created in family-defined households. However, the acts of food distribution and service, the sharing of meals, within these economic households did create relationships that could reinforce group solidarity as well as affirm social hierarchies.

The previous chapter explained how the types and amounts of foods purchased by particular shoppers could point to the size of the groups that were consuming these products. This chapter will explore the different types of households and communal meal settings that were present at Coloma. The amounts and types of foods entering the household can provide insight on the intra-household social bonds. While communal dining creates and reinforces social ties amongst diners, the relationship between food
procurer and food consumer differed amongst household types. This relationship could reinforce familial bonds or reinforce social hierarchies and labor solidarity, much in same way feasting does (see Dietler and Hayden 2001) in non-capitalist societies. While many characteristics of company boardinghouse meals do not conform to the definitions of feasts (i.e Dietler and Hayden 2001:3,9; Hayden and Villeneuve 2011:441), the concept of feasting can be used as a point of departure to suggest a new way of problematizing company meals.

**Boardinghouses in Industrial Communities**

A boardinghouse is a unique type of household, one that is not typically based upon kin or marriage relations. A household often consists of a nuclear family, sometimes with additional extended family members or married offspring, within which individuals share tasks (Blanton 1994:5). The space of the household also forms a “minimal social unit that allowed certain basic personal and social needs to be filled, including economic production and the reproduction of people and institutions” (Hendon 2004:273). The household is also the primary unit through which individuals socialize with broader social networks (Wallerstein 2004:37).

Within a household, the sharing of food is considered to be a key aspect of economic cooperation amongst household members. Archaeologically, this can be observed in material remains such as communal hearths, centralized cooking locations and communal dining areas. The process of giving and receiving of food within the household social structure establishes and re-emphasizes the social bonds amongst the members (Souvatzi 2008:16). It is this social act, and its significance within the economic relationships between members of
the household, or commensal community (Dietler 2001:275), that occupies multiple roles of procurement, distribution, preparation and consumption within the system of provision. The sharing of meals is a more micro-scale perspective of the interaction of consumers with larger food systems. This interaction establishes social bonds between employers, in the case of the labor-group commensal group, or with a boardinghouse keeper, head of household, or familial unit. While an individual meal consumer may not directly participate in the economic consumption of food items, they participate in this larger process through the receiving of food from their procurer.

Broadly, a household is a social unit that participates in the activities of production, distribution, and consumption. Examining the interactions amongst the members, such as shared daily practices in this context the act of communal meals can educe the social bonds generated by the occupants (Souvatzi 2008:10). Defining the appearance of a household in an industrialized context, and specifically within a mining context, is central to the question of the types of groups with which individuals consumed meals while living in Coloma. The contexts of boardinghouses, restaurants, and other households need to be defined within mining communities in order to explore the types of social relationships constructed amongst mine laborers, their employers and other residents of Coloma.

Wendy Gamber’s research revealed two main types of boardinghouses in the mid to late nineteenth century: single family households with one or two boarders and larger houses that offered many rooms with regular meals (2007:3-8). Some of these larger houses offered day boarding, a system in which individuals had meal plans only and slept elsewhere. Meals in larger boardinghouses were served at a common table in which customers were served or could serve themselves from larger serving vessels onto their
individual plates. Mrozowski et al. (1996) noted this type of service at the Lowell boardinghouses. Foods were brought into dining areas from the kitchen in larger serving platters and bowls. Boarders could then serve themselves in the "family-style," taking servings themselves from central platters using communal utensils. Zooarchaeological data from the Lowell excavations demonstrated that meat, predominantly beef, was an important part of the diet as were soups and potatoes (Landon 1987). The cuts of beef were not just lower cost selections suitable for large economizing roasts and soups; more expensive cuts were also observed in midden contexts (Mrozowski et al. 1996:50-63).

If one were to read nineteenth-century newspapers, magazines, and fiction that discussed boardinghouses, evidence for higher priced and tastier dishes would be nonexistent; of all the boardinghouses problems enumerated in publications, none was more frequently noted than the supposed poor quality of the food. The quality of boardinghouse meals was juxtaposed with meals found in family households. Gamber, however, has hypothesized that boardinghouse cooking may have been reported to be bad simply because those meals were produced in boardinghouses (2007:80).

Cooking meals in boardinghouses was a difficult task in that keepers were responsible for large groups. Cooks preferred dishes that were slow-cooking, such as roasts and soups, that could be left to cook while other tasks could be finished. The preparation of meals was not normally found in the economic sphere; it was a domestic task, or reproductive labor (Johnson 2000:101). When female entrepreneurs in boardinghouses and restaurants moved the preparation and service of meals into the economic sphere, they transformed reproductive labor to productive labor. With increasing urbanization and industrialization, the spaces of "home" and "work" became
increasingly distant to the point that they became socially severed as well; the domestic sphere was to provide a safe haven away from the economic sphere. "Boardinghouse keeping directly contradicts this idea because it involved the expansion of labor within the household, in effect merging home and work" (Landon 1989:41).

Gamber found that even if males were listed as boardinghouse owners, women did the work (such as cleaning and cooking). These women could either be the principal boardinghouse keeper or domestic servants. The tasks performed by these women were an expansion of typical domestic work, just on a much larger scale (Gamber 2007:37). Because the occupation was an expansion of women's work, it became socially acceptable to find a woman in this occupation (Landon 1989:42).

While critics of the boardinghouses derided the institutions for supposedly causing the destruction of a healthy domestic life (Gamber 2007:1-7), some residents of boardinghouses saw the relationships with other boarders as a new sort of family. The boardinghouse "often served as a substitute for family life" (Pena and Denmon 2000:820). Some boarding situations were based on kin relations; in-laws, siblings, and other blood relatives often boarded with their relations (Stofer 1997:224). Some Michigan miners who boarded described their relationships with the housekeepers in terms of kin relationships, using the term "family" to describe the household. The managers of one particular house were referred to as "house mother" and "house father" (Stofer 1997:225). Gamber cites the writings of Susan Parsons Brown, a single female boarder in mid-nineteenth century Boston, as an example of how boarders conceived of their fellows as family. Brown did not think it morally questionable to go out of the house in the company of a single male co-boarder, as they were part of "our family at 34""
(Gamber 2007:13). Gamber points out that Brown described the occupants participating in games, parties, and excursions as a household group in the way an extended family would have done (Gamber 2007:14).

Keepers developed affection for their boarders on the Michigan mining frontier, using terms such as “son” to describe the young men that were brought into the household (Stofer 1997:225). Paula Stofer found that the creation of fictive kin ties in the Michigan mining frontier were extremely prevalent amongst British immigrants, as seen in the liberal use of the term “Cousin Jack” to describe individuals newly arrived (1997:225). David Landon asserts that the social acceptability of women running boardinghouses was directly tied to the belief that the boardinghouse provided a surrogate family for the lodgers, with the female boardinghouse keeper in the role as a household mother (1989:42).

Taken together, these examples suggest that the fictive kin relationships formed in many boardinghouse contexts. Evidence from Michigan’s copper mine boardinghouses and Lowell demonstrate that these types of bonds extended into industrial and mining contexts as well. Unlike these examples, most of Coloma’s boardinghouse keepers were male. In only one instance, based on surviving documentation, was this position held by a woman. While documented use of kin terms are absent from Coloma, the above examples suggest that similar types of relationships were possible in boarding contexts.

**Boardinghouses in the Mining West**

Hardesty has characterized households in mining camps of the West as “ephemeral organizations,” which resulted from adaptive strategies to coping with
frontier life (1992:180). He defines three types of households within these camps: family households, mutual aid (non kin-groups that work together on tasks such as chores), and work group households (domestic groups organized around labor) (Hardesty 1991:187-188). Boardinghouses fell into the latter two categories. He observed in many Nevada camps that the boardinghouse consisted of dormitory rooms, dining halls, kitchens, and porches for socializing. The rooms could be constructed as a single large structure or be spread out amongst several structures in a close cluster. In these cases, structures often had single-use purposes, such as a kitchen structure or sleeping structure (Hardesty 1992:189). Similarly to the Lowell boardinghouses, Hardesty found that ceramic assemblages reflected the “family-style” (1992:185) communal eating with large quantities of serving platters and bowls. Hardesty makes a distinction between bunkhouses and boardinghouses, stating that boardinghouses included activities such as the distribution and consumption of food (1992:183).

As with the East and with Michigan, the occupation of boardinghouse keeper was typically held by a woman in the West. With so many men away from their families, women could often make considerable sums of money cooking for hungry miners (Conlin 1986:156-157; Johnson 2000:115-116). In her research at Virginia City, Nevada, Julia Nicoletta observed that men were more often found to be hotel keepers. From 1870 to 1910 women more frequently than men were boardinghouse keepers. She posits that this frames the hotel as a masculine space contrasted with boardinghouses as a domestic and female-influenced space (1998:44-59).

In addition to larger households with multiple boarders, families in many communities took in one or two lodgers to supplement income. Within the coal
communities, jobs outside of the family home were virtually nonexistent for women. In order to earn additional income they provided boarding. Between 1900 and 1910 the numbers of boarders in heterosocial households in Berwind, Colorado, increased from 14 to 45 percent (Wood 2004:220 Fig. 12.4). This demonstrated that there was an increasing reliance on this type of income to supplement wages earned in mining.

While both meals and lodging could be found at a boardinghouse, some inhabitants of the mining camps chose to eat in locations separate from where they slept. Other options included eating-houses, saloons, public restaurants, and boarding restaurants (Conlin 1986:148,153). Dining outside of the home was a popular activity in mining camps. Saloons and eating houses provided exotic foods and beverages and created a “binge economy” (Wilk 2003:13) ready to mine the miners. Boarding restaurants and public restaurants provided foods on long-term contracts and sometimes on an as-needed basis. Saloons also could be a location for dining out; many offered free lunches to entice customers to drink and gamble more. While many establishments advertised refined or “fancy” cuisine, most miners were typically concerned with quantity rather than quality (Conlin 1986:167,178).

Boarding in the East and the West had both similarities and differences. In both, keepers were predominantly women, but in the West boarding did not always signal a place to sleep, it more often meant solely meals. Boardinghouses could also be woven into the practice of managerial capitalism. In addition to company boarding, workers could board with individual families, much in the same way families took in boarders in Michigan. The boardinghouse is therefore a dialectical quandary; were they spaces for
alienation or familial relationships? Under paternalistic schemes, could they be one in the same by extending the "paternalistic" metaphor? The following discussion will detail the different types of households that existed at Coloma. Each household formed a particular type of commensal community. Depending upon the social and political structure of these households, meal times could express various solidarity and alienating relationships centered on food service and consumption.

**Households at Coloma**

Because Coloma was composed of many companies within a single town, there were numerous housing options available. In addition to private family houses, there were at least one hotel, two boardinghouses and a number of private households that took in boarders (BMN 27 January 1898:3). Census data and primary accounts identify several households of nuclear families and households of single people, sometimes with children, who boarded laborers (USCD, BC 1900). In addition to the three known "public" households, the boardinghouses and hotel, there is a possible fourth public household. The 1900 census lists Amanda Rogers as a hotel keeper with a substantial list of lodgers (USDC, BC). Considering the small number of people in Coloma that year (57), and that Moss was the only known owner in residence, the only mine in substantial operation was likely the East Mammoth. However, other mines owned by Moss, such as the Clemantha, may have also been in operation. Rogers may have been the manager of the boarding services Moss offered, but the extant documentation cannot confirm this.

The family-based households represent a type of commensal community. These groups were primarily based on kinship ties and did not require large quantities of foods
to sustain the household population. They represent a different scale of household food distribution and can be seen as a foil to the larger boardinghouses, more removed from the managerial and paternalistic forces driving the mining industry. Non-kin based small households also did not require large quantities of food, but occupied a space between family housing and company housing.

**Family Households**

The 1900 census lists four households that consisted solely of nuclear or extended blood-related family units. These included the Moss household, and three others that consisted of a married couple with one or more children. In all households, the male head was listed as a miner. The Moss home is the only one to include extended kin members: Mary and Thomas Shankiller, a niece and nephew. Thomas was a miner and Mary a housekeeper. Mary Moss provided no occupation, thus implying that Mary Shankiller was the Moss’ housekeeper.

The Wassenburg family had left Coloma by the time of 1900 census, but their household was described by Hanson Kimball. The household consisted of Wassenburg, his wife and their two daughters. Wassenburg’s purchases at the Miner’s Cash Store, discussed in the previous chapter, are not as large in volume as those of company owners, thus providing a frame of reference for the eating group sizes when considering the company accounts. The Wassenburg family ate a diet high in starches and carbohydrates supplemented by a few flavorful exotics such as melons. Charles Wassenburg purchased dietary staples like flour and potatoes in large amounts. His account was almost entirely without meat; there was only one purchase of bacon and the remaining protein purchases
were for fish only. Was this bacon meant for the Wassenburg household, or for someone else? Very little meat from Moss’ store entered this household. The lack of meat coupled with the purchase of citrons suggests that the Wassenburgs may have been a Jewish household keeping kosher.

*Other Small Households*

Two households enumerated in 1900 were homosocial, consisting of only male ore miners. One was headed by William Ross and also included four boarders. It is unknown who lived in his house during the time periods represented by the ledgers. His account purchases of basic food supplies indicate that he was doing his own cooking. Similar to the mining companies and family households, Ross purchased large numbers of potatoes, including one sale for 155 pounds. He also bought large quantities of baking products supplemented with several bottles of extracts, one of which was identified as lemon extract. Notable in his account are two purchases of “salt side,” one at 12 and another at 26 pounds. These meats could have fed his household over a long stretch and would have kept moderately well. Ross’ account is reflective of a year that was not represented in the census. Therefore, it is unknown if he still housed boarders in 1898. Ross purchased few household items besides matches, a broom, and a teapot. His account reflects a household made up of more than himself and represents a domestic arrangement between as many as five male miners in which one prepared food for the others.

The other all-male household in the census is the Bliss family: a father, son and one boarder, all miners. A third homosocial household was identified by Hanson
Kimball. Chester Pray and Daniel Morgan lived together, though where she does not specify, and often fought. How these two groups obtained food is unknown.

_Hotels_

The 1900 census lists only “hotel.” The Chamberlain’s establishment, however, is not the hotel listed, despite Hanson Kimball’s description of the business as such. The census enumerated only two boarders, in addition to the Chamberlain family, as residents of the Chamberlain House. Given the vast number of meals purchased by Chamberlain (including “school marm board”), it is unlikely that this was a boardinghouse. The hotel in the census was operated, if not owned by, Amanda Rogers (USDC, BC 1900). Rogers was listed as the head of a household that included her four children: Alfred, Alexander, Mable, and Ella. Both sons listed their occupation as teamster. Her married daughter, Ella Goro, was employed as a dressmaker and her husband Warren as a miner. The youngest daughter, Mable, was a housekeeper, indicating that she aided her mother in keeping the hotel. While the census listed the establishment as a hotel, the fact that the Chamberlain’s hotel was not identified as such may indicate that there was leeway in the vocabulary. In 1900, Moss’ mines would still have been in operation; the Mammoth was likely closed down at the time. Rogers’ hotel may be the bunkhouse, and also possibly the boardinghouse, connected to his mining enterprises.

In addition to Rogers’ immediate family, she housed 15 boarders within the structure, two of which were teenage boys still in school. These boys were under the care

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10 The 1900 census incorrectly lists Amanda Rogers’ age as 33. Her children are listed as being of similar age. Rogers is counted as a member of her son-in-law’s household, Warren Goro, in 1910 and her age is listed as 66, meaning that she was 56 at the time of the 1900 census (USDC, BC).
of their fathers as there were no female boarders. Ten of the residents worked as miners; the remaining were a blacksmith, a bartender, and a teamster. The only women in the house were from the Rogers family. Amanda Rogers is also listed as having an occupation normally observed to be held by men. These employment situations may be a reflection of the relative lack of people available for jobs, or that Rogers' hotel is actually a boardinghouse of some type.

With no boardinghouse keeper or cook identified in the census, it is very likely that this hotel operated more like a boardinghouse and provided food. This large household represented a relatively large commensal community. Rogers may have been seen as a type of "house mother," similar to some of the female keepers at the Michigan mines. Even with her own family within the household, the male boarders could have become incorporated into an extended family structure. These potential ties would have been strengthened with providing food and meals. If this "hotel" was Moss' boardinghouse, then this household was incorporated into the managerial system and part of Moss' small empire.

**Boarding with J.W. Moss**

The East Mammoth and/or Clemantha boardinghouse and bunkhouse were located in close proximity to the East Mammoth adit, the Miner's Cash Store buildings, and the Moss' home (see Figure 3.4). From the descriptions of Mary Moss by Hanson Kimball, it seems unlikely that she was the keeper or cook for her husband's employees. Because John Moss, employed as an ore miner according to the census, was identified as
a saloon keeper (HHKM 1933:23), he may not have had a direct day-to-day involvement with the boardinghouse.

In addition to his roles as company owner and store owner, Moss also ran a boardinghouse. In this capacity he offered food for any person, not solely his own employees. Many of the purchasers of meals in his boardinghouse (perhaps more appropriately called a boarding restaurant) were owners and employees of other companies or other businessmen. The addition of this enterprise places Moss in an even stronger position of power within the provisioning system. He not only practiced paternalistic management, but also offered variety and choice with his store and public dining table. Moss' boarding restaurant occupied a transition between family dining and company dining, a flexible and dualistic space that was steeped in managerial capitalism while at the same time offering freedom and choice to consumers within the community.

A total of 39 individuals held boarding accounts with Moss in his 1895 and 1898 ledgers (Figure 6.1). Many of these individuals could have been his employees housed at the bunkhouse near the mine. However, the employment statuses of these men were not listed and most do not appear on the 1900 census record. Twenty-nine of the boarders had only one case of purchase; nine of the remaining accounts have multiple boarding contracts. While not always stipulated, the majority of these cases were for monthly blocks of boarding, appearing as "May board" or "February board."

Some of the individuals with multiple transactions have been identified, but six remain unidentified. The three identifiable men were either mine owners or shareholders: Charles Boggs (co-owner of the Rambler), George McAdams (co-owner of the I.X.L.), and J.S. Chamberlain.
Chamberlain’s account lists only one transaction for his personal board; the other three boarding transactions on his account are for other individuals, including a “school marm.” Instead of boarding on a permanent basis, Chamberlain’s account is a very long list of individual meals purchased separately, implying a more casual purchase of meals rather than block plans. His account totaled 512 individual meal purchases. These other boarders for whom Chamberlain was financially responsible may have been his lodgers, the residents at his hotel. In 1900 he housed two ore miners (Allen Saunders and Roy Earl) and his family, comprising his wife and their five children. These transactions identify an economic relationship between Chamberlain and Moss over the regular meals fed to Chamberlain’s guests. This, once again, places Moss in a position of centrality in regards to meals.

McAdams boarded with Moss for at least six months. His other transactions at the store included limited food purchases, alcohol, tobacco, and clothing items. While the I.X.L. was never formally surveyed, the location of its shaft house within the center of town places the company employees within the center of available food and meal vendors. McAdams’ company had no separate account at the store, and there are no extant records outside of the mineral inspector’s notes from 1898. The inspector indicated
that a workman, Phil Hoffman, received a non-fatal injury when a whim break failed, resulting in a compound fracture of his leg (Byrne and Hunter 1899:32). Of these three mine management accounts, Charles Boggs’ is the smallest at three months of boarding. His account and his company’s, the Rambler, will be discussed below.

Many of the single-contract boarders have been identified. These men include Louie Strah (wagoneer), Paul Becker (mining supervisor), and Charles Harvey, the Mammoth’s cook. These men purchased meals on a case by case basis, demonstrating the many options available for purchase from Moss’ boarding establishment. The boarders did not need to be in his employ and did not have to purchase meals on a block plan. These haphazard meal purchases represent a decision to add variety to meal consumption. They were also a supplement to meals eaten within family or primary household spaces. For men like Strah, Moss offered a convenience while on the road that was easily accessible.

On of the more notable instances of boarding are the unidentified group of “13 Ladies.” This group is unique in that nearly all of his other boarders, with the exception of the school teacher Chamberlain housed, were male. Hanson Kimball made reference to prostitutes in town (1933:23), but did not state how many there were in total. However, it should not be assumed that this group of women, because they are single, worked as prostitutes. This accounting of 13 women boarding as a group suggests that Moss may have been expanding his enterprises to include dancing girls, waitresses, or possibly a brothel.

Moss neither indicated who ran the day-to-day workings of his boardinghouse, nor did he identify the cook. However, considering the people known to be living in
Coloma in 1900, and the fact that Moss operated a boardinghouse and bunkhouse, it is very possible that Rogers' hotel was connected to Moss' mining operations.

**Informal Boarding**

Moss' ledgers also accounted for the occasional meal, or extra meals for those with boarding contracts, for residents of Coloma. A total of 67 different individuals, all male, took the occasional meal at Moss' boardinghouse. The most frequent diner was J.S. Chamberlain, with over 500 individual meals purchased. Other large meal accounts were Webb Martin (155), Mr. Whitward (80), Nick Gedell (65), and James Grace (61). The majority of the casual diners are known in name only. However, familiar names from the block plan boarder list, such as Louie Strah and Paul Becker, appear on the casual meal list as well. Some of these transactions were listed as "extra meals," presumably in addition to the ones already paid for in their monthly boarding arrangements.

The frequency with which men dined informally at Moss' public table indicates that there was a constant offer of a meal at this establishment. The flexibility of these arrangements means that those men who had boarding plans would have been eating from the same kitchen, and likely the same table, as the informal diners. This would have diversified the company at meal times. Was this boardinghouse one in the same with Moss' saloon operation, Coloma's Resort? The large quantity of beverages tallied in the ledgers suggests that drinking figured heavily into operations of the boarding restaurant. If Moss' saloon was the same space as the public restaurant, then the binge aspect of his enterprises were one in the same with his basic provision of meals.
The Undetermined Boardinghouse

The number of artifacts and the types of ceramics observed indicate that Feature 172 was the midden of a boardinghouse that supported a fairly substantial commensal community. The datable artifacts found within it date the midden to sometime during Coloma's initial boom period (see Table 4.1). Its distance from identified structures is great enough to suggest that refuse disposal, at least by this household, followed Progressive Era ideals about cleanliness and hygiene. Because of this distance, it is not possible to group this midden with any of the known households; however, the assemblage points to a group of individuals consuming food together. This midden may represent a company or private boardinghouse; therefore it is difficult to place it within the spectrum of paternalism.

Figure 6.2: A sample of saucers from Feature 172.

The ceramic assemblage of durable, inexpensive ironstones was not uncommon for the period. The inclusion of so many hotel wares suggests that the owner of the items was attempting to create a substantial set of semi-matched dishes for a boarding context.
The forms present also point to a boardinghouse; high percentages of flat forms and serving dishes are similar to those recovered from the Boott Mills boardinghouse middens (Mrozowski et al.1996:50-63). What is strikingly different is the high percentage of saucer fragments (Figure 6.2) in Feature 172, representing 32% of the total identifiable forms. This high percentage becomes remarkable when compared to the overall lack of teacups, mugs, or other ceramic drinking vessels within the feature. This poses the question as to whether this eating group engaged in frequent tea drinking or these flat forms were used for another purposes during meals.

Figure 6.3: Beef (left) and pork (right) cuts observed from faunal remains in Feature 172. Cuts are ranked from top to bottom from to highest price to lowest price.

Large portions of the faunal assemblage also included cuts that indicate dishes that could be easily prepared for larger commensal groups. The highest percentage of butchering units from both cow and pig remains were from ribs (Figure 6.3). These are high cost cuts for beef as well as pork (Schulz and Gust 1983a:48 Fig. 1).11 These cuts, which could serve larger groups, could be split into individual rib portions and cooked as roasts that could be left unattended to cook. Similarly, a large portion of the beef remains

11 Relative cost for pork cuts were calculated using retail prices available from 1890-1927. See chapter 7 for greater detail.
were shank cuts, often used to flavor stews, an easy dish to prepare for a large group. Whole hams could also be served to many people, sometimes over several meals depending upon the size of the group.

In addition to these dishes that easily served many, the feature also exhibited high portions of beef cuts from steaks, high quality dishes that were served to one person. These could have been prepared for special dinners, such as holidays, or served to higher ranking individuals within the meal group. These cuts indicate that there were instances of feasts, or marked meals, at the boardinghouse. Such special occasions could include holidays like Christmas and Easter, or more specialized festivals such as Union days. They could also be indicative of socioeconomic hierarchies within the dining room; individuals occupying positions of power within the corporate or household structure could have received better portions or dishes that required more attention. More expensive cuts, regardless of the circumstance in which the keeper served them, point to a household with some economic means. Steaks and other high-cost meat cuts suggest that some form of differentiation or specialized status occurred in daily meals. Some aspects of anthropological discussions of feasts are useful in framing these potentially politicized dishes and meals.

The Company Feast

The meals served within company boardinghouses were large and required tremendous planning on the part of the cooks and the shoppers. These communal meals happened daily with miners sitting at a company table, under a company roof, and fed by a company cook; as such, they were an integral part of the managerial capitalist practices
enacted by several of the companies at Coloma. There were several versions of the
commensal politics created through managerial capitalism, ranging from structured
boarding arrangements to less well-defined dining areas.

A possible way of conceptualizing these meals is to consider the ways in which
feasting has been used to explicate power and social relationships. Michael Dietler and
Brian Hayden define a feast as the communal consumption of food and drink in a
marked, or ritual, context that is otherwise distinct from daily dining activities (2001:3,9;
Hayden and Villeneuve 2011:441). The feasting event brings people together and
reinforces community ties while simultaneously highlighting social inequalities (Dietler
2001:68-69; Perodie 2001:190). Dietler states that feasts create relationships of
reciprocity. However, “these are relations of reciprocal obligation that simultaneously
serve to create and define differences in status. The relationship of giver to receiver, or
host to guest, translates into a relationship of social superiority and inferiority unless and
until the equivalent can be returned” (Dietler 2001:74).

In the context of a company boardinghouse, such as those at Coloma, the laborers
cannot reciprocate in kind. If the miners at Coloma were not wage-laborers, this type of
commensal politicking could be classed as a work mobilization feast. In this context,
wealthy controllers of surplus attract volunteer laborers with the promise of high quality
food and drink. The work exchanged for this feast would not be a continuous, on-going
project, but a finite labor task (Dietler and Herbich 2001:240-243). Indeed, Dietler is very
specific in separating these work-feasts from wage labor: “instead, it acts as a form of
symbolic metaproduction, constitution and euphemizing labor exchange and exploitation
in terms of the basic commensal unit” (Dietler 2003:278). This implies that when
monetary exchange for labor enters the social relationship, a work-feast, as Dietler defined it, is no longer truly possible. Instead, I argue that Dietler’s definitions of labor mobilization feasts can be used as a point of departure for how these same types of communal meal events occurred within capitalistic labor contexts.

In Butte, Montana’s bastion of copper production, the Anaconda company sponsored sports teams and leagues. The company also subsidized the Columbia Gardens, a community park given to the city by W.A. Clark, one of the original copper kings. Anaconda used the space to host company social events such as Miner’s Union Day. These events would have created both worker solidarity and presented a benevolent and supportive vision of their employers, as evidenced in this generosity. To demonstrate its support of healthy family life, Anaconda also sponsored children’s Halloween and Christmas parties. The Butte community protested Anaconda’s plan to exploit veins that ran under the Columbia Gardens. The park burned under mysterious circumstances and Anaconda removed the resources (Finn 1998:102-104). The staging of community events that combined both demonstrations of mining skill and communal feasting demonstrates how work-feasts still operate within wage labor systems. During the time of extreme labor strife in the late nineteenth and early twentieth centuries, company sponsored feasts would have been a useful tool for promoting company loyalty and appreciation. Instead of attracting labor, these types of feasts were held to retain labor; company picnics would have promoted company loyalty and positive attitudes towards employers.

This type of capitalist feasting could also be considered what Dietler terms “patron-role” feasting. In this context, social hierarchies are legitimized through the repetition of the giving of feasts but also the knowledge that the “favor” can never be
returned. In creating a feasting population that is repeatedly invited to the table, the patron defines “a single ‘consumption-community’” (Dietler 2001:94) or “‘commensal community’” (Dietler 2003:275) to whom these social hierarchies and asymmetrical exchanges are expressed. The patron-role category seems appropriate for Coloma and similar communities; however, the meals provided by companies such as the Mammoth were a daily occurrence and associated with ongoing, rather than punctuated, labor.

While the concept of the “feast” is a useful point of departure, the daily communal meals at company boardinghouses fail to meet the requirements to classify these meals as feasts: they are daily activities, are associated with continuous labor, and are not marked or ritualized events. But these quotidian and repetitive meals were still deeply enmeshed within the corporate paternalist structure. Indeed, the fact that the company provided these men with their daily sustenance is evidence of the infantilizing practices highlighted by Pappas (2004), even if it was meant as a benevolent gesture. The expression of power hierarchies has most often been discussed in terms of conflict and violence (e.g. Hardesty 1998a; Larkin and McGuire 2009). In a period often characterized by labor strife and violence, the fact that there are no recorded strikes or worker resistance at Coloma is notable given that the largest company was constantly in debt and shutting down production. Perhaps there is no record of conflict because news of it was quieted and not reported- or simply that there was none. This may be evidence that the corporate paternalism of larger companies like the Mammoth were benevolent enough that labor conflict was not considered.

Meals taken at the Mammoth and East Mammoth boardinghouses were mundane events, occurring every day. But these routine meals were no less politically charged than
Dietler’s patron-role and work-mobilization feasts. Instead, the desired effect of these non-capitalist feasts, productive labor, became institutionalized. In requiring laborers to move to isolated places, company owners also offered foods to offset this potential hardship. A good boardinghouse would likely attract more workers than the absence of one. The promise of wages was expected, but a daily supply of food was an added bonus. The gift of the meal at Coloma was a daily given, the patron-role feast transformed to a doxic (Bourdieu 1977:164-168) event rather than a marked one. However, food was still used as a political tool. Because of the drastic differences in modes of production between a mining community and the societies that Dietler, and others, studied, different vocabulary to describe these politicized meals is required. Within this commensal capitalism, these mundane meals were in reality politically charged. In a way they have become doxic feasts. This oxymoron draws together both the paternalistic structures and ideologies behind each meal as it expresses the almost banality of how these meals were served.

**Company Boardinghouses**

If the boardinghouse connected to Feature 172 was company owned, the meat cuts represented by the faunal remains point to feasting events and/or hierarchical meal service. Moss rarely differentiated the types of meals served in his public restaurant. Each meal (or “extra meal”) cost between 35 and 55 cents. On only three occasions was the meal identified as lunch or dinner. Moss’ meals were remarkably unmarked, at least on paper, in that it appears that each was of relatively the same quality. Both mine owners
and other personnel ate meals costing 35 cents, indicating that this may have been a rather equalizing table.

*The Mammoth Mill Boardinghouse*

![Image of industrial structures and the Mammoth Mill](figure64.jpg)

Figure 6.4: Industrial structures identified by the GLO (USDI, GLO:1894b) and the Mammoth Mill after logging activities (photo by author, 2007).

The 1894 GLO survey described two structures on the Mill claim to house and feed laborers: a 14’x26’ log bunkhouse and an 18’x23’ log boardinghouse (Figure 6.4). This distinction indicates that the sleeping and cooking/eating spaces were separate structures, although closely situated. The linguistic distinction also shows that “boardinghouse” within a Coloma context was similar to Conlin’s definition: a location to eat. Unfortunately, no trace of either structure has survived above ground and
subsurface excavations were not possible. An informal metal detector survey of the area, in conjunction with a very diffuse surface scatter of ceramics, indicate that a boardinghouse midden may exist close to the current location of the creek.

The Mammoth purchased significant quantities of sugar, eggs, and flour (Figure 6.5). Other large purchases included butter, cabbage, ham, and canned milk. Very few fruits were bought and were limited to raisins, showing that this was a high carbohydrate diet with supplements that had long shelf lives.

![Figure 6.5: Food purchases by the Mammoth company at Moss' store.](image)

The Mammoth company, and its later incarnations, employed cooks to feed its mill labor force. All of the identified cooks were men: Charles Harvey, John Hughes, and Nic Thienes. Harvey and Hughes were employed over the same years, Hughes as the night cook, at the Mill boardinghouse. Hanson Kimball described Harvey as a "picturesque character" (1933:22). He was rumored to have been a chef in New Orleans,
but had lost his position due to drinking and gambling. His career change was described as an enforced move because of his vices, reflecting the contemporary perspectives on boardinghouses: that it was not a respectable position for a man. After leaving Coloma he was rumored to have gone to Alaska and made $75,000 on a claim (HHKM 1933:21-22). Harvey kept an account with Moss and the majority of his transactions were for drinks. He also purchased 17 meals at Moss’ boardinghouse, but very few in comparison to his 198 drink transactions. His other purchases included cigars, a pipe, tobacco, and clothing sundries. Harvey was therefore not purchasing food for the boardinghouse under his own name and kept his personal transactions separate from his employment. His ability to purchase meals elsewhere indicates that he had some flexibility on where he could eat when given the opportunity.

Harvey’s co-worker was the night cook, John Hughes. The presence of a night cook indicates that the mill ran shifts 24 hours a day, and was likely responsible for preparing baked goods for the next shift. Hughes also maintained an account at the store, but it was small with only six beverage transactions.

Work at the Mammoth properties was inconsistent and laborers, as well as the boardinghouse staff, may have left or been laid off in the interim. In 1906 Harvey was no longer the cook; Nic Thienes had been hired to run the boardinghouse. References to Thienes in the Garnet newspaper imply that he had been a resident in that town before moving over to the Mammoth (PCC, 21 July 1906:5).

Most of the foods bought by the Mammoth (see Figure 6.5) were basic starches and carbohydrates. The majority of the fruits and vegetables were either long-lasting, canned, or easily transformed into dishes with long life spans. Few luxury items were
found within the account. The only higher priced items were pork chops, only two pounds, purchased on two occasions. The basic fare being served at the boardinghouse table would not have included many meals in which hierarchies were expressed in specialized dishes. Instead, everyone eating would have been served similar items. Mine management may have eaten elsewhere.

There are particular aspects of the Mammoth’s daily meals that are similar to feasting. Elements of the patron-role feast were present in that the Mammoth hired a cook to serve food to hungry laborers. This did create an uneven reciprocal arrangement within the wage labor system as well as a single commensal community. Mammoth laborers worked together, slept under the same roof, and ate at the same table. These communal activities would have reinforced worker solidarity and sense of community, especially since they were separated from the main part of town. Within the smaller companies, the provision of meals can be characterized as the same type of benevolent paternalism, albeit on a smaller scale.

**Informal Commensal Capitalism**

This smaller scale corporate paternalism seems far more benevolent than that of the Mammoth; laborers in these companies did not have a boardinghouse or bunkhouse. While these companies purchased large amounts of food, they did not provide additional infrastructure for the care of their laborers. This would have allowed miners the ability to choose where they lived and perhaps how they ate. In these circumstances, meals provided by the company may be more marked than those of the Mammoth as they may not have been a daily reality. However, the archaeological and historical records are not
sufficient to support this argument and the frequency of company sponsored meals at mines such as the A.L. and D.A. and Rambler are unknown.

Figure 6.6: J. W. Moss cooking outside with his daughter (Moss-Peterson Photo Collection, date unknown).

Outside of the formal boardinghouse structures, at least four companies provided foods to their employees: the Rambler, Grand Prize, Reely & Company, and A.L. and D.A. GLO surveys of the Rambler and Grand Prize did not show any company infrastructure dedicated solely to the purpose of preparing and serving foods to employees, such as there was at the Mammoth Mill and East Mammoth. However, that does not exclude the structures identified simply as “cabins” as being multi-purpose buildings that may have included communal dining. Meal consumption and preparation could also have taken place out of doors (Figure 6.6). While temperatures are quite low in the winter, tolerable temperatures exist from June until mid-fall. The large amounts of foods purchased by these companies and company owners indicate that these commensal groups were larger than an average-sized kin based eating group.
One of the small company owners, Charles Boggs, co-owner of the Rambler, spent three months as Moss’ boarder. His account was rather small, consisting almost entirely of tobacco products. However the account for his company consists almost entirely of food, including 10 purchases for bacon or ham at or exceeding 10 pounds. Also amongst the company purchases was a stove box. The small overall size of the account may be attributable to a short occupation of the workings. The other co-owner, T. Sugro, also held an account at the store and the majority of his purchases were food products. Sugro married sometime in 1898 (USDC, BC 1900) and the foods purchased may reflect the expanded size of his personal household. However, his purchases of a total of 550 pounds of flour, 271 pounds of sugar, and 128 pounds of ham (see Figure 5.3) point to a larger eating group than just two mouths. From the amounts purchased, it is clear that the Rambler provided food for a group of individuals and cooked these foods within the company structure.

Similarly, there are two accounts associated with the Grand Prize company: the account of George Baker, the co-owner, and one listed as “Baker and Lowery and Company.” Baker was identified as a co-owner of the Grand Prize through mining claim records (Bowen 2005). Baker’s food purchases were quite diverse and included canned and fresh fruits and vegetables, meats, and approximately 800 pounds of potatoes. Other purchases demonstrate that Baker was not using the account in his name for solely personal purchases, but also for his company; purchases of blast fuse (around 3000 feet), coal, and powder appear alongside food items. Interestingly, he also purchased almost 50 pounds of soap and many pairs of socks.
While only purchasing about 350 pounds of potatoes, Reely & Company also purchased large amounts of baking goods, similar to Sugro and the Rambler accounts. This account was diverse, including vegetables and fruits, but exhibited greater amounts than the other companies for items such as apples, milk, and cheese. No records have been identified to place this company within a particular parcel, nor have any of its workers been identified. The large amounts of ham, bacon, butter, and other products indicate that the company provided group meals. Where these meals were shared within Coloma’s landscape remains unknown.

The largest purchaser of flour was the A.L. and D.A. company. Similarly to Reely & Company, where this company operated is unknown; there are no claims in its name. However, the company was clearly feeding a group of people as it purchased approximately 1000 pounds of flour, in addition to 2000 feet of blasting fuse and large amounts of powder. As did other companies, A.L. and D.A. also bought large quantities of sugar, butter, coffee, lard, and potatoes to feed its employees.

In order to assess if companies, overall, purchased particular food items in consistently larger portions than other commensal groups, the sizes of food purchases were grouped according to account type (Figure 6.7). The purchase sizes of hams were fairly consistent amongst mine owner, company, and individual accounts, indicating that this meat product came in a semi-standard size. However, potato, beef, and apple sales all exhibit a trend in which companies and mine owners purchased these items in far larger quantities than individual account holders. These larger purchases highlight the role of the mine administrators as procurers of food, and thereby heads of industrial “households,” responsible for the feeding of groups of laborers.
Many of the smaller companies at Coloma provided their laborers with some quantity of food items. Without boardinghouses to served regular meals, foods provided by smaller companies such as the Rambler and A.L. and D.A. may have been less frequent that those at the Mammoth. This shifts these informal boarding arrangements closer to Dietler and Hayden’s definition of feast. However, as these meals occurred within a wage-labor system, they still cannot be classified as “feast.” But if they were less of a daily practice and more of an occasional event, these doxic feasts would have been more politically charged.
Offering the Doxic Feast

Another element of the labor mobilization feast is the "lure"; in order to attract voluntary laborers, feast sponsors relied on enticing potential workers with the quality of the meal rather than relying on their relationship with the population (Dietler and Herbich 2001:243). Evidence of this "luring" comes from newspaper reports published in the region. Allusions to work starting up again soon would have served as one particular type of lure, but there was no implied food provision in these proclamations. One month after the announcement that Nic Thienes was taking over the Mammoth boardinghouse, the Powell County Call indicated that he was "setting the best table in country at the Mammoth boarding house" (PCC, 25 August 1906:5). This advertisement of the quality of Thienes' cooking was followed a few paragraphs later with a report that the superintendent of the Mammoth had installed a new engine and the quality ore had been struck (PCC, 25 August 1906:5). But who made these reports? The newspaper did not indicate who provided them with this information. Viewed through the lens of work feasts, these reports were advertisements of the quality of the Mammoth company. By indicating that there was both profitable ore as well as really good food, these short notes can be conceived of as lures to attract laborers.

Summary

Despite the similarities between these types of feasts defined by Dietler and Hayden and the commensal politics enacted at Coloma, there are still the three main differences that automatically disqualify these communal meals as classically defined
feasts. Instead of focusing on the highly marked aspect of feasting, Janet Gero (2003) emphasizes the repetitive aspect of feasting. She uses the term “context-renewing practice” instead of event to describe feasts to draw attention to the fact that feasts were “less a singular event and instead... a regularly occurring social practice, one that is involved and evoked at many points in the intensification of power relations between rulers and ruled” (Gero 2003:286). While drawing a direct correlation between company communal meals and Gero’s repetitive feasting politics, her definition does suggest that a comparison can be made. This comparison suggests that while company meals at Coloma were not feasts per se, many of their characteristics, including their repetition, have striking similarities to feasting practices observed in non-capitalist societies.

Despite the fact that Dietler and Hayden specifically assign feasting activities to modes of production without wage-labor, there is evidence for feasting within complex industrial communities. These events, such as company sponsored picnics and parties, are marked occasions and occurred on secular and religious holidays. But daily meals provided by companies were no less politically charged and their daily repetition indicates that company power was transformed into a common occurrence and was otherwise unmarked. If the miners at Coloma had developed a conflicting relationship with the mining companies, then the company’s pervading dominance would be easy to highlight. But the lack of opposition to the companies makes the paternalistic dominance of companies such as the Mammoth difficult to see. By drawing on the literature of feasting, the daily meals served by the Mammoth and by Moss can be contextualized within the complexities of managerial capitalism. Similar contexts, such as the industrial
communities in Michigan and Massachusetts, also exhibited politically charged meals as part of company paternalistic practices. Control over the boardinghouse meant that the company’s arm stretched much further than the workplace; it was in the everyday actions of the workers. I have suggested the term doxic feast to represent the commensal capitalism expressed through company meals. The daily service of meals became the “context renewing practice” (Gero 2003:286) of the expression of the company’s paternalistic power. The repetition legitimated the company’s role as provider. With the company’s control over wages, housing, and basic sustenance, embodied in each plate, the daily banality of bread and eggs was, in reality, charged with paternalistic dominance.
Chapter 7: What’s For Dinner?

Many of the individual purchasers and companies bought large amounts of carbohydrates and starches to feed the commensal communities that were their responsibilities. Many also purchased large quantities of pork and canned products. These purchases have been used to estimate the size of commensal groups, identify variations in procurer/consumer relationships, and suggest socioeconomic status. But how were some of these products transformed into dishes, or, what exactly was for dinner?

This chapter will explore the possible permutations for dishes using Coloma’s archaeological feature data as well as the store ledgers. Elaborate dining events had been practiced by the wealthy long before the Victorian period (Carroll et al. 2005). Middle class individuals, began to practice many of the components of this style of food consumption during this time. The preparation of food also entered the scientific realm as domestic science and home economic studies became a part of women’s education. Similarly, scientific studies of food suggested many food products were more nutritious than others, or that some foods were at risk for harmful contamination. Access to canned foods, exotic fruits and vegetables, and sufficient amounts of protein allowed cooks a multitude of options and permutations for dishes.

Cooking in the Victorian Period

The term “middle class” is used to define that social and occupational group consisting of non-manual workers, such as urban professionals and industrial managers, with a particular set of aspired to characteristics. These include a display of leisure, separated private and public spaces, one or two domestic servants, some conspicuous consumption, and sufficient wealth that wives did not work outside the home (Applegate 2001: 109-123; Williams 1985:7-8; Gamber 2007:174). Debby Applegate suggests that individuals who saw themselves as middle class evaluated their status by ascribing to a set of idealized images and traits found in popular media of the time (2001:123).
With the growth of the middle class due to expanding industrial capitalism, the numbers of individual family homes in suburbs increased in the late nineteenth century (Schlereth 1991:xii-xiv, 18). A well-ordered domestic oasis was key to displaying proper Victorian values. The dining room and kitchen were two of these spaces. In contrast to the kitchen, the dining room was a highly important public space where guests would receive meals in a feasting-style shared event. Ideally, the dining room was well decorated (Clark 1987:147-148). The two most important pieces of furniture in the dining room were the table and the sideboard. Both held food items, but also displayed table linens, fine silver, glassware, and ceramics. The sideboard was not just a storage location it was a theatrical stage for the presentation of one’s “nicer” dishes and serving accoutrements. Those who could not afford homes with a separate dining space typically took their meals in a kitchen area (Williams 1985:56-67).

The kitchen also changed significantly in the latter portion of the nineteenth century, becoming more compact, restructured and filled with newer technologies and utensils (Schlereth 1991:125; Miller 1987:47). Materials like aluminum and technologies such as refrigeration, gas, and electricity made dramatic changes to the way kitchen work was conducted (Miller 1987:47). Iron stoves and ranges replaced open hearths and can openers allowed access to foods that were before unavailable (Levenstein 1988:18; Hunter 1991:145). These new tools were intended to alleviate labor in the kitchen and streamline food preparation (Miller 1987:50). However, many of the new kitchen gadgets made dinner service more complicated and foods more elaborate. New utensils were designed for specific, often singular, functions; butter knives, salt spoons, grape shears and sardine tongs soon appeared on dining room tables (Williams 1985:37).
manufacturing process of food molds changed to allow mass production, allowing cooks of various classes to construct elaborate, molded foods. Not only could one create detailed designs in cake and gelatin, but also in mashed potatoes (Miller 1987:59-72). Despite the price reduction in many kitchen accoutrements, there were still many who could not afford these new luxuries.

**Diets of the Classes**

A survey conducted in 1874 revealed that the average wage worker ate a diet composed of salted meats, cabbage, and potatoes. Forty-two percent of individuals included a sweet, such as pie, as a part of at least two of the daily meals. The diets of wage-laborers did not typically suffer from a lack of food, but rather a lack of quality and variety. Most working families could afford some fruits and vegetables, typically apples. Affordable produce was difficult to find during the winter and spring when prices were high or products unavailable (Levenstein 1988:23-25).

In 1910 Margaret Byington conducted a study of mill families in the Pittsburgh suburb of Homestead, home to many nationalities of steel workers. She observed that the basic diet of English speaking households included both fruits and vegetables in order to provide proper nutrition for the hard working mill laborers. When cold foods were packed, men would sometimes heat them on the hot surfaces of the mill machinery (Byington 1910:63-64). The weekly diet of a steel worker’s family in Homestead could have been as follows:

**Monday**

Breakfast: Oatmeal and milk, eggs and bacon, bread, butter, jelly and coffee.
Dinner: Soup, bread, fruit.
Supper: Meat, beans, potatoes, fruit, red beets, pickles.

Tuesday
Breakfast: Chocolate, eggs, bread, butter, jelly.
Dinner: Spinach, potatoes, pickles, warmed over meat, fruits, bread, butter.
Supper: Meat, sweet potatoes, carrots, beans, tomatoes, tea, bread, butter, and fruit.

Wednesday
Breakfast: Eggs, corncakes, potatoes, coffee, rhubarb, bread, butter.
Dinner: Soup, bread, butter.
Supper: Lamb stew with dumplings, cucumber, eggplant, beans, corn, coffee, bread and butter, fruit.

Thursday
Breakfast: Eggs, fruit, eggplant, coffee, cakes.
Dinner: Soup, bread and butter, cakes, fruit.
Supper: Fish, potatoes, tomatoes, cucumbers, pie, tea.

(Byington 1910:63-64)

Byington observed a diet that was high in egg proteins, bread based carbohydrates, butter, and soups. While it is difficult to specifically identify soups at Coloma, some shoppers, such as the Mammoth, purchased large amounts of eggs. Butter and flour for baking were also frequently purchased by nearly all shoppers buying food, sometimes in large quantities.

The items that people purchased often varied according to ethnic or national cuisines (Levenstein 1988:102). However, the most dramatic differences occurred
between wealthy and poorer households. Semi-skilled and skilled wage-laborers, subsisting on diets similar to the one above along with stews and salted meats, prepared very different tables than their more wealthy counterparts. Those with access to more money took full advantage of the increasing variety of more exotic foods (Levenstein 1988:25,101).

While French cuisine had successfully colonized upper class lunches and dinners, it did not affect breakfast. The typical light French breakfast of breads and butter with coffee was not a favorite of Americans; rather the significantly heavier American breakfast was favored. This breakfast included steak, bacon, seafood, breads, eggs, and numerous other foods. In order to provide this large meal to patrons, hotels devised the “American Plan,” which included meals in the overall price, setting heavily laden boards of breakfast foods that shocked foreign visitors (Levenstein 1988:7-15).

In the 1880s and 1890s middle class diets and menus began to resemble scaled down versions of the highly elaborate social elite menus. There were, however, key differences between the two. First, due to financial constraints, middle class households did not employ large numbers of servants, particularly in the kitchen, that would have prepared the elaborate meals suggested in manuals and cookbooks. If a middle class family could afford a cook, they would not have been one of the French or French-trained chefs that were sought after in the wealthier households. Rather, the foods produced by a

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13 There were numerous etiquette guides and dining guides available throughout the mid to late nineteenth century. Women’s magazines such as Godey’s Lady’s Book, The Ladies’ Home Journal, and Good Housekeeping offered many different types of advice and guidance. Examples of etiquette and dining guides include: The Habits of Good Society (1860), The Ladies’ Guide to True Politeness and Perfect Manners; or, Miss Leslie’s Behavior Book (1864), Good Manners for All Occasions (1904), Practical Cooking and Diner Giving (1878), and The Successful Housekeeper (1883).
domestic servant would have reflected more Anglo-American or British cuisine instead of the French (Levenstein 1988:18,60).

Abundance at the table did not differentiate a wealthy table from an average one. Rather it was the preparation and presentation of foods that provided the conspicuous divisions of the classes at the dinner table. French cuisine provided this desired consumption effect. While the basic ingredients of these foods were not completely unfamiliar in monied households, it was the presentation that involved highly complex construction and a familiarity with foreign terms and dining practices that only a wealthy household could afford (Levestein 1988:14-15). Restaurants established during mineral rushes in the West served “fancy” dishes, emulating the haute cuisine movement amongst the wealthy individuals in the East. These dishes were popular with recently rich miners looking to binge with their newfound wealth, seeking out oysters, champagne and French foods (Conlin 1986).

The Elaborate Victorian Dinner

The most complex Victorian dining practice was the formal dinner. The structure of table manners was rigid and meant to maintain a social order, including what was expected in terms of food consumption. The meal consisted of numerous courses that included a soup, fish, entrées, salads, and sweets. It would typically begin with champagne and oysters, then soup and sherry, followed by a fish course or an entrée, and continued with several more courses of meats and vegetables that ended with sweets, fruits, and nuts. In sum, a well-executed formal dinner would last from one to two hours in length (Kasson 1987:129-153). To have a perfectly polite dining experience the food
that was set down in front of a guest was to be handled as little as possible by anyone involved in its delivery. Plates were assembled backstage in a kitchen area and delivered by servants, often held with a napkin or cloth barrier between the hand of the server and the plate (Senn 1892:14,31; Levenstein 1988:16).

In addition to intricate service, elaborate looking foods were also seen as ideal. Preparing molded foods, of all sorts, was regarded as a key cooking skill amongst domestic science experts. It was a representation of Victorian cultural ideals and the technologies of the period; the highly decorative aspect of the food combined with the time required to produce it exhibited one’s social position and cooking prowess. And with the cheaper sheet-steal food molds available in the United States, this was an easier and cheaper task than it had been (Miller 1987:56-65). To make molded foods even more accessible Jell-O, first marketed in the 1890s, made the labor-intensive process of extracting gelatin from bones and connective tissue no longer necessary (Schlereth 1991:164). Food innovators invented a powdered version of gelatin that allowed cooks to prepare molded foods without time consuming and detailed recipes.

**Cooking as Science**

As the production of foods became increasingly scientific, cooking and domestic tasks became a growing field of science. Processed foods, such as canned products, were seen as modern and scientific, created by experts with practiced recipes that had been perfected. This image of scientific food was aided by strategic advertising, but health scares began to manifest as the reality of industrialized food became public. Concern over the safety and purity of industrially produced foods resulted from publications such as
Proper nutrition from pure foods was the ideal. A diet emphasizing proper nutrition was taught at the newly established cooking schools as well as through widely published cooking text books (Williams 1985:94; Miller 1897:48; Levenstein 1988:41; Hunter 1991:142,148). Fannie Farmer's *The Boston Cooking-School Cook Book* included a section in the beginning titled "Using a Recipe," effectively walking a woman through the cooking procedure with detailed and precise steps as if she had no knowledge of cooking. Amongst the directions in this primary chapter were: "Place cook book, open at the recipe, where it can be consulted during cooking. Only when all these preliminaries are complete should work on the recipe begin" (Farmer 1896[1946]:5). The goal of the cooking schools was to properly educate middle class housewives to correctly prepare foods that were healthy and nutritious in a world in which housewives no longer preserved their own foods but purchased them (Levenstein 1988:19; Hunter 1991:138). These recipes represented a type of hegemonic knowledge structure on the part of cookbook writers; in the realm of domestic science, they were the authorities. Recipes published in these books were tried, tested, and approved, and therefore presented as the "proper" way of cooking.

The new domestic science of cookery was most obviously manifest in the ways in which cookbooks presented recipes. They were strictly regimented, dictating exact amounts of ingredients based on the premise that not everyone could find their way to good nutrition on their own. Cookbooks prior to the late nineteenth century were more fluid documents, intended more to jog the user's memory rather than provide the first instance of instruction. Even as early as 1918 cookbooks began to shift away from preserving to preparation with commercially available foods. There were, however,
exceptions, such as Eliza Acton’s 1868 edition of *Modern Cookery*, which criticized commercial foods as not sufficiently nutritious and healthy compared to those produced in the home (Fordyce 1987:94-95,109; Hunter 1991:140-141).

**Meal Choices at Coloma**

Early miners in the California gold fields often complained bitterly about the lack of good quality foods. They bemoaned monotony and composed poems against dishes such as dried apple pie (Conlin 1986:11). Others mourned the lack of women to cook decent food, as their own attempts occasionally failed spectacularly. These losses were sung in the “Miner’s Song on Frazer River”:

> In cabins rude, our daily food  
> Is quickly counter o’er;  
> Beans, bread, salt meat, is all we eat-  
> And the cold earth is our floor.

Lonely our lives- no mothers’, wives’,  
Or sisters’ love runs o’er,  
When home we come at set of sun,  
To greet us at the door.

(quoted in Lewis 1967:37).

Miners living in Coloma had access to a wide variety of foods, and while specific meals cannot be identified, their potential contents will be discussed in the following section.
<table>
<thead>
<tr>
<th>Common Name</th>
<th>Latin Name</th>
<th>NISP</th>
<th>NISP %</th>
<th>MNI</th>
<th>MNI %</th>
<th>Biomass</th>
<th>Biomass %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Even-Toed Ungulate</td>
<td>Order <em>Artiodactyla</em></td>
<td>19</td>
<td>.31%</td>
<td>-</td>
<td>-</td>
<td>10.91</td>
<td>1.78%</td>
</tr>
<tr>
<td>Artiodactyla I (sheep, goat, deer, or pig)</td>
<td><em>Artiodactyla</em></td>
<td>210</td>
<td>3.4%</td>
<td>-</td>
<td>-</td>
<td>8.677</td>
<td>1.41%</td>
</tr>
<tr>
<td>Artiodactyla II (sheep, goat, or deer)</td>
<td><em>Artiodactyla</em></td>
<td>25</td>
<td>.42%</td>
<td>-</td>
<td>-</td>
<td>2.4</td>
<td>.39%</td>
</tr>
<tr>
<td>Cow</td>
<td><em>Bos taurus</em></td>
<td>964</td>
<td>15.68%</td>
<td>7</td>
<td>15.2%</td>
<td>305.82</td>
<td>49.84%</td>
</tr>
<tr>
<td>Unidentified Cervid</td>
<td>Family <em>Cervidae</em></td>
<td>8</td>
<td>.12%</td>
<td>1</td>
<td>2.17%</td>
<td>5.45</td>
<td>.89%</td>
</tr>
<tr>
<td>Elk</td>
<td><em>Cervus canadensis</em></td>
<td>13</td>
<td>.21%</td>
<td>2</td>
<td>4.35%</td>
<td>5.25</td>
<td>.86%</td>
</tr>
<tr>
<td>Sheep/Goat</td>
<td><em>Ovis ares/ capra hircus</em></td>
<td>10</td>
<td>.16%</td>
<td>1</td>
<td>2.17%</td>
<td>2.3</td>
<td>.38%</td>
</tr>
<tr>
<td>Pig</td>
<td><em>Sus scrofa</em></td>
<td>2020</td>
<td>32.87%</td>
<td>4</td>
<td>8.7%</td>
<td>49.63</td>
<td>8.04%</td>
</tr>
<tr>
<td>Rabbit species</td>
<td>Family <em>Leporidae</em></td>
<td>16</td>
<td>.26%</td>
<td>2</td>
<td>4.35%</td>
<td>.412</td>
<td>.07%</td>
</tr>
<tr>
<td>Fowl-Like Bird</td>
<td>Order <em>Galliformes</em></td>
<td>10</td>
<td>.16%</td>
<td>-</td>
<td>-</td>
<td>.2</td>
<td>.03%</td>
</tr>
<tr>
<td>Grouse/Partridge/Pheasant</td>
<td>Family <em>Phasianidae</em></td>
<td>136</td>
<td>2.21%</td>
<td>8</td>
<td>17.4%</td>
<td>2.3</td>
<td>.38%</td>
</tr>
<tr>
<td>Pheasant</td>
<td><em>Phasianus colchicus</em></td>
<td>3</td>
<td>.05%</td>
<td>1</td>
<td>2.17%</td>
<td>.104</td>
<td>.02%</td>
</tr>
<tr>
<td>Chicken</td>
<td><em>Gallus gallus</em></td>
<td>267</td>
<td>4.34%</td>
<td>19</td>
<td>41.3%</td>
<td>5.57</td>
<td>.91%</td>
</tr>
<tr>
<td>Turkey</td>
<td><em>Meleagris gallopavo</em></td>
<td>1</td>
<td>.01%</td>
<td>1</td>
<td>2.17%</td>
<td>.147</td>
<td>.024%</td>
</tr>
<tr>
<td>Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>165</td>
<td>2.68%</td>
<td>-</td>
<td>-</td>
<td>4.8</td>
<td>.78%</td>
</tr>
<tr>
<td>Large Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>708</td>
<td>11.52%</td>
<td>-</td>
<td>-</td>
<td>169.93</td>
<td>27.69%</td>
</tr>
<tr>
<td>Large/Medium Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>115</td>
<td>1.87%</td>
<td>-</td>
<td>-</td>
<td>5.87</td>
<td>.96%</td>
</tr>
<tr>
<td>Medium Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>462</td>
<td>7.53%</td>
<td>-</td>
<td>-</td>
<td>13.26</td>
<td>2.16%</td>
</tr>
<tr>
<td>Medium/Small Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>36</td>
<td>.58%</td>
<td>-</td>
<td>-</td>
<td>.54</td>
<td>.09%</td>
</tr>
<tr>
<td>Small Mammal</td>
<td>Class <em>Mammalia</em></td>
<td>203</td>
<td>3.3%</td>
<td>-</td>
<td>-</td>
<td>2.16</td>
<td>.35%</td>
</tr>
<tr>
<td>Bird/Small Mammal</td>
<td>Class <em>Aves/Mammalia</em></td>
<td>68</td>
<td>1.1%</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>Unidentified Bird</td>
<td>Class <em>Aves</em></td>
<td>656</td>
<td>10.65%</td>
<td>-</td>
<td>-</td>
<td>5.2</td>
<td>.85%</td>
</tr>
<tr>
<td>Unidentified Fish</td>
<td>Class <em>Osteichthyes</em></td>
<td>31</td>
<td>.5%</td>
<td>-</td>
<td>-</td>
<td>.34</td>
<td>.06%</td>
</tr>
</tbody>
</table>

Table 7.1: Summary of zooarchaeological data from Feature 172.
Meat Dishes

Meat transactions at the Miner’s Cash Store were very vague as to what cuts were sold, with the exception of ham and bacon. The average sized ham sold at 17 pounds, a generous size that would yield many servings at multiple meals. Other meat purchases, excluding canned meats, lacked specifics as to which part of the animal was sold. The 31 fish and four chicken transactions imply that these species were sold whole rather than in retail cuts. The specific cuts of meat consumed by Coloma residents must then be ascertained from Feature 172’s zooarchaeological remains. A total of 11 different species (Table 7.1) were identified within the assemblage. The majority of the specimens were cow, pig, sheep/goat, and chicken. Wild species such as pheasant, elk, rabbit, and turkey were also present.

Fowl

While the total count of bird specimens (NISP) was 17.42% of the assemblage (Table 7.1) the percentage of meat that these birds contributed was rather small, only 1.364% of this boardinghouse’s overall meat biomass. The majority of the specimens were from domestic chicken (*Gallus gallus*). At least two households, the Mosses and Chamberlains, kept chickens (Hammond, n.d.). The extremely high number of eggs (1926 dozen) sold through the store suggest a large flock, or flocks, living somewhere on the site. It also implies that the chickens living in Coloma were kept primarily as egg producers rather than as meat producers.

In addition to domestic fowl, seven other related species were identified. As this feature is exposed on the surface, it is likely that many of these specimens are commensal. However, not all were found in the first stratum, indicating that some
percentage of these specimens were from wild birds consumed at a Coloma table. Wild birds contributed very little to the overall biomass, only .45% of the above total contribution of avian species, and may represent haphazard hunting and special meals. The wild specimens were only identifiable to the order or family, Galliformes or Phasianidae. Only three specimens were possible to identify to the species level: pheasant. There are several native species that belong to this order and family: spruce grouse (Falcipennis canadensis), dusky grouse (Dendragapus obscurus), sharp-tailed grouse (Tympanuchus phasianellus), ruffed grouse (Bonasa umbellus), and white-tailed ptarmigan (Lagopus leucura). In addition to these, several species were introduced during Euro-American colonization of Montana and would have been living in the area during Coloma’s initial boom phase: ring-necked pheasant (Phasianus colchicus), wild turkey (Meleagris gallopavo), and grey partridge (Perdix perdix) (Montana Field Guide: Upland Game Birds).

Domestic and wild fowl were not an important part of the diet at the undetermined boardinghouse, nor did they play a large role as food commodities at the Miner’s Cash Store. The secondary products of domestic chicken, their eggs, did play a major role as a food commodity. Nearly all account holders purchased eggs at some time, and thousands of eggs were purchased over the two years. While eggs are used as binding agents in baked goods and some meat dishes, they are also a featured dish in the typical American breakfast. The large number of eggs coupled with the large amounts of bacon sold (see discussion below), show that a hearty protein-heavy breakfast was a popular practice, similar to the cooking habits that Byington observed.
Beef

A total of 964 cow specimens were found within Feature 172, representing 49.84% of the total biomass.14 Beef, therefore, was the main contributor to the diet of this household. The majority of this assemblage was composed of rib and vertebra fragments, evidence of both low and high priced cuts. The importance of beef in a household’s diet was not an overall trend; the number of pork sales were more than double that of beef at the Miner’s Cash Store. Beef, on the average, cost less than porcine products at 4 to 8 cents per pound, whereas pig cuts averaged 13 cents per pound, for both ham and bacon. The overall lack of beef may demonstrate preference or difficulty with supply. This also may be due to the high amounts of bacon; bacon is a boneless cut and therefore left no archaeological remains. Unlike pork products, beef sales at the Miner’s Cash Store were described by species only, and therefore the only data for specific cuts must come from Feature 172.

The beef cuts present in the feature represent a wide range of dishes (Figure 7.1) and are heavily dominated by ribs. While much of the rib was considered to be a high

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14 This also includes the large number of rib and vertebral remains that were originally identified as large mammal.
quality cut, the lower ends of the beef ribs were considered to be of lower quality (Schulz and Gust 1983b). As it is sometimes difficult to determine where on the rib a cut has originated, the overall number of lower quality rib cuts can only be estimated.

The most frequently observed cut, outside of the ribs and vertebra, were shank, known today as shank cross-cut. Considered to be a lower-quality meat, it would have been relatively easy to buy larger amounts. This cut could have been eaten as a braised steak, but it is not tender and was often used to flavor soups. While not many in number, neck cuts were also used in this way as stew meat.

Cuts from the chuck and rump can be tender and were often prepared as roasts. These dishes can be left to cook while a food preparer does other tasks and were suitable for groups. These cuts were considered to be mid-quality (Schulz and Gust 1983a:48 Fig. 1).

The highest quality cuts, sirloin, short loin, and the ribs, occur in moderately high quantities within this assemblage. The cut patterns in the butchered vertebra show a frequency of cuts vertically through the center. This implies two methods of purchase. First, that beef was purchased in larger sections and butchered into smaller portions within the household. The average beef purchase by companies (A.L. and D.A., Lannel Brothers, Cambell & Company, Johnson & Company) was about 80 pounds, a considerable amount. Larger butchering units, not smaller cuts, would account for these hefty purchases. Two mine owners (George Baker and Thomas Surgro) purchased beef in amounts around 20 pounds, with the notable exception of one purchase by George Baker for 94 pounds. Only four other individuals purchased beef: Paul Becker, R. Ledwich, William Ross, and Mrs. Murphy. These beef purchases were very small in comparison to
their corporate counterparts, averaging only a couple of pounds. Beef purchase size is reflective of both the numbers of people being served and socioeconomic ability.

The overall consumption of beef was confined to only a few individuals and companies at Coloma. This may reflect limited availability, although given the proximity to cattle ranches in the valleys of Potomac (Machado and Curry 1981) and towns such as Ovando (Jacobsen 1977), this seems unlikely. Cost may also have been a factor; beef was cheaper than pork and larger quantities would be overall cheaper to serve in large commensal groups. It may also have been a taste preference on the part of individuals; Ross purchased beef more frequently than others, sometimes in substantial amounts. Pork products were the preferred protein source, indicated by its frequency of purchase from Moss’ store, for both companies and individuals at Coloma.

**Pork**

Similar to the beef subassemblage at Feature 172, cuts present from pigs reflect high quantities of ribs, along with foot and vertebra (Figure 7.2). The high number of foot bones may indicate that there was either a preference for pigs feet, which could be pickled, or whole sides of pork were purchased with the feet still attached. Foot elements contributed the most to the total pig NISP (n=2020 with 1489 from the foot).

Pig remains accounted for 8.04% of the overall biomass of the undetermined boardinghouse. This is far below that of beef, which reflect the national trend in the decline of pork in favor of beef, but not a common pattern at Coloma. After ribs, the most frequent pork cuts were hams. Hams would have lasted easily in Montana’s dry and
relatively cold climate. This trend of large amounts of hams was also reflected in the Miner’s Cash Store ledgers, indicating that this was a popular dish amongst residents.

Figure 7.2: Late nineteenth-century pig butchering units (top left), cuts observed from Feature 172 (top right), and the frequency of those cuts (bottom) with foot elements removed for clarity. Priced from highest to lowest cut rankings in the late nineteenth century were: hams, loins and chops, shoulder, and ribs. No data for foot cuts were noted in the sources available.

Hams were most often purchased whole, although there are a few instances of only smaller portions of ham sold. Very few purchases were listed as different cuts; one instance of pork belly and chops and 10 cuts simply called “pork” were sold. The most popular forms of pig sold were hams and bacon. Amounts of bacon purchased varied wildly from only 1 pound to 52. Larger lots of bacon were bought by both individuals and companies (see Figure 6.8).
Pork cuts purchased by the undetermined boardinghouse were high to low priced cuts, with hams (highest quality) not as frequent as loin (second highest) and short ribs (lower quality). This purchasing habit reflects the overall reliance on beef, at half the price of pork products, for daily meals served by this boardinghouse.

Unlike the beef assemblage there were a small number of head elements in the pork assemblage from Feature 172 (n=5). While this is a very small number, it may indicate home butchery of one animal. Or, a jowl cut may have been purchased for a special meal that required this particular portion of the pig’s head.

Pork was the most frequently prepared meat, overall, at Coloma. The town’s residents were very fond of bacon. This fatty and salty food pairs well with eggs for breakfast and can be used as favoring in many dishes including soups, stews, and other meats. Bacon fat is also very useful and can be used as a flavoring additive in baking, pan frying, and with vegetables.

Fruits and Vegetables

Canned foods, seen as a luxury food item (Wood 2004:225), were advertised as healthy and were key to diversifying the diet where fresh produce was unavailable. Convenience foods like canned goods were products of science, and therefore trusted as healthy and safe (Williams 1985:95). The overall contribution of canned foods to the diet of several households has already been discussed. Canned foods contributed significantly

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to the diets of the households in Coloma. In several cases, they were more important than fresh meats.

In the late nineteenth century, there were dozens of foods that could be found packaged within cans. Archaeologically it can be almost impossible to identify the contents of cans unless specialized shapes are found. Moss' ledgers provide the detail that the artifacts lack, enumerating each type of canned product purchased at the store. The most frequently purchased product was condensed or evaporated milk. Moss does not differentiate between the two, simply listing the product as "canned." Condensed milk was often used as a substitute for cream in coffee and tea and was regarded as a status item because of its association with cream (Williams 1985:104).

![Figure 7.3: Number of cans purchased by food item with milk (left), and with milk removed (right).](image)

Canned milk, however, did not represent the highest volume of products purchased (Figure 7.3). It was corn and tomatoes that individuals purchased more, occasionally by the case. Canned fruits included peaches, pears, plums, and as tomatoes. Oranges, however, were purchased fresh. The tomato is a versatile food that mixes well with many other items and could easily be incorporated into soups, stews, salads, and meat dishes. The other popular fruits would have provided valuable nutrition to
consumers and could have acted as dessert delicacies. Canned oysters, being the most popular of the seafoods, would have been part of the exotic food binge that was common to mining camps. Forty-niners in California demanded so many oysters for their binges that the oyster beds around San Francisco were nearly depleted in the mid-nineteenth century (Conlin 1986:119).

Figure 7.4: Fresh fruits and vegetables comparison.

The vegetables for sale were almost always fresh (Figure 7.4). Items such as onions and potatoes were easily stored and used to add body and flavor to many dishes. Almost equal amounts of fruits were purchased fresh and canned. The limited variety of fresh fruits purchased were species with thick rinds and peels, thus allowing for greater durability in transit. Excluding potatoes, far more vegetables were purchased canned than fresh demonstrating a preference for preserved products.

**Baking**

The vast quantities of flour purchased by many account holders demonstrate the importance of baked foods at household tables. Baked goods, even in the form of basic
breads, formed the basis of many meals and provided carbohydrates necessary to fill stomachs and fuel muscles. Breads were also a key food in the miner’s lunch pail; a common wage-workers lunch was some form of sandwich (Williams 1985:165). These cold meat dishes encased in some sort of bread had been traditional foods for miners since the early tin and copper mining in Cornwall. Leftover cold meats from previous meals could be sliced up and placed on slabs of bread and carried down into mines for workers to eat.

In addition to provide basic carbohydrates, baked products could also be sweet. The amount of sugar purchased by many companies and individuals attests to the sweet tooth of many residents. For example, Wallace Warner bought candy more frequently than any other shopper in the Miner’s Cash Store. Sugar was used to bake many dessert items and could easily combine with many of the canned fruits in pies, cobblers, or any number of after meal sweets.

Shoppers also purchased baking soda, baking powder, vanilla extract, and yeast cakes to aid in baking. While the companies and mine owners purchased the greatest quantities of flour, they were not, as a group, the largest purchasers of baking aids. The A.L. and D.A. company, George Baker, and Reely & Company did purchase large quantities of baking powder, but it was Los Warner who bought the most. Reely & Company and Baker also purchased vanilla extract, but it was more frequently purchased by individuals.

Spices and Condiments
Miners were well known for their love of exotic foods, including spicy dishes (Conlin 1986:167). Pepper was a very popular meal additive bought at the Miner's Cash Store and was purchased by all types of account holders. In smaller amounts were cinnamon, cloves, ginger, nutmeg, and sage (Figure 7.5), most of which were additives during baking but could be added to basic dishes to give them a little extra kick.

Figure 7.5: Total amount of spices or sweet syrups purchased.

Condiments were an easy way to spice up a dish. Sweet condiments were favored by residents of Coloma, either specifically “maple syrup” or generic “syrup” were purchased in large quantities. Hotter and more tangy options were horseradish, mustard, and catsup. Vinegar was also popular and could serve as a food additive as well as a cleaning product. Only one bottle of catsup could be placed accurately on a company table. However the company owners responsible for providing for that table purchased many bottles in their personal accounts. Mustard was more popular with mining companies. The use of condiments was a way that individual consumers could personalize a dish to their own particular tastes. Ketchup and mustard added tang,
saltiness, and sweetness to dishes. The ability to add these flavors in desirable amounts was a small way in which workers could control the tastes and textures of the foods that they were given at boardinghouses.

Flavorful condiments and spices did not represent a large percentage of the overall food purchases, but they would have been used in smaller quantities and on an individual basis. They could be added to meals during the preparation process but could also be placed on tables for individuals to continue to flavor their foods as heavily as personal tastes desired.

The Potato

Nearly every meal in the late nineteenth century could include some form of potato. It could be boiled, mashed, made into a croquette, fried, and baked. Along with a meat, typically beef, the potato was an integral part of American meals (Williams 1985:169,172).

In addition to its malleable qualities, the potato was cheap. Moss sold potatoes by the pound for 2 cents on the average, dropping even lower to around 1.5 cents on occasion. This made the potato an easily attainable foodstuff that could be transformed into a variety of dishes ranging from the mundane to the more elaborate. It easily filled stomachs and took spices and condiments very well. Given the quantities in which the potato was purchased, this food formed the base of many tables at Coloma, particularly those eating groups based out of mining companies.

Summary
The varieties of food purchased at the Miner’s Cash Store reveal a potential spectrum of dishes that would have been cooked by household food preparers. While it is difficult to ascertain the exact cuts of meat that were prepared by the account holders, feature data have shown that there was a range of potential dishes prepared. They range from the very basic, meant to feed many mouths, to choice cuts. High volumes of canned foods demonstrate a preference for foods that last and also for items that were previously unavailable to working-class populations.

The average Coloma resident ate a diet high in carbohydrates and starches. They also most likely ate more pork products than beef, unless they worked for George Baker or lodged at the undetermined boardinghouse. Pork products were the preferred meat despite the fact that it was much more expensive than beef. The far cheaper beef meat served at the boardinghouse at by Baker indicates money-saving measures on the part of these “households.” This is not unlike a similar pattern observed by Schulz and Gust (1983a) in Sacramento; lower cost cuts of beef occurred in greater quantities in contexts such as the jail and saloons serving free lunches, contexts in which cost-saving measures would have been practiced. Beef cuts observed in the Feature 172 assemblage mirrors these patterns; the majority of the cuts present were of low to middling quality.

While canned foods had the advantage of longevity, they did not have the price advantage over beef. Cans of tomatoes ($0.22), corn ($0.15), and peaches ($0.18) were more than double the price of a pound of beef. The amounts of canned food purchased by companies, individuals, and mine owners was nearly identical (Figure 7.6). However, this represents all accounts. Variation in quality of foods served occurred on an account-by-account basis; some companies, such as the A.L. and D.A (see Figure 4.10) served
more expensive foods, perhaps as a more enticing lure, compared to Baker and the undetermined boardinghouse.

On a given day, a person could expect to eat a breakfast rich with eggs and bacon, most likely with potatoes and a bread of some type. Men working down in the mines would have been required to bring their lunch with them. This, like breakfast, would have been based on carbohydrates. The evening meal could have been any number of combinations of breads, potatoes, pork, root vegetables, cabbage, or canned corn. Even in this mining town high in the mountains, residents had access to a variety of canned fruits and purchased large quantities of sugars and syrups to create sweet desserts.

These individual food products are synecdochic for the complex networks of provision and complex social relationships and tensions at Coloma. Wassenburg’s coconuts represented newly formed connections to tropical places where the fruit was harvested and then transported via ship, railroad, and teamster to Moss’ store. Canned foods were the products of mass-produced metal containers and developments in food
preservation. The presence of ketchup (or catsup as Moss spelled it) references the homogenization of a sauce once made from a multitude of ingredients to a product defined by its tomato base (Smith 1996). Even basic foods purchased in large quantities, such as flour and potatoes, reflect the local food producers and economic networks created by Moss.

More broadly, these foods represent the politically charged ideologies of managerial capitalism. Even if a person did not work for the Mammoth or the East Mammoth, the major source of foods was a member of the mining elite. It did not matter if the tools used on a daily basis were a needle, a school book, or a pick axe; the foods consumed are evidence of the almost complete saturation of the industrial elite into the daily activities of all of Coloma’s residents.
Chapter 8: Conclusion

In this study I have combined archaeological and historical evidence to reconstruct the permutation of paternalistic labor policies specific to the gold mining town of Coloma, Montana during its boom phase of 1893 to about 1916. Rather than operating as a classic heavily paternalistic company town, such as Lowell, MA, the multiple companies operating at Coloma during this time created a heterarchical network of contiguous mining claims and practiced more manipulative than oppressively paternalistic policies. Some of Coloma's mining companies were successful in generating profit. Others failed to negotiate the gold veins effectively, resulting in financial ruin. Running through this heterarchical setting was a hierarchical structure that organized food allocation. The Miner’s Cash Store and its owner served as a powerful nexus of food distribution and economic hegemony. The system of provision offers a means of organizing the various layers of this food hierarchy and suggests that the social relations of power can be seen through the lens of food. Companies at Coloma used the provisioning system to manipulate labor relations through the control of its distribution and through the offerings of daily meals, which I have termed doxic feasts. This research offers key insights into the intricacies and changing policies of labor relations at a key turning point of capitalism in the late nineteenth century. It also adds to the increasing body of literature in industrial archaeology emphasizing the social lives of laborers.

A common technique of companies operating with paternalistic managerial styles was to strictly define spaces for industrial and domestic structures, often with hierarchies based on class and ethnicities. As a multi-company town, mineral claims abutted each
other and company infrastructure was often spaced close together. I examined the layouts of company infrastructure to discern the potential ranges of managerial styles. While most companies constructed only limited infrastructure, two companies, the Mammoth and East Mammoth, built domestic structures and supported company-owned businesses to supplement their mineral investments. I applied the concept of metabolic rift from ecological Marxism to examine the relationships companies had with their environmental context. Metabolic rift draws attention to fundamental contradictions in extractive industries like mining and highlights the boom and bust cycles inherent to these industries. The resulting volatility that persisted even as companies attempted to follow mineral veins resulted in work stoppages and company collapses. However, by diversifying his investments in multiple mineral claims, a general store, and a saloon, John Moss successfully circumvented the financial difficulties exemplified in the Mammoth Company. Moss' centralized position in the food hierarchy, as well as a success as a saloon keeper, elevated him above the company-level heterarchy to the apex of a food hierarchy.

The variety and volumes of foods stocked at the Miner's Cash Store would not have been possible were it not for the extensive and expanding national food distribution network. Advances in meat preservation, canning, and faster transportation alleviated the early gold rush problems of scarcity, scurvy, and hugely inflated prices (Conlin 1989). Companies engaging in industrial hardrock mining could not have exited in relatively isolated locations like Coloma without these improved food preservation technologies. In addition to national sources, Moss sold items that were produced closer to Coloma, such as flour from Bonner. Fresh fruits, vegetables, and potentially meats, could have been
harvested in the nearby valleys. The majority of the fruits purchased were dried, whereas vegetables (mostly potatoes) were purchased fresh. Each account holder exhibited differing preferences for fresh and preserved foods depending upon the number mouths they fed or access to storage facilities. Several account holders, including companies, exhibited preferences for foods with longer shelf lives. Two such companies, the Rambler and A.L. and D.A. purchased high amounts of canned goods and preserved pig cuts in high volumes, demonstrating a need for storage and volume to feed many. Similarly, archaeological data from Feature 172 indicated that canned goods accounted for a greater percentage of pork products, whereas beef products were more preferable.

In order to discern the personal consumption choices of individuals and companies I examined several accounts from the Miner’s Cash Store ledgers. Shoppers buying goods from Moss created market relationships in their transactions. These market relationships extended to common miners as well as other company elites. Companies without historical records, such as the A.L. and D.A., were identified as meal providers through the quantities of foods purchased at the store. Moss accounted for food, sundry goods, alcohol, and boarding transactions in his ledgers, demonstrating the extent of his economy dominance.

Moss provided boarding services for many individuals, but he was not the sole source of boarding within Coloma. He and the Mammoth provided sleeping spaces and meals to their employees within sight of their industrial spaces. Moss also offered informal boarding on a meal-by-meal basis. Company-provided meals were a key part of the managerial policies of companies at Coloma, particular the Mammoth and East Mammoth. I have suggested that these seemingly quotidian daily activities are a type of
work-mobilization feast within a wage-labor system. I have termed these meals doxic feasts, drawing from Dietler and Hayden’s (2001) definitions of work-mobilization feasts in non-capitalist societies. Contextualizing company-provided meals as a lure for laborers conveys additional nuance to the relationships constructed between company management and individual laborers. Instead of a hand-out from on high, communal meals at the Mammoth boardinghouse, Moss’ boardinghouse, or the unnamed boardinghouse from Feature 172 could build worker solidarity and create close social bonds amongst household members. They also solidified the company in the role of head-of-household or work group patron, providing the workers with needed nutrition and sustenance. In a town where work opportunities were always at risk of disappearing, the lure of good food would have been critical for establishing a semblance of security.

The particular foods served in Coloma also factored into the structure of labor relations. Evidence from Feature 172 and the Miner’s Cash Store ledgers point to diets that were high in carbohydrates and starches. Pork products, such as hams and bacon, were also popular meal choices. While some companies provided more expensive dishes consisting of pork and canned foods, other opted for less expensive cuts of beef, potentially indicating economic restrictions or more enticing lures to attract laborers. Cuts observed from faunal data indicate that there were instances of commensal community-level dishes such as roasts as well as individual steaks. Fruits and vegetables, both canned and dried, provided variety to this diet. The end point of the system of provision was the individual meals consumed (and the subsequent disposal of waste materials).

The system of provision is a framework that logically organizes the many layers of food movement throughout a community. In identifying the moments in which people
bought, distributed, cooked, or disposed of foods, it is possible to see the underlying labor structures for some of the companies working at Coloma. With such a paucity of historical data for many of the companies in Coloma, food is the primary means through which one can identify strategies for maintaining work forces. A plate of bacon, eggs, and ham was the result of numerous environmental, technological, and social processes that drove industry, procured food, and cooked products for a commensal community.

In foregrounding the place of food within an industrial community, this study has addressed themes of consumer choice, managerial capitalism, labor relations, and feasting within commensal communities. For places like Coloma, labor relations and relationships based on food exchange were often one in the same. These two subjects should be discussed together as they are inextricably bound in industrial contexts. When miners at Coloma sat down to dinner, their food could have been provided by their employer, a boardinghouse keeper, or by Moss. The various steps that transported food to these tables were often obscured by an intricate system of provision that brought flour and coconuts, among other items, to Coloma. The utilization of food as a lens to discern the internal labor structures and manipulative managerial strategies of Coloma’s mining companies was critical to understanding labor relations due to the lack of documentary data available for much of the town’s past. This study has shown that the distribution of food was a vital component for industrial relationships in company-defined towns.

Coloma’s initial boom period occurred during a tumultuous time in labor politics and paternalistic strategies in the United States. Oppressive managerial policies resulted in violent strikes and bloody arm conflicts in many of industrial communities. Simultaneously, many corporations began to change their brands of management to more
benevolent systems concerned with worker welfare, but still retained practices of manipulation to exercise some degree of control. In a town characterized by heterarchically-arranged companies, a lack of labor conflict, and a short existence, Coloma's position along the spectrum of corporate power can be seen through the food provisioning system controlled by company elites.
Appendix A: Technical Summary of Feature 172  
(adapted from Ogborne 2012)

Research Design

The excavation of Feature 172 was initiated as part of dissertation research directed at determining the system of provisioning the inhabitants of Coloma (24MO172) employed during its hardrock mining boom in late nineteenth and early twentieth centuries. This feature was particularly suited for this study due to high concentrations of 1) faunal remains, 2) ceramic vessels, 3) food containers, and 4) the presence of eating utensils. All of these artifact classes were observed on the surface of this feature. Feature 172 exhibited a high degree of integrity; while some associated artifact scatter around the feature was observed, this was most likely due to bioturbation activities by large domestic and wild mammals. Feature 172 also did not exhibit signs of bottle hunting activity. Its location away from the main part of the site (see Figure 1.3) and its relative difficulty to see from the modern road has most likely contributed to this.

The data collected and analyzed from Feature 172 also contributes to the greater research questions pursued as part of the Coloma archaeological research design (Ogborne and Timmons 2006). All artifacts, faunal remains, and environmental samples are currently housed at the University of Montana, Department of Anthropology's archaeological curation facility.

Excavation Methods

An excavation grid was laid out over the limits of Feature 172 in a rectangle of 8 meters by 6 meters (Figure A.1). This was divided into 48 1 by 1 meter excavation units. The grid was not orientated on true north, rather by the identified limits of the feature. The area surrounding the feature, which consisted of artifacts disturbed by bioturbation
originally from Feature 172, was incorporated into the overall site grid in 10 by 10 meter surface collection units.

All soils were excavated using trowels and whisk brooms and were screened through quarter-inch mesh. All artifacts were retained from excavation units, with the one exception of metal fragments smaller than a thumbnail with no identifying characteristics. Artifacts from the surface collection units were also collected, however, can remains were only sampled from surface collection units. All excavation units were drawn in plan (see Figure 1.4) and photographed beginning with the surface (Figure A.2). Excavation units 1 through 12 were excavated to the top of stratum III (artifact sterile orange clay layer), whereas excavation units 13 through 24 were excavated to the top of stratum II (artifact rich densely packed soil layer). Units 25 through 48 were not excavated; however, the surface was drawn in plan and photographed.

Excavation of units proceeded by natural and cultural layers (see below discussion of stratigraphic deposits). In the event that stratum II exceeded a depth of 10 centimeters, the stratum was arbitrarily divided into 10 centimeter levels. Soil and ethnobotanical samples were retained from every other unit in rows 2 and 4 (EUs 7, 9, 11, 20, 22, 24). Samples were taken as follows: soil chemistry, phytolith, pollen, and flotation. All flotation samples were processed in a flotation tank and the light and heavy fractions were retained for further ethnobotanical analysis. All samples were stored in appropriate containers and stored in archival boxes for further study.
Figure A.1: Excavation grid for Feature 172.

Figure A.2: Top of stratum III (excavation units 1-6), top of stratum II (excavation units 7-24) (photo by author, 2007).
Laboratory Methods

Artifacts recovered from Feature 172 (n=49,750 including unidentifiable fragments) were cleaned, numbered, and bagged according to Bureau of Land Management curation standards with archival safe plastics and storage boxes with acid-free, lingen-free context tags. All artifacts were separated by excavation context and only batched within those contexts. Each artifact received a unique identification number (24MO172-1XXXX) consisting of the site trinomial, dash, then a “1” as the Feature 172 signifier followed by a four or more digit unique identifier. Batched artifacts received only one number and were grouped by material and lack of identifying characteristics.

Cataloguing was recorded in a Microsoft Access database constructed on an attribute based system (see Ogborne 2012, Appendix D for complete database). Separate tables were developed to account for the following artifact classes: glass, faunal, cans, ceramics, metals, and miscellaneous. Each table was populated with attribute categories specific to each artifact class as follows:

Metals: material, class, form, descriptor, quantity, weight.

Ceramics: type, ware, manufacturing technique, vessel category, form, portion, surface treatment, decorative technique, decorative description, decoration location, quantity, weight.

Glass: class, portion, form, shape/descriptor, color, manufacturing technique, decorative technique, decoration description.

Faunal: taxon, element, location, element descriptor, symmetry, butchery method, butchery location, number of butchering marks, condition, quantity, weight.
Miscellaneous: material, class, form, descriptor, quantity, weight.

Cans: style/shape, type, closure, portion, side seam, rim, opening method, cap diameter, end diameter, height, quantity, weight.

All measurements and weights were taken in metric units.

Stratigraphy

Three strata were identified within Feature 172. Stratum I included the surface and range from 1 to 13.5 centimeters in depth, with deeper deposits observed towards the center of the feature. It primarily consisted of loose to moderately packed forest duff which was comprised of decaying leaf matter, twigs, pinecones, decaying vegetation, and other forest detritus. The loose forest duff was dark in color (7.5 YR 2.5/1, very dark brown). Artifact density in this stratum was high.

The second stratum, II (see Figure A.2), ranged from 5 to 12 centimeters in depth and consisted of a clayey sand. In some excavation units, stratum II was arbitrarily divided in a 10 centimeter level (a) and the remainder of the stratum (b). It was observed that level a exhibited a higher density of artifacts than level b. In all excavation units, artifacts disappeared abruptly around 10 centimeters into the stratum.

Stratum III was a more densely packed clayey layer characterized by a yellowish color (10 YR 5/6, yellowish brown). No artifacts were observed in the top of this stratum and it was not excavated.

Data Analysis

Can Remains
A total of 6,679 identifiable metal fragments were associated with cans (excluding 1,658 unidentifiable fragments). In addition to the qualitative measurements previously listed, quantitative data was also recorded using centimeters.

Protocol for measurements included only those elements (height, cap diameter, and end diameter) that were not crushed or bent. This resulted in measurements for 1026 caps, 101 heights, and 157 diameters. The following trends were observed for these attributes: the heights clustered around 8.5, 10.5, and 12 centimeters, the diameters clustered around 7.5 and 10 to 11 centimeters.

These patterns indicate that only a few of the particular can sizes were being deposited into this midden. These data were compared with those standardized measurements found in Earnest F. Schwaab’s guide to the canning industry, dated to 1890. Table A.1 represents the standard can sizes according to his guide and the sizes of condensed and evaporated milk cans from 1885 to 1903. Schwaab’s guide also provides the type of food preserved within particular can sizes (Table A.2).

In comparing the site data to the standardized measurements, at first glance it appears that there may be a concentration of No.1 and No. 3 type food cans and condensed/evaporated milk (Figure A.3). This may indicate a preference for the below listed (see Table A.2) meats, fruits and vegetables. However, when looking at those artifacts that possess both diameter and height measurements, the pattern becomes much less clear. These data indicate that the whole cans found within this feature do not adhere to the standardized sizes established in the last quarter of the nineteenth century, sizes that continued into sanitary can production in the twentieth century. The remainder of the whole cans from this particular feature are slightly too short to be considered No.1 and
No. 3 cans. This may indicate that the particular manufacturer, or manufacturers, of these fragments produced cans that were slightly different in size to the industry standard.

![Sample can and scatterplot](image)

Figure A.3: Sample can from Feature 172 (left) and scatterplot (right) of can heights and end diameters showing the size clusters.

<table>
<thead>
<tr>
<th>Designation</th>
<th>Weight</th>
<th>Diameter in inches (cm)</th>
<th>Height in inches (cm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>1 lb</td>
<td>2 (\frac{3}{8}) (7)</td>
<td>4 (10)</td>
</tr>
<tr>
<td>No. 2</td>
<td>2 lb</td>
<td>3 (\frac{7}{16}) (8.7)</td>
<td>4 (\frac{6}{16}) (11.6)</td>
</tr>
<tr>
<td>No. 3</td>
<td>3 lb</td>
<td>4 (\frac{3}{16}) (10.6)</td>
<td>4 (\frac{7}{8}) (12.4)</td>
</tr>
<tr>
<td>No. 10</td>
<td>1 gallon</td>
<td>6 (\frac{1}{4}) (16.5)</td>
<td>7 (17.8)</td>
</tr>
<tr>
<td>Milk No. 2</td>
<td>2 (\frac{15}{16}) (7.5)</td>
<td>3 (\frac{5}{16}) (8.4)</td>
<td></td>
</tr>
<tr>
<td>Milk No. 3</td>
<td>2 (\frac{15}{16}) (7.5)</td>
<td>4 (\frac{6}{16}) (11.1)</td>
<td></td>
</tr>
</tbody>
</table>

Table A.1: Can sizes indicated by Schwaab (1890) and milk can sizes (Rock 2000).

Account ledgers from the town’s general mercantile show that canned foods were frequently purchased by the town’s residents and mining companies. Approximately 23% of purchases in the years 1895 and 1898 were food items, and 24% of those were canned foods. Excluding baking powder and spices, the most frequently purchased canned goods were: milk (49%), corn (15%), tomatoes (14%), and oysters (6%).

227
<table>
<thead>
<tr>
<th>Designation</th>
<th>Vegetables</th>
<th>Fruits</th>
<th>Meats</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>-</td>
<td>-</td>
<td>clam, crab, lobster, oyster, salmon, corned beef</td>
</tr>
<tr>
<td>No. 2</td>
<td>string beans, lima beans,</td>
<td>apricots, blackberries,</td>
<td>clam, crabs, lobster, oyster, salmon, corned beef</td>
</tr>
<tr>
<td></td>
<td>corn, okra, peas, succotash,</td>
<td>cherries, currants,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>tomatoes</td>
<td>gooseberries, pears,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>pineapple, plums,</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>raspberries, strawberries</td>
<td></td>
</tr>
<tr>
<td>No. 3</td>
<td>asparagus, pumpkin, sweet</td>
<td>peaches</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>potatoes, tomatoes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table A.2: Can contents according to Schwaab's guide.

Reflective in both forms of data is a high frequency of canned milk. While the account ledger data does not detail the sizes of cans available for purchase, in comparing the sizes of the top selling products available, the data complement each other in terms of tomatoes and oysters. Canned corn also presents a problem, as there appear to be a lack of No. 2 sized cans in the collection. However, this discrepancy may be accounted for in how cans are subject to deterioration; in many cases, artifacts possessed only one measurable attribute. There were only 30 cases in which a diameter and a height could be measured for a single artifact. This leaves 198 cases of only single measurements and it is possible that the spike in heights around 11.5 and 12 cms may represent No. 2 cans. The slight height difference noted between the artifacts and the standardized measurements are most likely due to a production peculiarity or the aforementioned issue with the inability to link more than just a handful of height and diameter measurements. Further analysis discussing the poundage of food contributed by these remains is included with the biomass analysis.

The vast majority of the cans were opened using a knife cut, followed by punching (Figure A.4).
Ceramics

The ceramics assemblage from Feature 172 consisted of 2764 fragments. The vast majority of the ceramics were ironstones and semi-vitreous wares. Out of the entire ceramic assemblage, there were only four stoneware sherds, one an industrial stoneware crucible and three sherds of American Blue and Gray, most likely from a large storage crock. The following discussion relates only to those non-stoneware sherds.

Of the 2761 ironstone sherds, 1713 were identifiable to at least the portion of the vessel. Of these, 34% were flat forms (n=573), 12% hollow (n=209), and a remaining 54% (n=906) were unable to be identified in terms of vessel morphology (Figure A.5). Only 571 of these sherds were identifiable to the vessel form. The majority of which consisted of saucers (32%, n=176), followed by plates (27%, n=149), large serving bowls (13%, n=68), platters (9% n=47), and bowls (9%, n=48). Small numbers of mug (3%) and pitcher/ewer (1%) fragments were also identified. The lack of drinking vessels is notable, as is the overwhelming number of saucer fragments.
Of these main vessel types, each group displayed some stylistic variation. The plate assemblage was decorated with two parallel molded lines running along the brim and around the base footring. There were two types of bowls, one heavier with a large, pronounced footring, the other thinner. Similarly, three types of saucers were identified: a thin variety, one with molded lines along the brim, and the last without molded embellishment. There were also two styles of pitcher/ewer, as one group was thinner with a brighter white color. The mugs and shallow bowls appear to be from the same set of dishware. These stylistic variations may represent different pattern styles available and separate purchases.

Four hundred and thirty-one sherds exhibited some variety of decoration, including the aforementioned molded lines. These thin lines and maker's marks were the only decorations observed in the assemblage. Seven distinct maker's marks (Figure A.6), representing four different companies from East Liverpool, Ohio, were identified on 133 sherds. The majority of the marks (see Table 4.1) were Homer Laughlin's semi-vitreous hotel mark, used between 1901 and 1915 (Gates & Ormeod 1982:135). Two other Homer
Laughlin marks were observed: the ironstone hotel ware (1880-1900) and distinctive eagle and lion mark used on ironstones and semi-vitreous wares from 1877-1900 (Gates and Ormeod 1982:111, 132). Other East Liverpool companies represented include: Knowles, Taylor and Knowles, The East Liverpool Pottery Company, Goodwin Brothers, and the East End Pottery Company. It is notable that all marks originate from approximately the same geographic location.

Figure A.6: Percentiles of observed maker’s marks (left) and examples of cross-mended plates from the feature (right).

An examination of Homer Laughlin catalogues in comparison with the sherds from this feature sheds some light onto the very narrow selection of shapes that are represented within Feature 172. Of the forty-two shapes available for purchase within the Hotel collection, only three, possibly four, are present with the feature. These include the footed oyster bowl, plate, and coffee saucer (the exact saucer name remains unidentified as there are six types of similar size).

Glass

A total of 1447 glass fragments were recovered from the Feature 172 excavation units. Of this assemblage 35% were identifiable to at least portion (n=529), 348 of these
fragments being lamp chimney glass. The remaining subassemblage was dominated by bottles (MVC=10), with only a few fragments of drinking vessel glass identified. The majority of these bottles (n=17) were unidentifiable, but alcohol bottles (unidentifiable alcohol, liquor, beer, and wine/champagne) dominate the assemblage as a group (Figure A.7). Two picnic flasks were also identified. The most unique fragments in the glass assemblage were at least two vessels from the A. Schilling & Co., a spice company from San Francisco, CA (Figure 13). One of the first companies to include the volume of their products, Schilling's was the dominant source of spices in the West by 1905 (Toulouse 1971:52-53). It is unknown what these two vessels originally contained.

![Figure A.7: Percentiles of types of bottles (left) and percentiles of manufacturing techniques represented (right).](image)

Several manufacturing techniques were observed within this assemblage. Forty fragments exhibited an indicator of manufacture, the majority of them being unidentifiable molds of some type. The techniques observed were not particularly useful in determining date ranges for these vessels. Cup bottom molds, post bottom molds, applied, and tooled lips were common throughout the latter portion of the nineteenth century. Only one bottle was machine made, most likely in a semi-automatic non-Owen's machine. Similarly, the finish morphology (down tooled, mineral, packer, tapered down,
Perry Davis) was not useful for creating chronologies or establishing diagnostic examples.

Decorative techniques observed included cut and mitred panels as well as ribbing.

**Utensils**

A total of 29 utensil fragments (Figure A.8, Table A.3) were found in the excavated units. Many (n=13) of these fragments were metal utensil handles that could not be identified. However, the majority of the identifiable utensils (n=13) were spoon bowls or complete spoons.

![Figure A.8: Spoon (left) and fork (right) found within the feature.](image)

<table>
<thead>
<tr>
<th>Utensil</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>spoon</td>
<td>13</td>
</tr>
<tr>
<td>fork</td>
<td>2</td>
</tr>
<tr>
<td>knife</td>
<td>1</td>
</tr>
<tr>
<td>unidentifiable</td>
<td>13</td>
</tr>
</tbody>
</table>

Table A.3: Utensil totals.

**Miscellaneous Materials**
While the majority of Feature 172 was comprised of food related artifacts, other materials were observed. The majority (n=245) being wire nails. The table below (Table A.4) summarizes the other artifacts found within the excavation units. Not surprisingly, the base to a copper alloy lamp was found, most likely matching the numerous chimney fragments in the glass assemblage. A negligible amount of artifacts exhibited characteristics of burning (excluding faunal remains) and it appears unlikely that the lamp was included as an incendiary device to burn the waste within this midden.

A number of personal clothing items were found. This included plain shell buttons and one metal button, and several shoe uppers constructed of leather with copper alloy
eyelets. Two of the more unique artifacts within the entire assemblage are the fragment of stove lid and the complete curry comb. While the inclusion of the stove lid is not incongruous with the character of the majority of the assemblage, the curry comb seems anomalous.

A single prehistoric artifact was found, a chert biface tool, although its provenience uncertain, as it was found in the backdirt.

_Faunal Remains_

The faunal assemblage from Feature 172 consisted of 17,289 fragments, of which 36% were identifiable to species and element. Those that could not be assigned a species or element designation were identified to the closest order or family. When this was not possible these fragments were designated by size (large mammal, medium mammal, small mammal, or bird species). In most cases an element identification was possible. Those fragments that could not be identified to at least order were grouped (within individual contexts) into class and, where possible, element type (i.e. long bone, rib). Fragments were identified using comparative skeletal pieces, online resources (Virtual Bison, n.d.) and faunal resource guide (Brown and Bowen 2003; Cohen and Serjeanston 1996; Hillson 1991; Miles 2003). Evidence for butchering, burning or other cultural modifications were also noted during cataloguing of the fragments.

Table 7.1 (page 199) details the NISP (number of identified specimens) and MNI (minimum number of individuals) represented by the faunal assemblage. These two measurements are skewed due to taphonomic and biological causes. NISP counts enumerate the raw counts of fragments within the collection. This is easily skewed due to cultural butchering processes which sever bones into two or more pieces as well as
natural causes that shatter and break bones once within the archaeological assemblage. MNI counts do not take into account the poundage of meat and offal that particular species can contribute to diet. For example, a single cow can feed more people for longer than a single goat. For these reasons, both NISP and MNI are not considered to be accurate reflections for relative dietary importance.

A total of eight identifiable species were found within this assemblage. An additional twelve larger groupings, such as by order or family, were also found. The majority of the identifiable species were domesticated species such as cow, pig, sheep/goat, and chicken. However, the assemblage also included pheasant, elk, rabbits, and a possible turkey specimen. The majority of the identifiable bones were elements that are difficult to assign a species accurately, elements such as ribs, vertebra, and the various bones of the foot. Due to the species present in the collection, it is possible to hypothesize the species of these fragments based on the limited variability in identifiable large and medium mammal elements.

Fish

A total of 31 elements were identified as a fish species. All of these fragments were abdominal vertebra. No attempt was made to assign a species to the fish as a comparative collection was unavailable.

Birds

Bird species contributed 17.42% of the overall NISP count for the assemblage. The majority of these fragments were unidentifiable due to their fragmented states or lack of distinctive characteristics. The remaining identifiable specimens were of the order galliformes, an order characterized by land fowl that includes species such as chickens,
pheasants, quails, and turkeys. Ten fragments could only be identified as belonging to this order. The vast majority of the galliformes could be identified as the domestic chicken (*Gallus gallus*). The second most frequent assignation was to the family phasianidae, which includes chickens and pheasants. Only three specimens could be identified as pheasant and one as possibly turkey. Given the frequency of confirmed chicken fragments, it is possible that many of those included as simply “phasianidae” are actually chicken.

Historical records indicate that domestic chickens were raised by individuals residing in the town, and the frequency of which eggs were purchased at the cash store indicates that there were many chickens at Coloma.

Several species of grouse native to the Montana region are either currently known to reside in the Garnet Range or were historically known to have lived there. These species include the spruce grouse (*Falcipennis canadensis*), dusky grouse (*Dendragapus obscurus*), sharp-tailed grouse (*Tympanuchus phasianellus*), and ruffed grouse (*Bonasa umbellus*). The last native member of phasianidae residing in this region is the white-tailed ptarmigan (*Lagopus leucura*). In addition to these native species, several species of phasianidae have been introduced into Montana since Euro-American settlement. These include the ring-necked pheasant (*Phasianus colchicus*), wild turkey (*Meleagris gallopavo*), and gray partridge (*Perdix perdix*) (Montana Field Guide: Upland Game Birds n.d.). All of these species were observed in the wild in the mountainous regions of western Montana and thus could have contributed to the diet of the residents of Coloma.

Mammals
Mammals, identified to both species or a larger taxonomic group, make up the bulk of this feature’s assemblage, contributing 80% of the identifiable fragments. The majority of these fragments were grouped into larger taxonomic groups such as small, medium, or large mammal. These designations were used because many of the elements amongst, for example, artiodactyla species (sheep, goat, pig) are strikingly similar and it is nearly impossible to determine which species the fragments belong to. However, taking into account the presence or absence of particular species within the collection, many of these fragments, such as the large mammal ribs and vertebra (n=641) and medium mammal ribs, carpals, and tarsals (n=386) were assigned to the species of cow and pig respectively.

The cow subassemblage (see Figure 7.1) was dominated by rib and vertebra fragments, followed by limb and foot elements. When the vast number of ribs are omitted from this subassmblage, the possible butchering cuts represented indicate that less expensive cuts were purchased, rather than the more desirous cuts that result from rib and back butchering. However, when the ribs and vertebra elements are re-incorporated, a different pattern emerges.

Patterns in butchered vertebra show a frequency of cuts vertically through the center and horizontally at the base of the spinous process. This shows a proclivity to prepare whole sides of large animals for purchase as well as potential high-quality steak cuts. The butchered ribs exhibit frequent cuts in the proximal shaft and at the midshaft. These would have produced high quality dishes that were not inexpensive. The lack of cranial fragments in the cow subassemblage indicates that the user of this particular midden was
not performing their own primary butchering. Primary butchering waste, such as the head and the feet, would have been deposited at the initial butchering site.

Raw element counts from pig and elements catalogued as artiodactyla show a dramatic dominance of foot elements. However, it is worth noting that this count is inflated by the fact that one foot contains numerous bones, so this is not an accurate reflection of the overall contribution of these animals to the diet.

Cuts present from pig, (see Figure 7.2) like that of the cow, concentrate in the ribs with high counts in the foot and vertebra. The high number of foot elements, incorporated into the pig assemblage due to the lack of sheep/goat fragments within the assemblage, may indicate a preference for items such as pickled pigs feet, or the purchase of whole sides that included the foot. The cuts present represent high-quality ribs followed by ham and shoulder hock.

Like the cow subassemblage, there is a lack of cranial elements within the pig subassemblage. There are some teeth (n=20) and one mandible fragment within the pig subassemblage. This reinforces the earlier hypothesis that the users of this midden were not responsible for the primary butchering of these animals. An alternative hypothesis is that the primary butchering waste was deposited elsewhere within the town. The presence of the sole mandible and the few teeth may represent a singular meal that would have been unique amongst the others.

Only ten fragments from sheep/goat were found within the collection. This indicates that these species were not significant contributors to the diet of Coloma's residents.

Several species of wild mammals were found within this feature. These included elk (NISP=13), rabbit (NISP=16), and family cervidae (NISP=8). There were also many
(NISP=203) fragments that could only be identified as small mammal. These may have been fragments of rabbit or other small creatures, such as mice or squirrels, which have been seen around the site. It is likely that these small animals may be commensal rather than part of the Coloma diet. Both elk and deer are known to frequent the town and while it is possible that they may have been killed by mountain lions and left in the feature, it is also very likely that they were killed for food by people inhabiting the site for food. This may also be the case with the rabbit remains.

An examination of the frequencies of fused, fusing, and unfused epiphyses for cow and pig shows a dominance of unfused joints (Tables A.5, A.6). The high numbers of unfused epiphyses demonstrates that animals were slaughtered while still juvenile. This indicates that animals were most likely slaughtered at the optimal age for quality of meat, rather than animals that were slaughtered later in life after use as dairy beasts or as yard ruminants.

The major contributor to overall meat diet, using biomass\textsuperscript{16} estimates (see Table 7.1), is beef. Cow remains represented an overwhelming majority (49.84%) of the total biomass. The second largest contributor was unidentified large mammal (27.7%), followed by pig (8.05%). Despite the lack of evidence of cow butchering from this feature, these animals would have comprised of the majority of meats eaten by the individuals utilizing this particular midden. The high percentage of large mammal remains may be representing cow elements that cannot be accurately identified from the characteristics present.

\textsuperscript{16} Biomass estimates were calculated using the allometric equation $Y = aX^b$, where $Y$ represents the total biomass and $X$ the weight of the catalogued bones. Values for $a$ and $b$ were based on calculations from the Georgia Museum of Natural History and the Florida Museum of Natural History(Reitz et al 2010:228). The following values were used: mammal $a=1.12$, $b=.9$; bird $a=1.04$, $b=.91$; fish $a=1.68$, $b=.86$. 240
### Table A.5: Epiphyseal fusion frequencies for cow.

<table>
<thead>
<tr>
<th>Element</th>
<th>Fused</th>
<th>Fusing</th>
<th>Unfused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femur, distal</td>
<td>-</td>
<td>2</td>
<td>8</td>
</tr>
<tr>
<td>Femur, proximal</td>
<td>-</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Humerus, distal</td>
<td>4</td>
<td>-</td>
<td>4</td>
</tr>
<tr>
<td>Humerus, proximal</td>
<td>-</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>Radius, distal</td>
<td>-</td>
<td>-</td>
<td>13</td>
</tr>
<tr>
<td>Radius, proximal</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Tibia, distal</td>
<td>2</td>
<td>-</td>
<td>6</td>
</tr>
<tr>
<td>Tibia, proximal</td>
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<td>1</td>
<td>9</td>
</tr>
<tr>
<td>Ulna, distal</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Ulna, proximal</td>
<td>1</td>
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<td>2</td>
</tr>
</tbody>
</table>

### Table A.6: Epiphyseal fusion frequencies for pig.

<table>
<thead>
<tr>
<th>Element</th>
<th>Fused</th>
<th>Fusing</th>
<th>Unfused</th>
</tr>
</thead>
<tbody>
<tr>
<td>Femur, distal</td>
<td>-</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Femur, proximal</td>
<td>-</td>
<td>-</td>
<td>7</td>
</tr>
<tr>
<td>Humerus, distal</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Humerus, proximal</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Radius, distal</td>
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<td>-</td>
<td>16</td>
</tr>
<tr>
<td>Radius, proximal</td>
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<td>-</td>
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<tr>
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<td>-</td>
<td>1</td>
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<tr>
<td>Tibia, proximal</td>
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<td>-</td>
<td>3</td>
</tr>
<tr>
<td>Ulna, distal</td>
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<td>-</td>
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</tr>
<tr>
<td>Ulna, proximal</td>
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<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Foot</td>
<td>132</td>
<td>93</td>
<td>534</td>
</tr>
</tbody>
</table>

**Biomass Comparison**

In order to compare the amounts of fresh and canned foods a methodology was developed to incorporate the can remains within the biomass analysis. Using the "standard" sizes from Schwaab's guide, measurements from whole cans were used to determine the overall poundage of canned food represented by the remains in this feature. The number of each can type was totaled and multiplied by the poundage indicated in the guides. For cans that did not fall within Schwaab's "standard" sizes, can volume was calculated from the height and diameter measurements and weight calculated using the volumes. The total weight from each size category was added and converted to kilograms. Canned food represented 11.95% of the total biomass when compared with
the total contribution of cow and pig to the overall diet (see Figure 4.10). This indicates that canned foods represented a considerable portion of the overall diet, more so that pig and approximately one third of the fresh beef consumed. Canned food would have lasted for far longer than fresh meats and allowed access to fruits and vegetables that would normally not have survived for very long. Canned food may have been used to introduce variety, maintain health, or for convenience of having fruits and vegetables available. Due to the highly perishable nature of the labels, it is unknown what may have been in these cans. Consequently, this method can only suggest an overall contribution of preserved foods to the diet of this household.

**Discussion**

Feature 172 is dominated by kitchen waste, specifically utensils, vessels, food containers and faunal remains, with only a small percentage of other artifacts. Of these other types of artifacts, nails are the most numerous. The inclusion of these nails is somewhat curious, given that there are no known structures nearby to this midden. The most noteworthy of these artifacts is the intact metal curry comb, used for cleaning of horse grooming equipment or horses themselves, incongruous with the rest of the assemblage.

The faunal assemblage is dominated by domesticated animals: cow, pig, and chicken. While there are a few wild animals present, many of the small ones may be commensal rather than contributors to overall diet. There is, however, historical evidence for the consumption of wild animals (Hammond, n.d.). Therefore, this does not rule out the cervids and wild bird species found within the assemblage as past meals for humans at Coloma.
Many of the cuts represented within the faunal assemblage are of good quality. These cuts include ribs, steaks, and hams. The absence of cranial and foot (with the exception of pig) fragments indicates that the source of this midden was not the primary butchering site for these animals. Meat could have been purchased by the side or in larger butchering units. Secondary butchering is evident by the number of hand cut marks present, showing small disassembly of carcasses at the source of the midden.

The ceramic assemblage is almost completely composed of ironstones/semi-vitreous wares. The shapes present are tablewares rather than storage vessels. The dominance of saucers, plates, and serving vessels is notable. The sheer number of these vessels indicates that the assemblage was not from a household with a nuclear or extended family; there are far too many vessels to be supporting a group of 4-10 people. Rather, the number of these vessels reflects a larger population of people eating. Despite the number of flat vessels, there is not a comparable amount of hollow shapes such as bowls, teacups or mugs. Whether this is indicative of the types and styles of meals being served or more reflective of deposition patterns, meaning these vessels are to be found in the unexcavated areas of the feature, requires further excavation. The assemblage of ceramics implies family-style meal serving; dishes would have been served in vessels and individual diners would have individual place settings.

This feature also exhibits a large number of food cans. This pattern is not remarkable due to the widespread availability and adoption of canned foods in the latter portion of the nineteenth century. Due to the nature of the deterioration of cans, it was not possible to concretely identify the food products once inside them. However, when pairing the sizes of cans present to the available historical data, it is possible to hypothesize what
these cans might once have held. Glass vessels were similarly anonymous, with the exception of the two spice bottles.

As previously stated, there is no known structure near to this midden. Its position in relation to other features indicates that this waste pit was outside of the main areas of town. This may indicate an adherence to Victorian values of cleanliness and sanitation. The number of plates and saucers of similar size and style suggests that this assemblage was from a household that served a population larger than the size of the average extended family. Structures that served large groups of miners are not located nearby. It is therefore possible that this midden is the result of a household that consisted on boarders or guests. Given its relative proximity, it is possible that this midden resulted from the Chamberlain Hotel. However, historical records indicate that residents of the Chamberlain Hotel boarded elsewhere. It is also possible that this midden is the result from a currently unknown hotel or boardinghouse on the western side of the town.
Appendix B: Tin Can Biomass Methodology

Archaeological remains of tin cans present a series of analytical issues. These include: the amount of storage space required to house them, the tendency of cans to not retain their original shape due to taphonomic processes, and the fragility of the metal resulting in thousands of unidentifiable fragments. In addition to these problems, it has not been possible to determine what may have once been in a can unless the paper label has survived. Despite these concerns with this artifact, the tin can represents a key shift in the storage and shipment of foods. The adoption of food canisters forever altered access to perishable foods such as fruits, vegetables, meats, and dairy, allowing more groups to purchase and store what had previously been seasonally unavailable.

The collection from Feature 172 utilized for this research included a total of 6,662 (excluding 1,658 unidentifiable fragments) tin can related fragments. During initial cataloguing it was agreed that, when possible, the height, diameter, and cap diameter of fragments would be measured. Because cans fragment so easily and are often bent out of their original shape, this resulted in a total of 1284 measurable cases. This included 1026 caps and 101 and 157 measurable diameters for heights and diameters respectively. For this study, only heights and diameters were utilized.

The following trends were observed in the collected height and diameter data: heights clustered between 8.20-8.80, 10.10-11.00, and 11.30-12.00 centimeters (Figure B.1), and diameters from 7.21-8.00 and 9.80-10.50 centimeters (Figure B.2). In 30 cases, both height and diameter were measurable (Figure B.3), these data were plotted against each other. I then compiled the semi-standardized sizes for food cans from the late
nineteenth century, derived from Ernest Schwaab's *The Secrets of Canning* (1890) (Table A.2).

Based upon these factory measurements, the clustering of the Coloma artifacts indicate the potential for milk, No. 1, No. 3, and perhaps No. 2 types cans. The bivariate plot of cases with both diameters and heights was even clearer as to the potential sizes, showing clear groupings for the measurements of milk, No. 1, and No. 3 can sizes (Figure B.3).
Again, using Schwaab's guide, I compiled the contents packaged in each size of can. These lists of food items represent the potential contents for the cans excavated from Feature 172. I then compared these data with the types of canned foods purchased at the Miner's Cash Store (see Figure 7.3). The most frequently purchased canned foods were milk, tomatoes, oysters, corn, and peaches. These frequencies correspond with the potential sizes of cans observed in Feature 172, demonstrating that this measurement technique may prove useful for suggesting food items contained with can-related artifacts.

In order to ascertain the relationship between preserved canned food and fresh foods, I compared biomass estimates calculated from the Feature 172 faunal remains with a biomass estimate from canned food matter. In order to achieve this, I developed a methodology to suggest potential poundage represented by each can. Schwaab's guide also provided poundage for each size can. The total number of each type of can...
represented in the collection was multiplied by Schwaab’s suggested weight (Table B.1).

For can vessels that did not fall within one of Schwaab’s “standard” sizes, I estimated can weight based on volume derived from measurement data. The total sum of the weight was then converted to kilograms.

<table>
<thead>
<tr>
<th>Can Size</th>
<th>Estimated Weight (in pounds)</th>
<th>Minimum Number of Specimens</th>
<th>Total Poundage</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. 1</td>
<td>1</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>No. 2</td>
<td>2</td>
<td>40</td>
<td>80</td>
</tr>
<tr>
<td>No. 3</td>
<td>3</td>
<td>9</td>
<td>27</td>
</tr>
<tr>
<td>Unidentified Small</td>
<td>2.3</td>
<td>7</td>
<td>16.1</td>
</tr>
<tr>
<td>Unidentified Medium</td>
<td>2.5 to 3</td>
<td>13</td>
<td>39</td>
</tr>
<tr>
<td>Unidentified Large</td>
<td>4</td>
<td>1</td>
<td>4</td>
</tr>
<tr>
<td>Total</td>
<td></td>
<td></td>
<td>183.1 (83.053 kg)</td>
</tr>
</tbody>
</table>

Table B.1: Can biomass calculations.

Canned food represent 11.96% of the overall biomass (faunal and canned combined) from Feature 172, with cow at 43.88% and pig at 7.12%. The contribution of other species was minimal and therefore not included in this analysis. These results indicate that for the household that produced the waste in Feature 172, canned food represented a considerable portion of the overall diet, more so that pork products. However, faunal biomass estimate do not fully take into account meat cuts that do not contain bone. In the cast of pig, this means that the consumption of bacon may be significantly under-represented in biomass estimates.

I then compared the dietary estimate to those of some of the account holders in the Miner’s Cash Store ledgers (see Table 4.2 and Figure 4.10, reproduced here as Figure B.4). I used the same methodology as above to estimate the total biomass represented by canned products in each account. Not only do these result reveal patterns in purchasing patterns by specific companies and people, they also demonstrate that the data compiled
from Feature 172 are comparable to accounts with exact totals of canned food weight. The two accounts most like Feature 172, those of George Baker and the Baker, Lowery, & Co., both exhibit larger contributions of pig meat to the overall diet. This difference may reflect the purchase of bacon, which is not well represented in faunal data.

![Biomass estimates compiled from Feature 172 and select Miner's Cash Store accounts.](image)

Figure B.4: Biomass estimates compiled from Feature 172 and select Miner's Cash Store accounts.

The results from this particular site have demonstrated that it is possible to glean information about diet from tin can artifacts. However, this methodology is based on only one assemblage, and the contributing weight of part of this sample was estimated by on volume calculations. I suggest that data from additional sites that also have faunal, can
artifact, and store purchase data available be investigated to verify that this methodology is valid and can generate verifiable results. If it is shown to be a replicable methodology, then the contribution of tin can data to archaeological analysis can be greatly expanded, and therefore make critical impact on the foodways analysis of later nineteenth and twentieth century sites.
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