

**THE ARCHAEOLOGY OF ABANDONMENT  
GHOST TOWNS OF THE AMERICAN WEST**

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by

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## **ABSTRACT**

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by

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Between 1901 and 1913, Newhouse, Utah, was a thriving mining community of 1,000. The town had all of the markers for success – the most sophisticated mining equipment and facilities; newly constructed commercial, medical, and residential buildings; a modern railroad and depot; a diversity of leisure properties and activities; and, most importantly, a state-of-the-art water supply system. By the close of 1913, Newhouse was abandoned and most of its physical representations had vanished from the landscape.

During the late 19<sup>th</sup> and early 20<sup>th</sup> centuries, thousands of communities in the American West were established and then abandoned within a few years or decades. The phenomenon created a vast landscape of ghost towns that has evoked interest and curiosity by western novelists and film makers, but very little attention from the academic community. Of the existing research, none has questioned the causes of their abandonment.

This thesis is the first to consider abandonment within the western ghost town context. The research presents detailed information related to the historical and archaeological records of Newhouse and is broadly contextualized through comparisons with other mining sites across the West. The thesis also compares Newhouse with two settlements within Utah – Frisco and Silver Reef – and utilizes regional comparison data for 105 Utah ghost towns compiled specifically for the thesis.

Results of the research reveal that there is enormous complexity in the histories and in physical, social, and economic environments of abandoned places. This diversity contributes to interconnected causes and processes of abandonment and exposes the reasons why settlements like Newhouse were so short-lived. Most importantly, the research demonstrates the potential importance of archaeological studies of western ghost towns and how that can enrich our understanding of this neglected aspect of recent history.



Dedicated to Rebecca Virginia Miller Peyton (1919-2008)

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Like outlaws and cowboys and wagon trains, ghost towns can seem too quaint and picturesque to be the subject of serious thought and inquiry. They seem instead, a more appropriate target for the passions of amateurish, unsophisticated historians. This dismissal of ghost towns is of some consequence because conventional approaches – popular or academic – to western American history have not taken failure seriously.

(Limerick and Klett 1992: 22)

Documentation poses difficulties in any historic preservation task, but the problem is especially severe when dealing with company and resource-based communities. Not only were these communities usually small, isolated, and short-lived, but they have seldom proved to be of interest to historians and other scholars.

(Alanen 1979: 50)

## CHAPTER ONE. INTRODUCTION

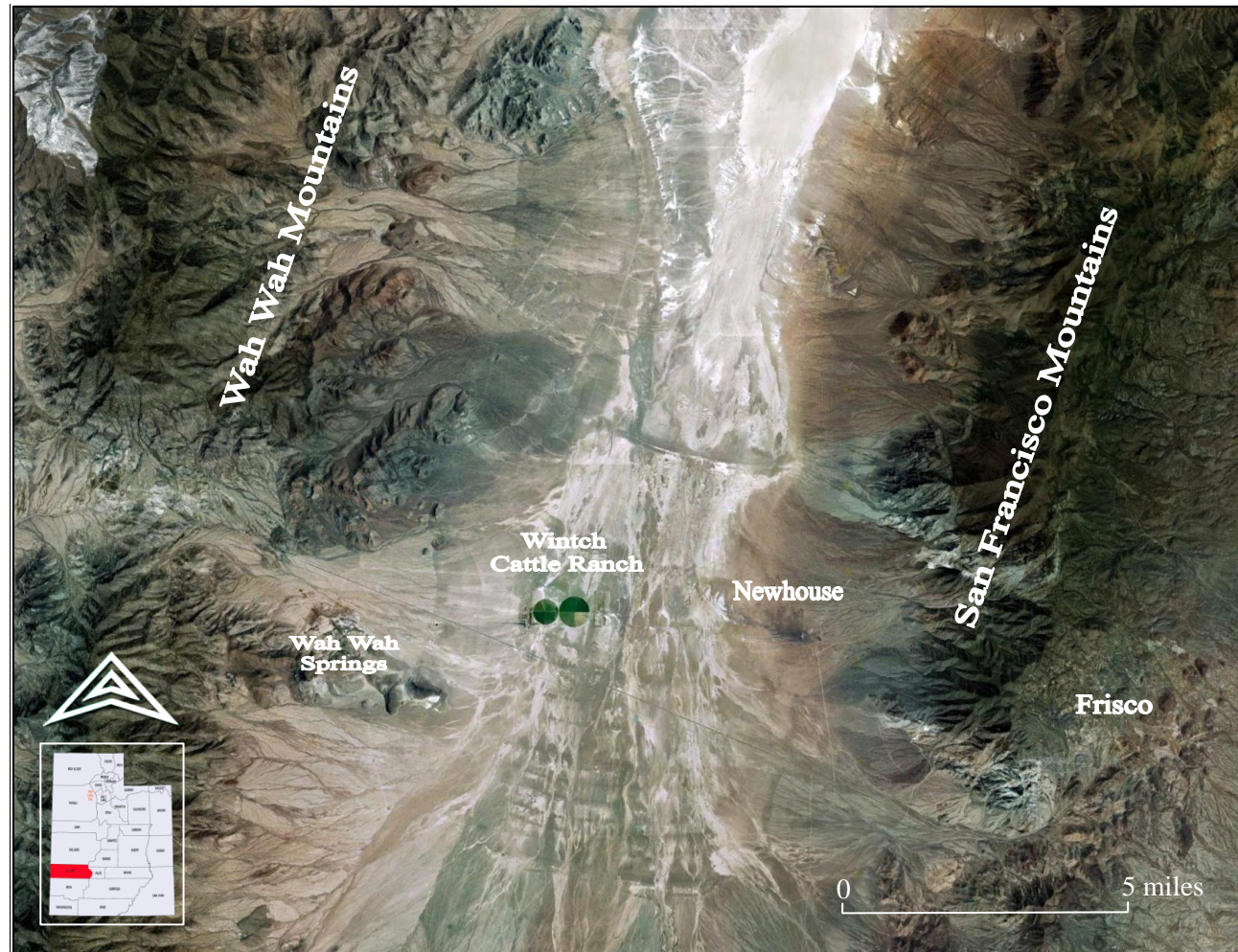
In the minds of most Americans, the term “ghost town” evokes images of desolate western landscapes, dilapidated buildings, and visions of gold miners, gunslingers, and dance hall girls. Fueled by colorful and entertaining material from novelists, television writers, and Hollywood filmmakers, this romanticized notion of western life embodies the fine line between the fictional and true American West. In the 1962 western movie *The Man Who Shot Liberty Valance*<sup>1</sup>, this perception is epitomized by an exchange between two of the movie’s characters – Ransom Stoddard and Maxwell Scott, editor of the newspaper. Stoddard says, “You’re not going to use the story, Mr. Scott?” Mr. Scott replies, “This is the West, sir. When the legend becomes fact, print the legend” (Ford 1962).

For decades, we have been bombarded in what we read and view with messages that make it difficult to determine what is real about the West and what is not. If our aim is only to be entertained, discriminating between the two makes little difference. If we are trying to understand the reality of the American West, we are not likely to find it in these colorful media.

The primary case study in this thesis – Newhouse – is a former mining town situated in Beaver County, Utah (Figure 1-1). The ore-rich mountains surrounding Newhouse have been mined since the 1870s, initially by individual prospectors and small concerns looking for gold and silver. In 1901, Samuel Newhouse, for whom the town was named, purchased the property and Cactus Mine for large scale copper extraction and built an adjacent town. As an experienced and savvy mining entrepreneur, Mr. Newhouse invested enormous energy and capital into making both the mine profitable and the town a model community. Within a year, a modern town

---

<sup>1</sup> *The Man Who Shot Liberty Valance* was a black and white film directed by John Ford and based on a short story written by Dorothy Johnson. The story revolves around the unlikely killing of a gunfighter (Liberty Valance) by an attorney (Ransom Stoddard), who was new to the town and unskilled with guns. Although complete fiction, the film was recognized in 2007 as being “culturally and historically significant” and placed into the Library of Congress’ National Film Registry (Ford 1962; Library of Congress 2007).



**Figure 1-1. Location of Newhouse: Wah Wah Valley, Beaver County, Utah**

The distance between the Wintch Cattle Ranch and Newhouse is approximately 5 miles (7.5 miles by road).

(Base Image Source, Google Earth 2010)

was constructed and the mine had produced \$3.5 million worth of high-grade copper (Robertson and Harris 1962:133). Newspapers across the United States (*The New York Times* 1903 and 1904; *The Salt Lake Mining Review* 1902a and 1905a) and even in Europe recounted the Newhouse success and the entire venture was heralded as “an endeavor to be envied” (*The Desert News* 1904). And yet, except for about 30 hardy stragglers, by 1913, Newhouse was deserted and the mining operations had ceased.

Abandonment is a complex process, but the cause offered for the collapse of most late 19<sup>th</sup>-century – early 20<sup>th</sup>-century western ghost towns is almost always the same – economics. For communities like Newhouse that are focused on extractive processes, abandonment is usually attributed to the depletion of mineable ores, or, in mining vernacular, “the ore played out” (Hardesty 1985: 215; 2010: 179; Purser 1999:120). With few exceptions, factors other than economics are rarely advanced or even noted and, until this research, the subject as it relates to western ghost towns has been almost entirely ignored in narratives of the West (Limerick and Klett 1992: 22).

## 1.1 GENESIS OF THE RESEARCH

In 2006, I was assisting a colleague with a summer archaeological field school in Milford, Utah. The field school was designed to instruct Pasadena [California] City College students and a few avocational enthusiasts in the mechanics of archaeological field and laboratory techniques. Although the field school was focused on an archaeological site associated with the prehistoric Fremont culture (750-1250 A.D.), the Milford area is also a historically significant area of the west central Utah frontier and remnants of the westward migration are seen in mining landscapes, abandoned railroad alignments and depots, and distinctly 19<sup>th</sup> century vernacular buildings.

Given my training as a historical archaeologist, my colleague suggested that during my stay in Milford, I might enjoy visiting Newhouse and Frisco, two late 19<sup>th</sup>-century ghost towns about 25 miles to the west. When I saw Newhouse for the first time, I was immediately struck by the remoteness of the site and its nearly barren landscape. For a town that once had a population of about 1,000, little remained other than a maze of dirt roads and the remnants of a few buildings – mostly industrial. A once elaborate water system had deteriorated and was no longer operational, but a visit to the water source (Wah Wah Springs about 9 miles to the west) revealed that a plentiful supply of potable water was still being produced. The Newhouse landscape

teemed with wildlife (reptiles and small mammals), but the only sign of human activity was from a cattle ranch about five miles across a dry lakebed to the west (see Figure 1-1). Almost 93 years after Newhouse was abandoned, there was also limited mining being conducted by Horn Silver Mines, Inc., on the flanks of the San Francisco Mountains.

By all historical and geological accounts, the surrounding mountains – the Wah Wah range to the west and the San Francisco range to the east – remain rich with gold, silver, and copper, and there are pockets of marble and precious stones (beryl). Given this, the availability of water at Wah Wah Springs and, inasmuch as it is in my nature to question such things, I was reluctant to concede that Newhouse had collapsed after only 12 years simply because “the ores played out.” Inquiries about the settlement revealed that little was known about Newhouse and its history, that nothing substantive had ever been published about it, and that it had been subjected to only one very limited archaeological investigation in the 1980s.

This thesis, then, expands the archaeological and historical context within which Newhouse is set; documents the town’s physical elements using archival, photographic, mapping, and other professional archaeological methods; and explores the various factors that caused its abandonment. Examples from across the western United States, as well as two regional ghost town sites – the mining towns of Frisco, Utah, and Silver Reef, Utah – are used for comparison.

## **1.2 BACKGROUND**

After the discovery of gold at Sutter’s Mill, California, (1848) thousands of immigrants and eastern U.S. residents flocked to the American West. White (1991: 189) posits that all of these pioneers had a common goal – that of improving their condition – but that the location chosen for settlement and how they ultimately achieved this objective varied greatly. The precious metals miners, particularly those in search of gold and silver, were seeking quick wealth and had little intention to settle permanently. The agriculturalists and those relocating for health, climatic, or other reasons sought stability, cheap land to raise a family, and a more promising place to continue their occupations. Ranches, farmsteads, homesteads, mining and railroad camps, and other small communities developed rapidly across the western landscape, but the ability of many of them to sustain themselves, grow, or thrive varied dramatically. Some survived the highs and lows of prosperity – commonly known as boom and bust cycles



– and developed into modern western cities. Others could not recover from the lows, or never found their niche, and vanished, appearing today as little more than long forgotten names on a map.

In simple terms, a ghost town is a settlement that has been abandoned. Although such places are found worldwide, the specific term is most often associated with derelict mining settlements in the American West. In the United States, the term was first used in the early 1870s, but was popularized between 1915 and 1920 when it began to appear in travel articles and tourist guidebooks (Poff 2004: 1-14). Hard surfaces replaced dirt roads during that era, highway signage became more widespread, and increasing use of the automobile made traveling long distances more reliable and affordable (DeLyser 1998:77). American historian Earl Pomeroy noted that the automobile was “a major factor in a reorientation of tourists activities and interests in the early twentieth-century West” (Pomeroy 1957: 147) and Belasco wrote that “of particular importance in ghost town travel were two factors: touring by automobile and auto camping that allowed travelers to more readily explore remote regions of the West” (Belasco 1997: 23-24). Once America’s ghost towns were more accessible, they became a valuable natural (or semi-natural) resource for enticing visitors to the West (Limerick and Klett 1992: 21). More than 100 years later, ghost towns are still a subject of considerable popular interest and fascination.

Conversely, professional and academic researchers have shown little interest in this subject. There is a remarkable scarcity of professional archaeological investigation of the ghost town site type in general and there is even less literature that directly addresses the issue of abandonment at more contemporary sites (Stevenson 1982). There are common misconceptions about western ghost towns as well and these are exposed in the research questions presented below. Among the most disconcerting is that because of their short life spans (usually less than 50 years) and shallow footprints, they have little archaeological research potential. One of the goals of this study has been to demonstrate that this is not the case and that very useful data can still indeed be found within the material remains of this site type.

The wider potential of the study has been explored by analyzing a database of 105 Utah ghost towns compiled specifically for this research, by reviewing the complex histories of hundreds of ghost town settlements across the West, and through

archaeological field work and artifact analysis. Using these methods, it can be argued that perceptions and misconceptions about western ghost towns are largely unfounded. Among these are that the preponderance of ghost towns are associated solely with mining, that abandonment occurred because of economic factors (with little consideration given to other causes), and that there is no research potential in the deserted landscapes of western ghost towns and their “small things forgotten” (Deetz 1977:161).

### **1.3 RESEARCH FOCUS AND QUESTIONS**

Four research questions are addressed in this thesis, each of which contributes to a better understanding of late 19<sup>th</sup>-century – early 20<sup>th</sup>-century American West settlements. As described in Chapter Two, the subject of abandonment has considerable depth in academic books and articles; however, the existing research is largely focused on prehistoric and indigenous settlements. The broad subject of western ghost towns has depth in popular media (novels and American film), but has received limited scholarly attention. With the exception of a few publications (e.g. Jackson 1963; Stevenson 1982; Limerick 1992b), the question of abandonment as it relates to American West ghost towns has been almost completely neglected and, therefore, is a subject that deserves further examination.

Many additional avenues for future research were revealed during the writing of this thesis. Some of the themes are worthy of a thesis on their own merit and would most certainly require substantial investment to adequately consider the issues. To keep this thesis focused – and within the word limit – most of the future avenues of research could not be pursued with much depth. They are, however, referenced in the writing and discussed in Chapter Six to give some indication of the potential scope for future examination.

#### **1.3.1 Research Focus One**

The first research question explores the extent to which economic factors are responsible for the abandonment of American West ghost towns in general and Newhouse specifically. Chapter Two outlines a range of causes for abandonment that includes commonly recognized issues (e.g. economics, the environment) as well as aspects that are often overlooked (e.g. environmental vulnerability, planning).

Historical aspects of the research suggest that there is rarely a single cause that results in the collapse of a settlement and that the critical factors (triggers) vary because of the physical, social, and environmental composition of the particular community.

### **1.3.2 Research Focus Two**

Research Question Two considers a number of issues surrounding the short life span of most ghost towns and whether or not that diminishes their significance within the context of American West archaeology and history. This question relates to the way that the West has been portrayed in popular culture and how that perception has translated into a subject that western archaeologists do not readily find worthy of serious study. The ephemeral nature of ghost towns usually produces shallow archaeological deposition as well. Surface deposits can be compromised by natural forces, intrusion (e.g. subsequent land uses), and human interaction (e.g. salvage, unauthorized artifact collection) and, as in all archaeology dealing with surface remains, such factors need to be considered in their interpretation. This research question also considers the relationship between the type and placement of artifacts deposited at the time of abandonment and how that is reflected in the condition and spatial arrangement of them in the modern ghost town landscape.

### **1.3.3 Research Focus Three**

Professional archaeological and historical investigations at American West ghost town sites, particularly in Utah, are limited in number and largely focused on issues other than abandonment. Most relate to the technological aspects of a particular industry (e.g. mining, timber processing) (Hardesty 1988, 1998a, 2006), a specific facet of life (e.g. boom town saloons) (Dixon 2002, 2005); or a particular movement or event (e.g. the labor/strike issues associated with coal mining in the early 20<sup>th</sup> century) (Saitta 2001; McGuire and Reckner 2005). The lack of academic interest in the abandonment of these settlements may be, in part, due to two factors: (1) the mindset that economic factors are always the root cause – in other words, if the abandonment trigger is already known (real or perceived), why study it? and (2) that linking the archaeological record with intangible behavioral processes is an inherently difficult business. As suggested by Minette Church (2002:238), Assistant Professor of Anthropology, University of Colorado, Colorado Springs, archaeologists are usually more at ease with solid

scientific explanations than more elusive reasons. Research Question Three, then considers whether – and how – the story of abandonment for western ghost towns can be revealed through the archaeological remains (artifact analysis and spatial arrangement) or whether the range of possible abandonment alternatives is most accurately exposed through scrutiny of the complex histories associated with specific settlements. The outcome of this research helps to answer these questions and fills a void left by previous studies.

#### **1.3.4 Research Focus Four**

The database discussed in Chapter Four utilizes a range of 22 attributes gleaned from historical, geological, and public records (e.g. population, elevation above sea level, climate) and encompasses both the typical ghost town model (non-company boom towns) and company towns. This type of exercise has not been undertaken previously for any set of ghost towns and offers a unique opportunity to statistically assess physical, cultural, and environmental characteristics that might not be recognized solely through a review of historical records or field work (e.g. Does the elevation of a community above sea level have an appreciable environmental effect on lifespan?). Although not a research question in the typical sense of the term, this thesis also questions the value of statistical data as they relate to this under-investigated site type and the value of applying the information to larger datasets. Given the thousands of ghost town sites located across the West, the tool could provide direction for future research through the realization of useful and unanticipated results.

### **1.4 THESIS ORGANIZATION**

Chapter Two of this thesis discusses the scholarly research previously conducted at western ghost towns and discusses the various causes of abandonment. The chapter presents three overlapping historiographical and theoretical perspectives (frameworks) that provide both context and a basis for analysis. The methods used during the archaeological field work comprise the final sections of Chapter Two.

The background and historic context for each of the three case study locations are provided in Chapter Three and are the platforms upon which each community is viewed and interpreted. The text and figures in Chapter Three include elements of the

physical, historical, and social environments at all three settlements and the Newhouse section provides a brief biography of Samuel Newhouse, who was a major factor in both the development and collapse of the Newhouse mining community. Chapter Three also points out similarities and differences among the three towns.

Chapter Four discusses the Utah database. The database was used for collecting and organizing a range of available data about Utah's ghost towns and encompasses a majority of the abandoned settlements recorded within the state (105 of approximately 125). Although it is a subset of a much larger region (roughly 2,557 abandoned settlements within an 11 western states region), the database is strongly representative of the western ghost town setting. The data utilize unique attributes (e.g. climate, elevation, years of operation, peak population) that have been interpreted in both text and chart form and provide an objective way to quantify settlement characteristics – sometimes with unexpected results. This body of data points out the complexities of the physical and abandonment histories in Utah and presents results that might have been overlooked through the historical research and field work alone.

In order to assess the nature and character of the archaeological remains, Chapter Five presents field data relating to artifacts and features at various loci and points within the three case study sites. Ten loci were examined at Newhouse and four at Frisco. As possible, similar features (e.g. boarding houses) were investigated within and between the case study sites so that comparisons could be made.

Landownership issues at Silver Reef precluded field work, but the collection at the Silver Reef Museum was photographed and analyzed for artifact comparison. The assemblages at Newhouse and Frisco consisted entirely of broken bits and pieces (i.e., no whole items) and the complete items housed at the Silver Reef Museum became an invaluable source for identifying them.

Chapter Six of the thesis presents the results of the research, revises some of the commonly held misconceptions about this site type, and offers suggested ways forward for additional research. Chapter Six is followed by an extensive bibliography that should prove useful to future examiners of this subject and Appendices A through H, which are referenced throughout the thesis, provide valuable supporting information related to the field work and the thesis analysis.

## CHAPTER TWO. FRAMEWORK AND METHODS

This chapter begins by describing the importance of the interdisciplinary approach to this research and the general progress made by researchers towards the subject over the last 15 years. Potentially relevant studies of mining and the current state of research in Utah – the study region – follows these introductory paragraphs and that is followed by the foundations of the thesis, which I have chosen to call “frameworks.” Given the strongly interdisciplinary nature of the research, Framework 1 considers the perspectives of historians and geographers and reveals how conflicting perceptions about the why and what of the West contributes to the dearth of serious inquiry conducted on western ghost town sites. Framework 2 considers landscape characteristics, particularly of mining towns, and whether or not the spatial relationship of artifactual remains can be an indicator of the abandonment process. This framework is largely based on the previous work conducted by historical and landscape archaeologists. Framework 3 considers the processes associated with abandonment from the perspective of social scientists and how those processes relate to western ghost towns in general and the case studies specifically.

Douglass (1998:98) points out that the interdisciplinary approach – i.e., differing perspectives; the relationship between archival, journalistic, and literary research; oral historical accounts; and standard survey and testing – is the most effective way to reconstruct ephemeral settlement patterns. Douglass also suggests that western mining camps are a perfect environment for historical archaeologists because of the records that were kept (newspapers, diaries, mining claims, and legislation); the attention that rich mineral strikes attracted; and their short life-spans, which generated a large number of sites with archaeological potential.

In this regard the western (North American) mining camp is an ideal candidate, approximating a controlled laboratory experiment, for the historical archaeologist. Many western mining camps had their own newspaper within months of their ore discovery, attracted considerable journalistic and literary

attention, generated a body of official documentation (mining district legislation, mining claims, township incorporation, etc.) and experienced a boom-to-bust cycle over a short time frame, thereby creating ample ‘sites’ for archaeological excavation (Douglass 1998: 98).

Dixon (2002: 14) supports Douglass’ opinion by noting that the interrelationship of cultural, historical, and archaeological contexts is critical when developing research questions and Church (2002: 221) argues that only by using the data from all available sources can we fully understand cultural interaction and change. DeLyser (1998: 14-15), who completed her dissertation on the ghost town of Bodie, California, was so struck by the lack of academic material related to western ghost towns specifically, that she was compelled to use the interdisciplinary approach because “there was very little in the way of academic work on ghost towns for me to consult.” Indeed, without the interdisciplinary approach advocated by these and other scholars, this thesis could not have been written.

## **2.1 STUDYING THE AMERICAN WEST**

For decades, historians and historical archaeologists working in the American West have lamented the general lack of professional research in the region. In 1989, Malone (1989:409) noted that many of the leading universities in the West had begun to de-emphasize study of the region. Schuyler commented that many researchers simply thought that the West had no history and, therefore, no historical archaeology, although he attributed the indifference more to the presence of an incomplete framework for interpreting the sites than from true disinterest – a situation that was also found with the same period site type in the East (Schuyler 1991: 6, 16).

More recently, interest in the history and archaeology of the West has been increasing. This includes renewed focus by university programs, federal agencies, and private researchers on a wide range of western topics – past and present. Among these are the University of Nevada, Reno’s program chaired by Dr. Donald Hardesty, which has been studying the archaeology of the mining West in general and is actively conducting research about Depression-era mining in Nevada (Hardesty 2010; White 2011). Dr. Kelly Dixon’s current research at the University of Montana, Missoula, has

been focusing on the frontier towns of Coloma, Virginia City, and Lolo, (Dixon 2002, 2005, 2007) and Dixon and Schablitsky have recently excavated a Donner Party campsite in California (Dixon 2010). Along with Meredith Ellis, Dixon has also recently investigated a Chinese encampment at China Gulch, Montana (Ellis et al., 2011). Dr. Minette Church, University of Colorado, Colorado Springs, has published the results of research on homestead landscapes in Colorado (Church 2002) and recently examined a late 19<sup>th</sup> – early 20<sup>th</sup>- century settlement adjacent to the Santa Fe Trail (Staski et al. 2008). Dr. Benjamin Pykles, Church History Department of the Church of Jesus Christ of Latter-day Saints (LDS), has undertaken research at Iosepa, Utah, to interpret the lifeways of an LDS (Mormon) Polynesian settlement located there between 1889 and 1917 (Smart 2010) and Dr. Bonnie Clark, University of Denver, is actively investigating a unique community from the World War II era (Amache) – one of several Japanese American internment camps in the western United States (Clark 2010). The *Journal of the West* also dedicated the entirety of its Summer 2010 issue to *Teaching in the American West*, with papers such as “From the Little House to the School House and Beyond: Experiential Learning through the World of Laura Ingalls Wilder” and “Teaching the American West” (Collier and Wieck 2010: 8-9) (Miyamoto 2010: 34-40).

### **2.1.1 Mining Studies**

While it is not uncommon in historical archaeology to utilize resources and theories from other disciplines, it is particularly important for this thesis because of the lack of subject-specific professional investigations. Although studies of ghost towns are lacking, there is a significant and growing body of research relating to mining which has proved very useful for this study. In 1998, Knapp et al., edited a volume focused on the archaeology and anthropology of mining – the [perceived] majority industry of American West ghost towns. Contributors to the volume included archaeologists, anthropologists, and ethnohistorians and the articles covered a wide range of issues, several with relevance to this study. Hardesty (1998a: 81-96), for example, explored aspects of power relation as an organizing principle in western mining communities that provides useful information for discussions of paternalism. The article offers a short section on company towns and the culture of dominance. Simmons’ article on prostitution and red-light districts (1998a: 59-80) and their physical placement in the



mining town landscape has direct relevance to all three of my case studies, and Bell (1998a: 27-38) and Lawrence (1998a: 39-58) provide interesting comparisons with other mining landscapes from the Australian Outback. Bell focuses on the distinctive elements of mining landscapes and Lawrence offering insights about gender and community structure in the Australian gold fields.

As noted, Dixon (2002, 2005, 2007, 2010, 2011) has published research on western mining settlements in Montana and Nevada. Her Nevada research focuses primarily on the ethnic and socioeconomic affiliation of boom town saloon patrons and owners, particularly the African American experience in Virginia City. Her research does not include company towns, nor does it explore reasons for abandonment, but her discussions of social conditions focused on alcohol consumption and saloons provide useful comparative information. Randall McGuire (2005, 2002, 1998), Paul Reckner (2002, 2000), Dean Saitta (2003, 2001, 1999), Phillip Duke (2001), and Mark Walker (2005, 2002, 2000), have individually and jointly published extensively on Colorado coal mining settlements as part of the Colorado Coal Field War Project (Buchli and Lucas 2001). This research focuses on the archaeology of politics (union labor movements) at the company town of Ludlow, Colorado. Although these authors do not focus on the abandonment of Ludlow, their research is complementary to the discussion of Silver Reef where there were labor issues and a strike in 1881 (Stucki 1966:94).

Cameron and Tomka (1993) edited a volume on archaeological approaches to abandonment at various sites worldwide that presented some valid points; however, all of these articles focused on prehistoric and indigenous settlements. Stevenson (1982) discusses the discard and abandonment behaviors at mining camps in the Yukon Territory, Canada, and historian Patricia Limerick (1992b) considered what might be learned from the abandoned landscape of Rhyolite, a short-lived gold rush town in Nevada (1905-1911).

While all of these works support elements of this thesis, most have not substantively added to the focus – the archaeology of abandonment at late 19<sup>th</sup>-century – early 20<sup>th</sup>-century ghost towns. That the abandonment of these settlements has not previously attracted academic attention may be explained by several misconceptions, most specifically that the ephemeral nature and shallow footprint of the site type equate to too little history and archaeological value to make them worth academic examination;

that economics is almost always the root cause of abandonment (therefore, why study it?); and that the media-romanticized notion of ghost towns does not portray them as subjects for serious inquiry.

### **2.1.2 Utah Research**

In the state of Utah – the case study area – the main thrust of archaeological interest is in prehistoric site types. Few historical sites have been surveyed, tested, recorded, or otherwise subjected to professional archaeological investigation and there is no existing state-wide historical context or specific research strategies. Conversations with State of Utah archaeologists (Hansen and Dykman 2008) reveal that there is no formal program for historical archaeology in Utah and that regional archaeologists have expressed little interest in the numerous abandoned landscapes. Known Utah investigations relating to historical sites include the documentation of five charcoal kilns at Frisco, after they were determined to be eligible for inclusion in the National Register of Historic Places (U.S. Department of the Interior, Heritage Conservation and Recreation Service 1982) and occasional surveys (i.e., without testing) of some of the state's mining sites during reclamation projects (Bassett 2008, 2010; State of Utah 2003). Given the reclamation focus, two of these encompassed portions of the industrial areas (mine shafts, adits, and mill features) at Frisco and Newhouse, but neither investigated the associated town sites.

In the 1980s, Dr. Robert Schuyler (University of Pennsylvania) conducted archaeological investigations at Silver Reef and that research is most closely aligned with this thesis. The field work was conducted between 1981 and 1987 and included mapping of and surface collection in the town's commercial district; some excavation was undertaken at the sites of a saloon, a drug store, and the Cosmopolitan restaurant. Like the current research, Dr. Schuyler's investigations were interdisciplinary and encompassed extensive archival research – particularly local and regional newspaper accounts and biographical materials from some of the town's former residents (Schuyler 1988: 61, 63). A large archival and artifact assemblage was collected during Dr. Schuyler's seven years at Silver Reef and is housed at the University of Pennsylvania's Museum of Archaeology and Anthropology. Communication with Dr. Schuyler in January 2009, however, indicated that the results of the research had not been published

and that the curated materials were stored and currently unavailable for analysis (Schuyler 2009).

The most recent relevant Utah research has been undertaken by Dr. Benjamin Pykles (2007-2010). The focus of his research is the Hawaiian Mormon settlement of Iosepa, south of Salt Lake City (Miley 2008a and 2008b) and efforts to protect and preserve the town site and describe what daily life was like there (Pykles as quoted in Miley 2008a: 1). With the exception of several newspaper articles, Dr. Pykles' research is unpublished as of March 2012.

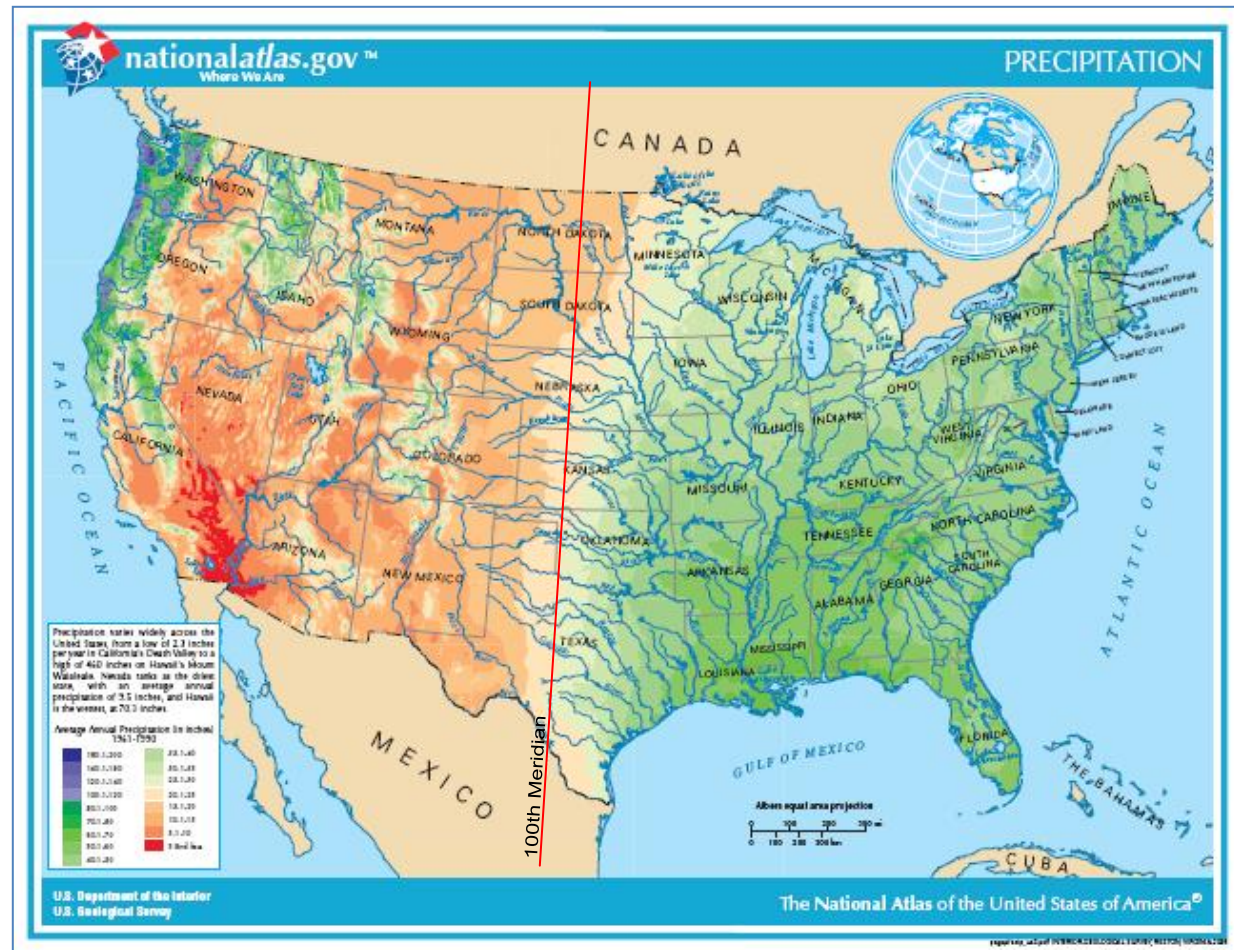
## **2.2 THE FRAMEWORKS**

### **2.2.1 Framework 1. Defining the American West: Place vs. Process**

Perhaps the only certainty about the American West is that there is no universal agreement on exactly where or what it is. Using topographic markers, the West may encompass everything west of the Missouri River, or the Mississippi River, or the Rocky Mountains, or the 98<sup>th</sup> Meridian, or the 100<sup>th</sup> Meridian, ending at the Pacific Ocean on the west and bounded by the Canadian and Mexican borders on the north and south (Figure 2-1) (Worster 1986:145; Malone and Etulain 1989:9; White 1991:4; Limerick 1991:1; Righter 1996:125; Hardesty 2002: 3; Stegner 2002:45).

*Significance of the 100th Meridian.* The 100th Meridian was established in 1879 and can be traced to the explorations of John Wesley Powell a surveyor for the U. S. Geological Survey. This line of longitude also approximates the 20-inch isohyet. To the east of the 100th Meridian, average annual precipitation is in excess of 20 inches. When an area receives more than twenty inches of precipitation, irrigation is often not necessary. Thus, the 100<sup>th</sup> Meridian, or the 98<sup>th</sup> Meridian depending on perspective, represents the boundary between the non-irrigated East and irrigation-necessary West.

As originally proposed by Frederick Jackson Turner, the West has also been defined as a cultural process or form of society rather than a place. This point of view advocates the concept of a constantly advancing frontier that became more and more American as it moved westward (Turner 1893, 1896, 1921, 1925, 1932). Turner initiated this perspective in 1893 when he addressed a meeting of the American



**Figure 2-1. Precipitation Map of the United States**

This figure shows the 100<sup>th</sup> Meridian and the contrast between the moist eastern half of the United States and the arid West. (U.S. Department of the Interior, U.S. Geological Survey 2005 [adapted])

Historical Association at the World's Fair in Chicago, Illinois. The focus of his address (subsequently known as the frontier thesis) was a belief that the expansion of the West affected both the character of the American people and its institutions. Turner also minimized the importance of women and minorities in the development of the West and proposed that the American frontier ceased to exist in the year 1890. Turner based this notion on the 1890 U. S. census, which he believed clearly showed that unsettled areas of the West had been so disrupted by pockets of settlement that there was no longer a clear frontier boundary (Turner 1893:1-2).

Since most of Turner's contemporaries strongly believed that America's political and social paradigms were not uniquely American, his theory was not well received at the Chicago meeting and initially failed to gain much support. Nonetheless, it precipitated an enormous amount of research and writing on the history and meaning of the frontier (Billington 1971, Burkhart 1947, Paul 1977, Taylor 1949, Webb 1931), which enjoyed some periods of acceptance and other periods of academic disdain (Flagg 1997:2). Regardless of which perspective one takes, Turner's thesis is considered by most historians to be the origin of the field of "Western" history and continues to dominate theoretical debates even after more than a century. Periodically scholars have posed new or supplemental theories for the shaping of the West based on regionalism and diversity (e.g. variations in geography and cultural composition) (Neel 1996; Righter 1996) or environmental conditions (particularly aridity) (Reisner 1993; Webb 1957: 25; Worster 1985), but as late as the mid 1980s, no widely accepted alternative to Turner's framework was forthcoming and his thesis remained intact (Nash 1973, 1991; Larson 1999). As noted by Cronon (1987:160), "we have not yet figured out a way to escape him." In contrast to Turner's premise, Susan Neel (1996:113-114) humorously notes that trying to understand the West from the perspective of the frontier "is like viewing the scenery from a moving car – the passing terrain is blurred and distorted."

A more physical description of the West was proposed by W. P. Webb in 1931. Unlike Turner, he proposed that physical elements of the region – e.g. geography and environment – played the most significant role. In *The Great Plains*, Webb (1931:8-9) contrasts the heavily forested areas of the eastern United States with the Great Plains

and uses the 98<sup>th</sup> meridian as the separator. At this geographic point, in Webb's opinion, just about everything on the western side was dramatically different.

Marc Reisner (1993:3) supports the definition of the West as an arid place and describes the area as both hostile and uninhabitable. Neel (1996: 113-114) questions the use of aridity as a defining feature of the West, arguing that aridity as a definition of the West only has meaning when it is compared to the *normal* East, "where the landscape is verdant, the wide rivers are traversable, and all the 'customary' ways of making a life from the land are possible." Neel's definition, of course, depends on where one is standing and how one defines normal.

The West as a mythological frontier is less focused on geographic boundaries and climate and more centered on the various stories and images (real or perceived) that first drew people to the West and later helped them relate that experience to their past (Faragher 2006). According to William Kittredge (1999:44) many migrants to the West were searching for opportunity and freedom and the hope of a new and more successful life. This, Kittredge describes as the "official mythology," which was all too often soon replaced by the realities of social instability, disappointment, and, sometimes, failure. Richard White (1991: 623-631), David Murdoch, and others have considered the perceptions of the West as a mythical or imagined place as well. Such perceptions (or misconceptions) have become essentially inseparable from the truth.

Both White and Murdoch suggest that there is a true and datable origin of the mythical West. White (1991: 123) links this to the explorations of John C. Fremont in the mid 1800s and his subsequent popular publications. Consummate weavers of embellished adventures, Fremont and his wife, Jessie, published stories that transformed Fremont's legitimate travels into romantic tales that enticed readers to move to the West.

Murdoch's view of the origin of the mythical West is similar, but more focused on the publications of early western journalists, their (often distorted) interpretation of western life, and the birth of the dime novel<sup>2</sup>. As supported by the dialog in Chapter

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<sup>2</sup> Dime novels became extremely popular in the United States and England between the mid 1800s and the 1900s; they are the predecessor of the modern paperback novel and were typically aimed at young, working class audiences. Known as "Penny Dreadfuls" in England, subjects included not only the western genre, but also mysteries, romances, and "tales of urban outlaws" (Brooks et al. 2010).

One (*The Man Who Shot Liberty Valance*), Murdoch's belief is that the imagined West was deliberately invented by a handful of western writers who painted the cowboy as a mythic hero for marketing purposes. The ploy worked quite well as the fictionalized West continues to resonate with lovers of western literature (Murdoch 2001: xii). In describing the archaeology of western ghost towns Hardesty cautions us that what we see in modern landscapes undoubtedly represents the mythic West in a far more romantic way than critical evaluation can support (Hardesty 2006: 516).

In considering Neel's premise that the West is a mosaic – a place of diversity and extremes – Robert Righter (1996:125) proposes that the West is more of an environmental montage, more akin to the landscape after a wildfire whose erratic nature creates a patchwork of different environments. Similarly, Gundars Rudzitis (1996: 104) proposes that the image and root of Western culture is contained in a slightly different type of mosaic. In this model, small towns surrounded by expanses of open space are the true essence of the West and not the urbanized areas that are so common today (e.g. Los Angeles, Phoenix, Denver). Supporting Rudzitis' argument, Wallace Stegner, who is well known for his description of the West as “the geography of hope and the challenge against which our character as a people was formed” (1961:2), was asked how he would advise a film-maker desiring to make a movie about a place that is so difficult to define. Stegner's response was (2002: 115):

I would steer him away from broken down rodeo riders, away from the towns of the energy boom, away from the cities, and send him to just such a little city as Missoula [Montana] or Corvallis [Oregon], some settlement that has managed against difficulty to make itself into a place and is likely to remain one...these towns and cities still close to the earth, intimate and interdependent in their shared community, shared optimism, and shared memory. They are likely to be there when the agribusiness fields have turned to alkali flats and the dams have silted up...

In 1987, Patricia Limerick published *The Legacy of Conquest: The Unbroken Past of the American West*. Supported by contemporary scholars with similar viewpoints, particularly Richard White (1983, 1991, 2006), Limerick proposed that the history of the American West deserved a fresh perspective. Known as the “New

Western History,” this point-of-view defined the West as primarily a place west of the 100th meridian, but also an area that has been affected by various manmade and natural processes. The new perspective did, and does, however, reject the advancing frontier concept and the specific date of 1890 for its end. Proponents of the New Western History see the processual aspects of the West as convergence of people – women, men, Indians, Europeans, Latin Americans, Asians – and their interactions with each other and the environment (Limerick 1991:85). White (2006: 1) complements this view with his belief that the West is a result of various transformative events occurring historically within the region west of the 98<sup>th</sup> meridian and that these events are what make the modern West different from other regions of the country.

Not all of Limerick’s and White’s contemporaries embraced their philosophy. Cronin maintained that Turner’s general approach was still sound in the face of the New Western History (Cronin 1987:175) and Worster (1987:146) was more aligned with Webb’s thesis rather than Turner’s, namely that environmental conditions, particularly aridity, are the defining factors. In Worster’s opinion, migrants to the West, regardless of their race, ethnicity, or gender, spent their lives trying to eke out an existence from a region of pronounced environmental scarcity.

There continues to be no consensus about the where and what of the American West and no resolution to the argument of place vs. process. In 1991, Walter Nugent, Andrew V. Tackes Professor of History, Notre Dame University, confirmed this through a survey of 480 members of the Western History Association (WHA) (predominantly historians) and Western Writers of America (WWA) (editors, publishers and writers) (Milner et al. 1997:16). The survey posed three progressively open-ended questions (Nugent 1992:4-11):

1. How would you describe the boundaries of “the West”
2. Where are you now (i.e., physical location of the respondent) and where would you have to go to get to the edge of the West?
3. What characteristics set apart the West, as you have defined it, from other regions?

The survey also included a map of the United States with insets for Alaska, Hawaii, and Puerto Rico. So as not to skew or influence the responses, the map purposefully did not indicate landscape features (rivers, mountain ranges, etc.), Mexico,



or Canada, but it did show state boundaries. Of the 251 respondents, the results were just as ambiguous and divided as the subject has been for the past 30 years (Table 2-1).

**Table 2.1. Results of Nugent Survey**  
**“How would you describe the boundaries of the West?”**

<b>Who Responded</b>	<b>Western History Association</b>	<b>Press*</b>	<b>Western Writers Association</b>	<b>Total</b>
<b>Total Respondents by Group</b>	<b>187</b>	<b>25</b>	<b>39</b>	<b>251</b>
Non-Geographical Response	23	1	16	40
Geographical Response	164	24	23	211
<b>Eastern Boundary</b>				
Boundary at Mississippi River	36	2	7	34
Boundary at Red-Missouri Sabine Rivers but excluding east Texas	7	0	2	9
98 <sup>th</sup> Meridian	27	2	1	30
100 <sup>th</sup> Meridian	24	1	2	27
Eastern border of Montana/New Mexico	5	5	1	11
Other	145	0	0	15
Unclear or did not Respond	6	0	4	10
<b>Western Boundary</b>				
Pacific Ocean	97	10	6	113
Pacific but excludes large cities	3	0	1	4
Pacific but excludes all or part of California	3	1	0	
Cascade or Sierra Mountains	9	3	5	17
Excludes all of California, Oregon, and Washington	4	0	0	4
<b>Northern Boundary</b>				
49 <sup>th</sup> Parallel	57	13	6	76
Includes parts of Canada, Arctic Circle or Ocean	8	0	1	9
Other	1	0	0	1
Unclear/Blank	38	9	6	53
<b>Southern Boundary</b>				
Mexican Border	75	11	7	93
Includes Part of Mexico	40	2	6	48
Other	3	1	0	4
Unclear/Blank	39	9	9	57
<b>Includes Alaska (Along Northern or Western Boundary)</b>				
Yes	52	2	4	58
No	10	0	2	12
<b>Includes Hawaii</b>				
Yes	20	1	2	23
No	22	0	2	24

\* Journalists with an interest in American West subjects.

(Adapted from Nugent 1992: 2-23)

The exercise showed no clear consensus on what and where the American West is and that the issues surrounding the opposing arguments are not likely to change in the foreseeable future. As Patricia Limerick wittily remarked in 2008, “Certainly ‘New Western History’ has some of the qualities of a showdown, with the Old and the New taking aim at each other from opposite ends of Main Street” (Limerick, as quoted in San Paolo 2008).

What these different, and sometimes opposing, views show us is that there is no simple way to describe the West and certainly no clear indication of how ghost towns might figure in the varied narratives or an often fictionalized context. This conundrum affects those of us who are trying to interpret ghost town sites and may be partially responsible for why there has been little scholarly interest in them. The lack of consensus alone is certainly not a deterrent; however, combined with the fact that historical archaeology, in contrast to the study of prehistoric and indigenous research, is a minority interest in much of the West – and Utah in particular – and that the ghost town site type lies on the margin of academic curiosity has affected what we currently know about them as well as assumptions about their research potential.

### **2.2.2 Framework 2. The Landscape of American West Ghost Towns**

American archaeologists, historians, and preservationists work within a framework of four general landscape types (U. S. Department of the Interior, National Park Service 1994:2). Of the four – designed, vernacular, historic, and ethnographic – almost all late 19<sup>th</sup>-century – early 20<sup>th</sup>-century western ghost towns are now, and were during their active years, of the vernacular type. Expressed through the social or cultural attitudes of an individual, family, or community, vernacular landscapes reflect the physical, biological, and cultural character of everyday lives.

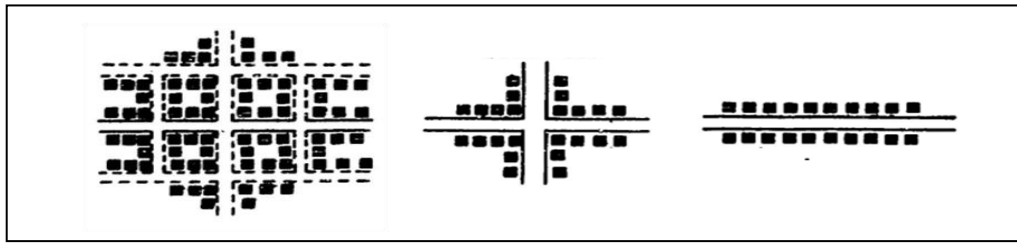
Given their vernacular nature, the landscapes of western ghost towns are projections of industrial, commercial, and cultural features and activities; however, they are also reflections of the identities, values, and attitudes of the workers and residents. In company-operated towns (i.e., typically those owned and managed by corporations), the landscape often reveals the attitudes and authority of the owners as well. There is no definitive guidance for reading or interpreting a ghost town landscape; however, Pierce Lewis offers some thought-provoking principles that are useful for understanding

vernacular settings in general. The principles offer a good platform for case study interpretation and their relevance is revisited in various sections of the thesis. The principles also provided direction for making order out of the chaos created by the more than 100 years of natural and human interference that has occurred at the sites since they were abandoned. Lewis' principles include (1979: 13-19):

- The culture of a community is unintentionally reflected in its ordinary vernacular landscape. People will not change that landscape unless they are under very heavy pressure to do so.
- There is equality in the landscape. Most items in the human landscape are no more and no less important than other items in terms of their role as clues to culture.
- Landscapes, however important they may be, are hard to study by conventional academic methods.
- Landscapes must be interpreted using the historic context of the people that made them, rather than using modern cultural paradigms.
- Most cultural landscapes are intimately related to the physical environment; therefore a basic understanding of the physical landscape is essential.
- Most objects in the landscape, although they convey all kinds of messages, do not convey those messages in any obvious way.

### **The Mining Landscape**

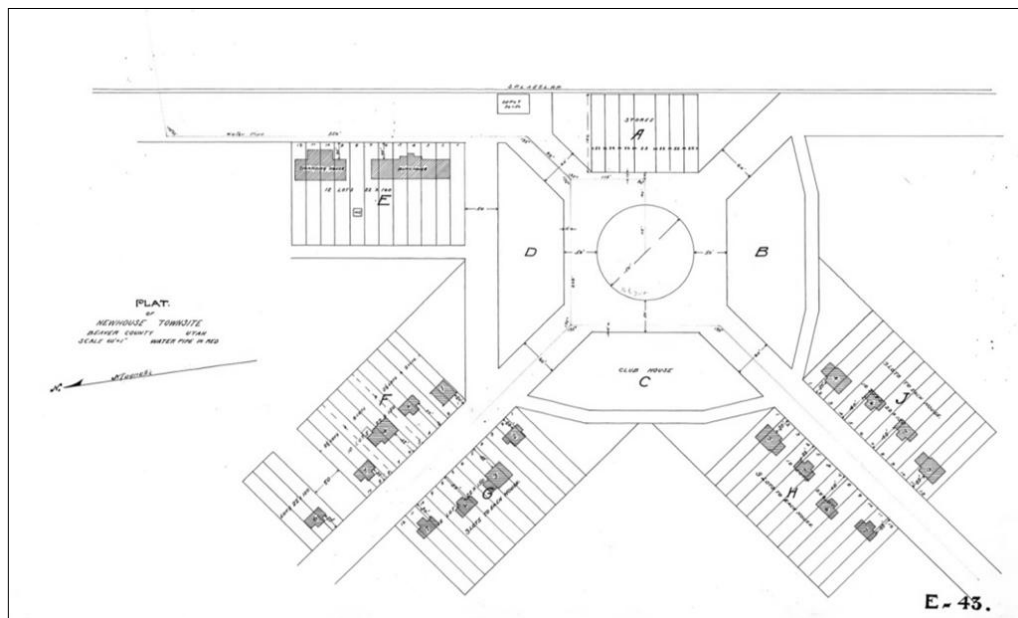
Within the various types of vernacular landscapes, mining landscapes generally appear in one of four common designs – block, linear, cruciform, or fragmented (Figure 2-2). The forms were first recognized by Gillenwater (1972: 60-61) during his research of coal mining towns in the southeastern United States; however, the forms are found in the ephemeral mining communities of the American West as well and are clearly evident in the planning and remnants of the three case studies (Figures 2-3, 2-4, and 5-64).



**Figure 2-2. Mining Community Designs**

Left to right: Block, Crossroad, Linear. The fragmented style is a combination of one or more designs.

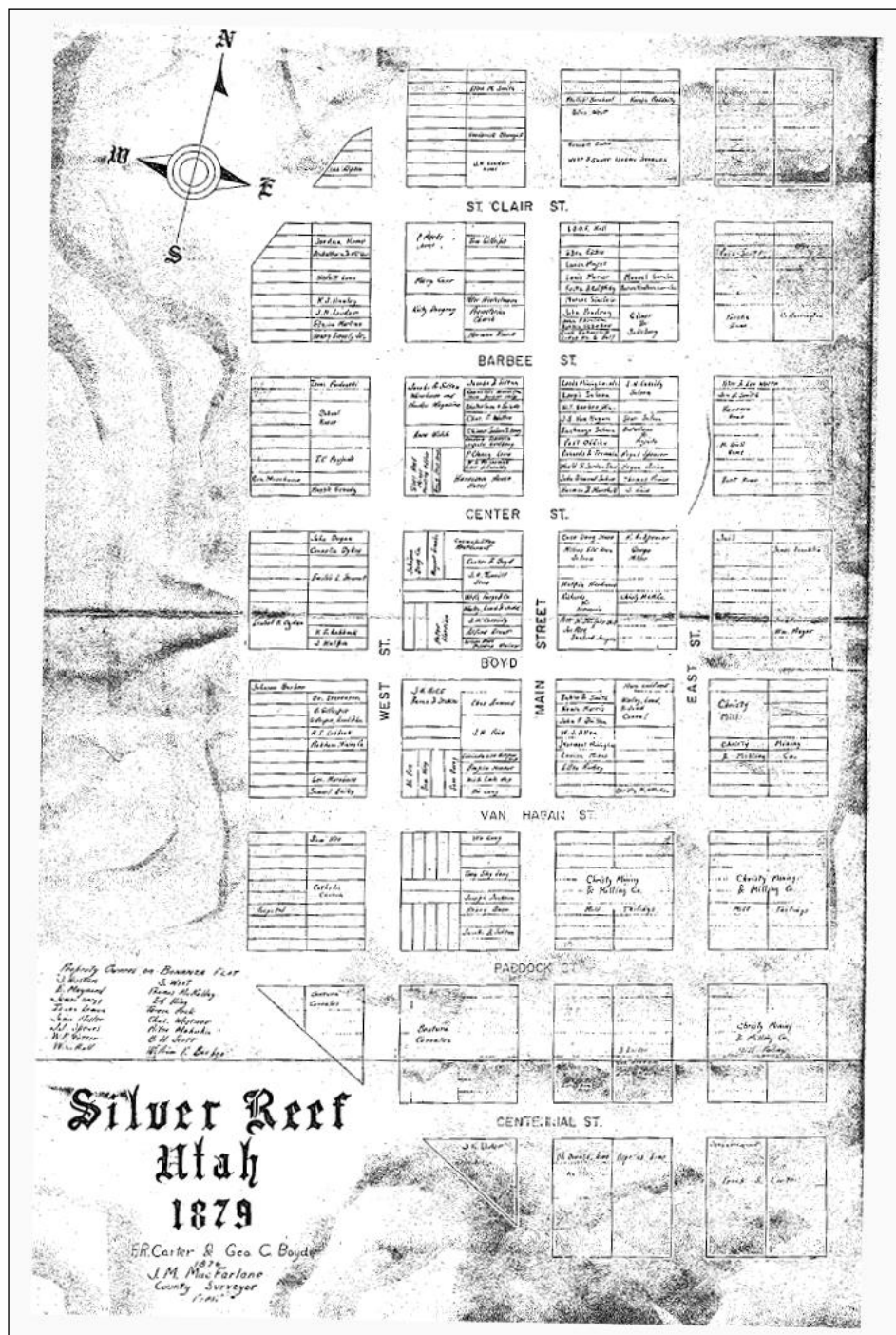
(Adapted from Gillenwater 1972: 66)



**Figure 2-3. Newhouse Company Town Site Plat – Cruciform or Crossroad Design**

Drawn by R.A. Moser, Mechanical Engineer, Salt Lake City, August 16, 1904

(Utah State University 1904)



**Figure 2-4. Plat of Silver Reef, Utah 1879 – Block Design**  
(Original plat as reproduced in Stucki 1966:140)

Block settlements are laid out in a grid pattern and on generally level terrain. Linear settlements conform to a road or trail through a valley or steep mountain. Buildings in these communities are rarely more than one or two deep along each side of the road. Cruciform or crossroad settlements follow roads that radiate from the center of town, and fragmented settlements, which are more complex and generally shapeless have a combination of block, linear, and cruciform and develop with little planning (more typical of non-company towns).

Following Gillenwater's mining landscape typology, all three of the case study sites were fragmented, but with strong supporting components. Newhouse was completely fragmented until the company town portion was constructed in the cruciform/crossroad style. Early drawings show the roads and buildings radiating out from a central area much like the spokes of a wheel (see Figure 2-3). Frisco and Silver Reef were laid out with block-style commercial districts (see Figures 2-4 and 5-64), although Silver Reef also had a linear component due to its location on either side of a deep valley.

Recognizing the various designs for each case study (through comparisons with historic maps and modern aerial photographs), helped to identify features that might have been overlooked in such heavily disturbed environments.

### **Ghost Town Types**

For the purposes of this research, there are two types of ghost towns in the western United States: non-company constructed (often referred to as "boom towns") and company constructed towns. The non-company constructed towns are the majority and the type that is depicted and heavily romanticized in popular western literature, movies, and television (e.g. Tombstone, Arizona; Dodge City, Kansas; Virginia City, Nevada). Company towns – some of which also experienced boom and bust cycles – are less frequently discussed in either academic or popular literature and, based on this research, are far fewer in number (less than 8 percent of the overall total reviewed for this thesis). In general, company towns are established by corporations out of necessity (Roth 1992: 173-176) (e.g. to entice large stable workforces to remote areas), commonly laid out in a purposeful and orderly manner, and strongly subjected to

paternalistic influence<sup>3</sup>. Non-company towns, which are more haphazardly planned, are settled and populated largely by single miners and an outgrowth of individual desires for financial gain rather than a company focused endeavor. The agents of abandonment for both settlement types are discussed in Section 2.2.3 (Framework 3).

There may be similarities between non-company towns and company towns (e.g. both are usually situated in remote, isolated areas and developed around similar industries); however, the circumstances of their development and abandonment can be quite different. The industries associated with both types of towns are varied and include timber harvesting, fishing and canning, ranching, farming (including orchards), and transportation hubs (e.g. railroad-related communities). All of these types of communities are broadly considered in this thesis and they are each represented in the database; however, the case studies are focused on mining and most of the discussion and analysis revolves around that industry.

The following sections describe the various characteristics, attributes, and features of both boom town and company town landscapes as they relate to this research. The purpose of the discussion is to show the many variations in the physical, environmental, and social elements of these two town types; however, exceptions to the descriptions can surely be made. Based on a review of hundreds of these remote communities and the more detailed information accumulated for the case studies (Chapter Three) and the Utah database (Chapter Four), the general descriptions are, therefore, provided simply as models within which the case studies can be viewed. Following the general discussion is a more detailed history of Calico, California. Complementary to the three case studies, the profile offers a glimpse into the full life cycle of a southern California silver mining boom town.

### **Non-Company Towns**

Non-company towns are the result of the massive movement of Anglo American, black American, European immigrants, Mexican immigrants, and Chinese into the American West beginning in the mid 19<sup>th</sup>-century (White 1991: 183). The earliest of these migrants were entrepreneurs and speculators, largely farmers or miners,

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<sup>3</sup> *Paternalism* is the relationship between employee and employer. Paternalism involves care and control (sometimes oppressive) and is suggestive of the relationship between a father and child.

seeking to “improve their condition” by buying and improving large parcels of inexpensive land or (from 1849 onward) by hoping to strike it rich in the gold fields of California. By 1880, the character of the migrants was changing from individuals and small groups with personal aspirations into larger investors with more far reaching economic interests. As noted by White (1991: 184), at the end of the 19<sup>th</sup> century, the railroad, the telegraph, and the flood of migrants had completely transformed the western landscape and created settlements in such numbers that the American West was one of the most urbanized regions of the United States.

Many non-company towns began as mining or logging camps. Lacking formal planning, these were disorganized places consisting of covered wagons, tents, and crudely built shelters and they were not established with sustainability in mind. Once there was reasonable assurance that the community would survive for more than a few months, more orderly development was often pursued by community organizers based on a pattern of grids or blocks (see Figure 2-4). Even with this simple plan, however, consideration was rarely given to the terrain or whether something could actually be constructed within the grid. Most historic plats – a plan or map showing property boundaries and geographic features – show a crowded central or main street lined with a variety of buildings, although the shape of the plat varies and the growth was largely organic.

Although Phelps-Dodge dominated the local economy of Bisbee, Arizona, with the Copper Queen mine and built most of its major buildings, it did not control the town, a wide-open western mining camp famous for its saloons and brothels. Without any planning or control, the town expanded up the steep hillsides (Crawford 1995: 131).

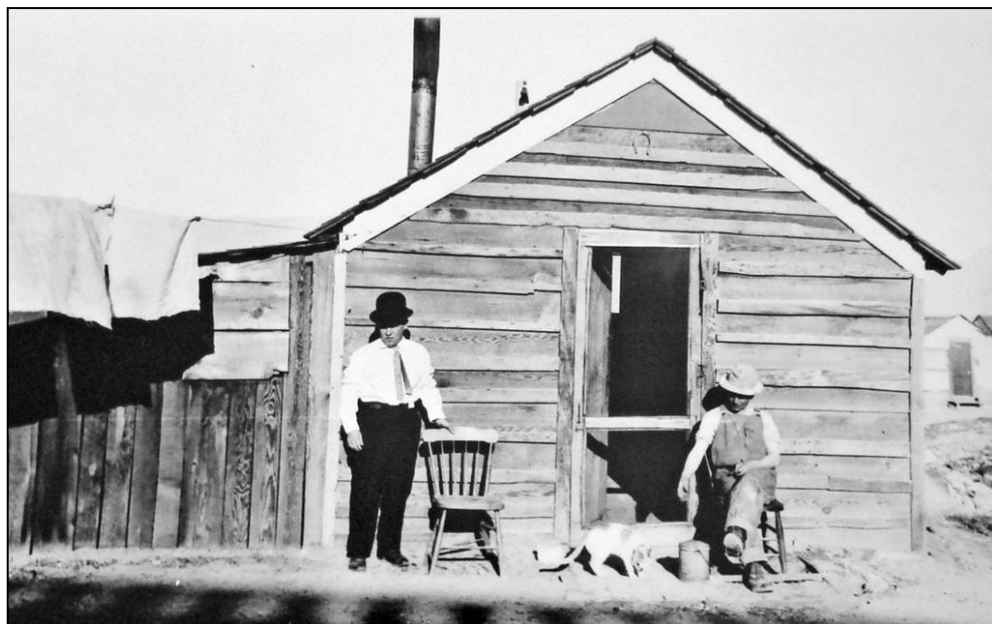
Commercial districts in mining towns differed from non-mining communities in size and the diversity of services. Francaviglia (1991: 35) attributes this to the demographics of mining [boom-type] towns, which were skewed towards single males and a dependence on others for their preferences in goods and services.

Dwellings were usually located away from the town center or at either end of the main street(s) to avoid the noise, dirt, and mud created by commercial activities. This placement also segregated the more “respectable” population from areas of prostitution,



gambling, and other nefarious activities. In describing the Montana Territory, Stout (1921: 244-245) noted that even in the daytime, the streets were filled with rowdy miners and loud music that often resulted in confrontations ultimately decided by “brute force, the stab of a knife, or the discharge of a revolver.” Residents of the silver mining town of Calico, California, which was a generally peaceful community, placed most of its dwellings well to the east of Main Street and its commercial district for the same reasons.

Dwellings were also predominantly of fire-prone wood and of no particular design or size. Of the hundreds of non-company constructed towns reviewed, there were no architectural plans or dwelling designs found. However, through the review of historic photographs, most were small, one- or two-room homes (Figure 2-5) or lean-tos; some were little more than shacks partially dug into the sides of hills (Whittaker 2008). Single miners generally preferred these hasty constructions because they could be easily dismantled and the usable portions transported to another location if desired (Bell 1998: 36).



**Figure 2-5. North Newhouse Miner’s Dwelling ca. 1908**

Note the shadow of the elevated railroad trestle in the foreground. This image was likely taken in the vicinity of Newhouse Locus 8 (see Chapter Five). The identities of the men in the photograph are unknown.

(Courtesy John and Mark Wintch)

***Cousin Jack Houses.*** Although no plans for non-company constructed town buildings were found during the research, one distinctive dwelling design was common in the mining West. The scattered hillside dwellings were known as “Cousin Jack” houses. The derivation of the term is Cornish and refers to crude miner dwellings of piled rock and scraps of wood (Figure 2-6). The dwellings were so named because of the Cornish miners that constructed them, many of whom were named John, but called Jack. Given the number of Cornish miners that worked across the American West, many were also cousins of one another (Mellen 1950: 2).



**Figure 2-6. Cousin Jack House 1950**

In this image, Martha Berry, a historian in the Calico, California, area is exploring a Cousin Jack House near the Bismark Mine. The crude constructions are little more than piles of rocks and scraps of wood and are found on the hillsides of mining settlements across the West.

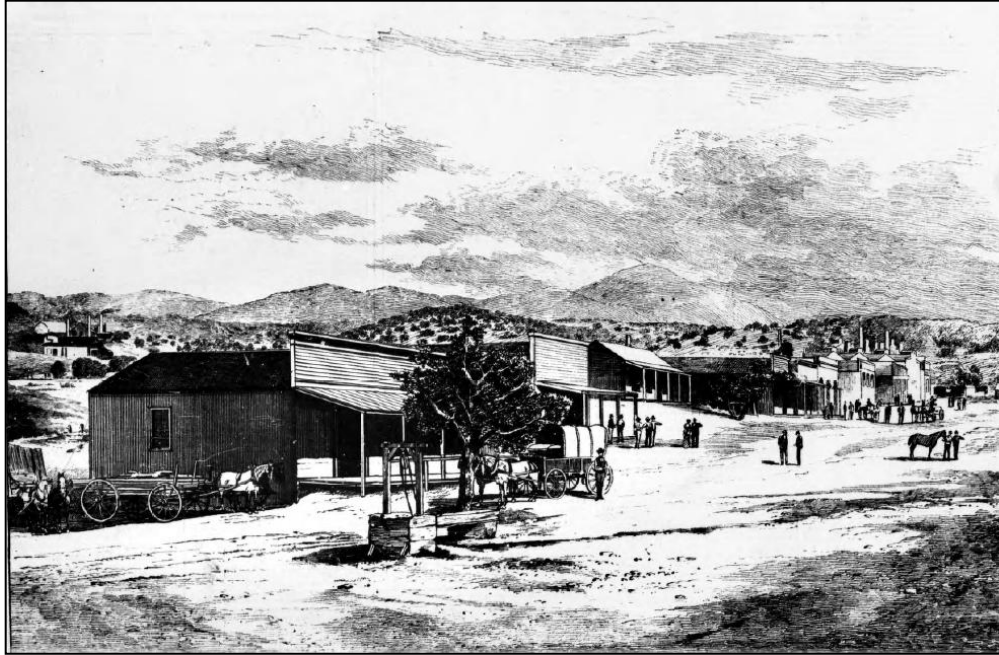
(Courtesy Orange County, California, Archives)

There was rarely any enforced control over the type and location of commercial or public buildings (Allen 1966: 80), but the businesses typically had false-fronts<sup>4</sup>, plank sidewalks, and deep overhanging porches; streets were wide (about 100 feet) so

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<sup>4</sup> *False front* construction uses materials and scale to create a deceptive appearance. The technique is most often applied to modest or inexpensive commercial buildings to give the illusion of greater size or importance.

that horse-drawn wagons could turn around easily (Francaviglia 1991: 34) (Figure 2-7). Larger boom towns almost always had either an interdenominational church or a one-room school house that was also used as a church and Sunday school; one or more cemeteries were also common. As the towns grew, commercial structures, such as



**Figure 2-7. Main Street Frisco, Utah 1879**

Typical western boom town with false-front buildings, plank sidewalks, and wide dirt streets.

(*The Daily Graphic: New York* 1879 (July 2))

banks, jails, or general stores were built of stacked or cut stone or brick conveying an image of permanence and importance.

When Luther Perkins erected his new building in Coffeyville, Kansas, in 1890, a bank robbery was the farthest thing from his mind. Like his fellow citizens, he felt the town had come of age. The design of the new building would convey the permanence and elegance a proper town should display. It would house needed businesses, professional offices, and the new C. M. Condon and Company Bank (U. S. Department of the Interior, National Park Service 2010).

Unlike company towns that had some form of centralized control, lawlessness was a serious social issue in most mining camps and boom towns (White 1991: 328-352). Most communities did not have their own sheriff, marshal, or jail. Rather, census

records (which enumerate the profession of each resident) and newspaper accounts of criminal activity indicate that they utilized the services of county law enforcement situated at either the county seat or the closest large town. Committees formed from the town's residents were set up to deal with most issues (Jackson 1963: 60), but in towns where crime was particularly rampant, a sheriff would be hired – at least long enough to rid the town of unwanted elements. An article from the *Silver Reef Miner* (1881) illustrates the conditions found in many of these communities:

Almost daily and nightly occurrences of the most disgraceful and violent character are witnessed upon our streets and about our popular resorts. Life and property seem at the mercy of the lawless class, who in open day plunder unprotected dwellings and resort to unrestrained violence, and make night a bedlam scene of bloodshed and riot. This condition of things is growing monotonous in the extreme, and coming as it does from new importations.

According to community histories and newspaper accounts, most of the recreational activities in non-company towns were oriented to single male miners. Footraces, baseball, prize fighting, and horse racing were popular outdoor sports, and drinking, gambling, and billiards in the local saloons was popular in bad weather. In towns with larger female populations, vaudeville stage shows, concerts, and dancing were also popular (Jackson 1963: 72; Smith 2003: 11-12; Sprague 2003: 57, 68-70).

United States and Utah census and cemetery records between 1880 and 1930 reveal a high percentage of first generation immigrant residents and a low density of women and children, which was partially due to the harsh social and physical environment of the West during this period. Stout (1921:245) likens the low number of women in the early years of western Montana settlement as “an evil of great magnitude, for men become rough, stern, and cruel, to a surprising degree under such a state of things.”

The exact numbers of women, Indians, and immigrants in many communities is not known. Requirements of the specific census and the types of questions that census-takers were directed to ask, makes exact counts impossible. In addition, prior to 1900, Chinese residents, non-registered voters, and residents of the tent town areas of most communities were often either excluded from the census or lumped together (e.g. “C”

referred to both Chinese and all other Asians) (United States Census Bureau 2010). The census of American Indians was kept on an entirely different form, if at all. Cemetery records for most ghost towns, which became useful for this type of information in later decades, are either lost for earlier years or were never completed. Because of deterioration or vandalism many cemetery headstones are missing or unreadable and exact numbers cannot be made. The Calico, California, cemetery for example is estimated to contain between 96 and 130 graves, but none of the original headstones remain and there is no complete burial record (Baltazar 1995: 68). A similar situation exists with all three thesis case studies.

Newspaper accounts and tax rolls also show the density of immigrant workers in the West during this period, however, and the U.S. Census Bureau clearly recognized the growing numbers. Later 19<sup>th</sup> century censuses asked questions about language and county of origin, reflecting the increasing number of immigrants, and a growing anxiety over the social effects of current immigration (Hendricks and Patterson 2002). The presence of large numbers of immigrants is documented at all three case study locations in the census and cemetery records and also reflected in various historical documents (books, manuscripts, newspaper accounts). A representative page extracted from the 1900 census record for Frisco is shown as Figure 2-8. Of the 50 individuals enumerated on this page, 38 (or 76 percent [%]), are listed as immigrants from England, Sweden, Holland, Finland, or Australia. Four migrated to Frisco from other states (8%), seven are natives of Utah (14%), and one did not provide a birthplace.

### **The Company-Constructed Town**

In the United States, the first industrial company towns appeared on the east coast in the 1790s (Patterson, New Jersey and Humphreysville, Connecticut) and were established for the burgeoning textile industry (Crawford 1995: 11-13). Company towns, as communities, were built to support the operations of a single company and within which the dwellings, buildings, and all other real-estate were owned by that company (Allen 1966: 4; Roth 1996: 176). After researching nearly 200 company towns in the American West, Allen recognized variations within this definition, which included (Allen 1966: 4-5):

T-224

TWELFTH CENSUS OF THE UNITED STATES.

1554

B

State Utah County Wasatch Township or other division of county Wasatch Precinct Name of Institution \_\_\_\_\_

Name of incorporated city, town, or village, within the above-named division Frisko Ward of city \_\_\_\_\_

Enumerated by me on the 12 day of June, 1900, G. H. Hume Enumerator

Superior's District No. 8 Utah Sheet No. 7  
Enumeration District No. 71

10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100									
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

Figure 2-8. Twelfth Census of the United States Frisco, Utah

Page 8 of the Frisko Census, June 12, 1900. The column bounded in red indicates the "Place of Birth of this Person."

(U.S. Census 1900b)

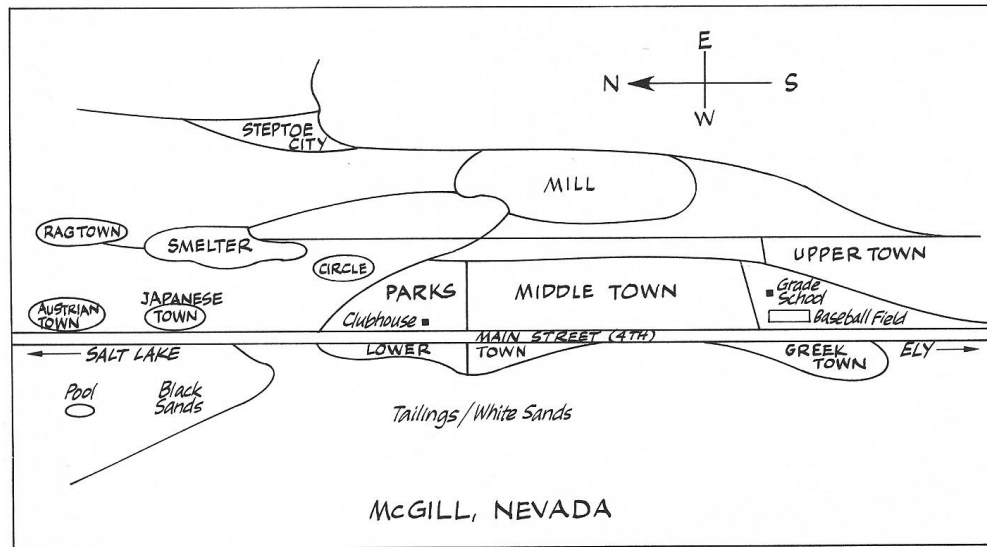
- Residents own their dwellings but the land is owned by the company; businesses compete with the “company store” and have their own city government and municipal services (e.g. police, utility companies) acting independently of the company (e.g. Bisbee, Arizona)
- Residents own their land and homes, but the company wholly sustains the life of the town (company-dominated towns) (e.g. Jerome, Arizona)
- There are private residences, but the commercial and public buildings are owned and operated by the company (e.g. Ajo, Arizona)
- The company owns part of the town (residences and commercial) and one or more adjacent sections of the town are owned and operated by private citizens and merchants (e.g. Newhouse, Utah).

Many valuable resources (mineable ores, timber, fuel ores, petroleum) occur in remote locations and it is this isolation that precipitated the economic necessity for western company towns. As described by Allen (1966: 7), the only way most mining companies could get people to move to such remote areas was to provide amenities for their workforces. Among these were affordable housing, medical care, recreational facilities, and access to goods and services. Company towns fulfilled those needs and ultimately made an important, albeit often temporary, contribution to the expansion of remote extractive, transportation, and agricultural industries in the West.

With some exceptions (e.g. companies that absorbed existing communities), company towns were planned and laid out in a purposefully way and the industrial elements and housing were largely constructed before most of the workers arrived. Plans were sometimes drawn by well-known architects (e.g. San Francisco architect Bernard Maybeck who designed Brookings, Oregon), but more often the towns were laid out by either the company owner or camp boss (e.g. Port Gamble, Washington) (Carlson 2003: 14-15, 19; Roth 1996: 176-179; Crawford 1995:130; Gillenwater 1972: IV). The terrain and presence of existing (or planned) industrial facilities (mills, smelters) played a part in the layout (e.g. hilly or marshy landscapes limit transportation routes); however, where possible, uniformity was achieved by laying out an orderly pattern of streets (graded, but rarely paved) and buildings. For both efficiency and convenience, every effort was made towards placing dwellings near the work sites



(Kentucky Foundation 2008) and commercial and recreational buildings near or along railroad or road accesses. Immigrant “neighborhoods” were usually separated from other areas and discreet from each other (Crawford 1995: 136; Elliott 1990: 25-28; Allen: 1966:102-103) and management housing areas were arranged by community and company status (Figure 2-9).



**Figure 2-9. Layout of McGill, Nevada**

Note the separation of the various neighborhoods. The “Circle” housed upper management personnel, including the mill superintendents and plant engineers; middle management and skilled workers lived in Middle Town; and unskilled workers lived on the opposite side of Main Street in the neighborhoods of Lower Town.

(Elliott 1990: xii, 2; Hardesty 1998a: 88)

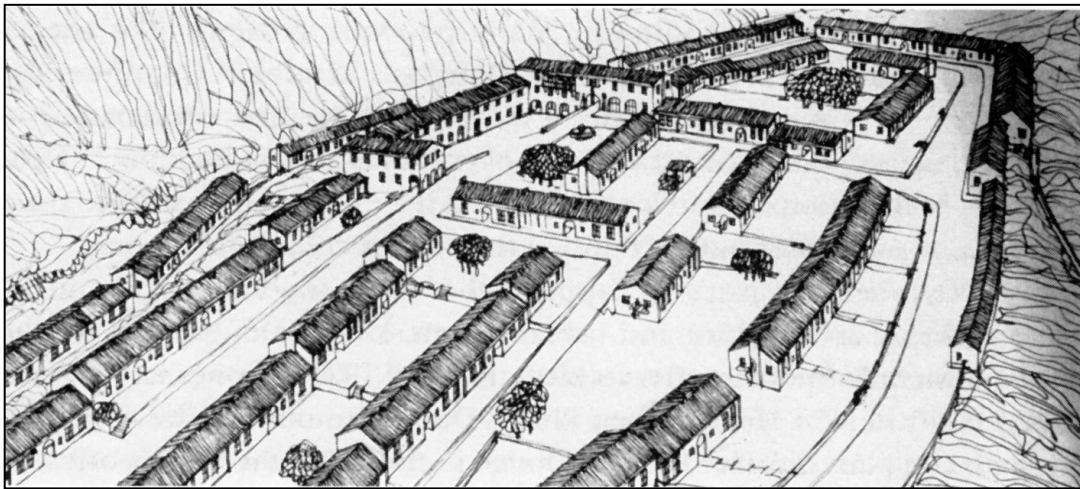
Although policies varied, at some locations, lawns, trees, parks, and other beautification elements were installed and maintained through either the generosity of the company owner, or by the individual tenant. To encourage pride in their communities, the United States Fuel Company, which owned Hiawatha, Utah, and the Kennecott Copper Corporation, which operated McGill, Nevada, offered prizes to residents planting flowers and gardens and painting their buildings (Crawford 1995: 35, 70-77; Elliott 1990: 110). In 1919, owners of the Calumet and Arizona Mining Company in the desert community of Ajo, Arizona, drilled a large well specifically for this purpose, in a conscious effort to beautify the town (Allen 1966: 83-84). Isolation of communities, as well as the long workdays, made it necessary for a substantial investment in on-property housing, whether it was built by the company or



erected by the owner (Carlson 2003: 19; Garner 1992: 9). Bunkhouses, boarding houses, and hotels were available for the single workers; small, simple, standardized bungalows were constructed for couples and families; and larger homes were built for supervisors and managers (Figures 2-10 and 2-11). Unlike the eastern United States and Great Britain, where company owners often built extravagant residences adjacent to their mills (Palmer 2005: 65-66), American West company town owners rarely had their own residences on the property. Instead, they preferred to travel from their corporate offices, visit for only short periods, and stay either in a hotel or boarding house or with the company manager (Carlson 2003: 25). Some of the wealthiest company owners, such as Samuel Newhouse, had their own train cars, which took them to and from the sites (Figures 2-12 and 2-13). This allowed them to either stay on board the train during their visits or to commute from the closest town (Whittaker 2008).

Typical of late 19<sup>th</sup> century working accommodations, bunkhouses and inns consisted of tiny rooms where workers lived communally – at least two to each room (Carlson 2003:16). Each usually had an associated dining room either inside the building or an adjacent cookhouse or café. There were few amenities in these buildings and rarely was there electricity or indoor plumbing. Single employees occasionally rented rooms in family quarters, but this was not a common practice, as company owners wanted to ensure that at least a portion of the worker's salary returned to the company. At the peak of some company town operations, communal dwellings also employed the concept of "hot sheeting," where each bed was assigned to more than one man (usually from one to three). As noted in Carlson (2003: 17), this allowed one man to use the same bed during each work shift.

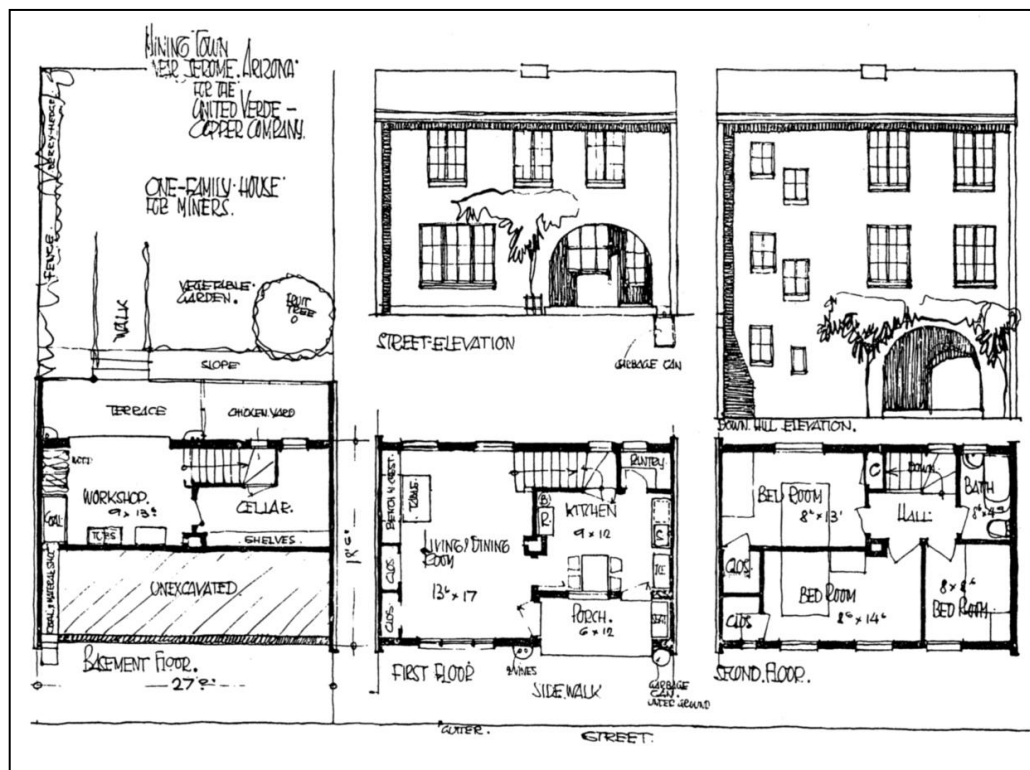
Individual dwellings were constructed by the company for its mid-level and senior employees. Small two or three bedroom bungalows (with or without electricity and indoor plumbing) housed middle-management families and larger, more elaborate houses were constructed for the supervisors and managers. Rental of each dwelling involved a nominal payment based on the employee's salary. Historic photographs of hundreds of company towns across the West, reveals that the architectural style and construction materials varied from location to location (Figures 2-14 and 2-15), most directly as a result of the climate, but the size and arrangement of the various dwellings was similar from town to town (Crawford 1995: 35).



**Figure 2-10. Plan of Jerome, Arizona, Housing Area ca. 1914**

A bird's eye view of the Jerome, Arizona, housing area. Planned and designed by the architectural firm of Herding and Boyd, the rows of houses were laid out in an almost "continuous wall around the town, creating the impression of a Spanish or Italian hill town."

(Crawford 1995: 149)



**Figure 2-11. Plan of One-Family Miner's House, Jerome, Arizona**

Harding and Boyd's plan for the Jerome housing area reveals the architect's concern for the family way of life. Built-in furniture was provided in the living room and the garden plot was to be used "for growing vegetables, raising chickens, and as a protected play space for children."

(Crawford 1995: 147)



**Figure 2-12. Samuel Newhouse Train Car**

Winter view of Samuel Newhouse's personal train car on the siding at Newhouse, Utah. The shadowy silhouette of the San Francisco Mountains is seen in the image left. (Utah State Archives 1908b)



**Figure 2-13. Samuel Newhouse Parlor Car Interior**

The interior of this and other cars in the Newhouse train were elaborately appointed with mahogany walls and furniture upholstered in velvet. (Utah State Archives 1908b)



**Figure 2-14. Vail, Washington, Company Housing 1927**

The large Dutch colonial residence was for the company manager, with smaller 4-6-room bungalows for mill workers adjacent.

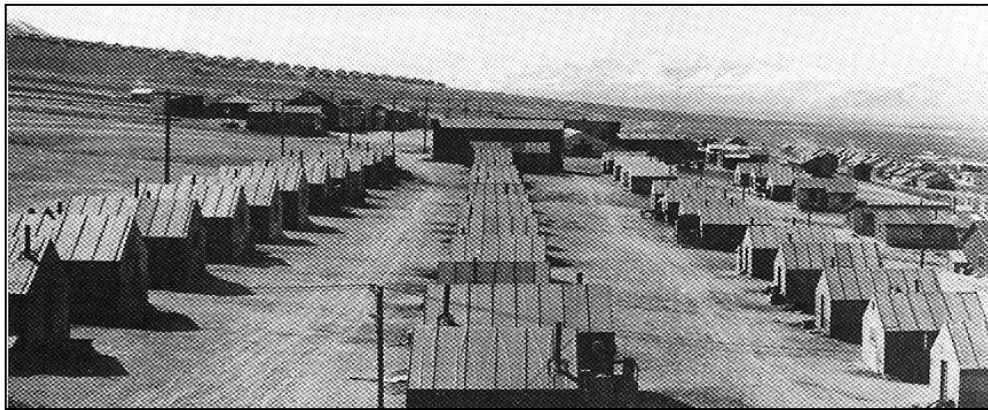
(Weyerhaeuser Company Archives as reproduced in Carlson 2003: 25)



**Figure 2-15. Company-Built Row Houses, Rocky Mountain Fuel Company, Colorado ca. 1900-1910**

(Denver Public Library, *History of the American West Collection 1860-1920*)

In communities where the company owned only a portion of the town, there were adjacent enclaves of miner's shacks (simple wooden structures or lean-tos) or tent towns consisting of covered wagons and wood-frame tents with canvas roofs and walls (Crawford 1995: 141; Casella and Symonds 2005: 222; Elliott 1990) (Figure 2-16).



**Figure 2-16. Newly-Erected Tent Town, McGill, Nevada ca. 1909**  
McGill's tent town housed the unskilled workers and was in the area known as Lower Town (see Figure 2-9).  
(Elliott 1990)

These areas of the towns were often primitive and lacked amenities (e.g. piped water, electricity). A description of McLeary, Washington, by an Italian immigrant in 1913 (Pellegrini 1951: 45) indicates that the non-company-owned portion of the mining town included houses that were “rectangular insecurities of wood, unpainted, in various stages of dilapidation. One could not easily decide whether they were old, or just simply neglected.” Regardless of the types and numbers of dwellings, there was almost always separation by economic status, ethnicity, or race (distinct neighborhoods) (Figure 2-17; see also Figure 2-9). The various groups may have been required to work cohesively in the mills and mines, but cultural differences were unmistakable in the physical arrangement and appearance of the communities, and almost always reflected in the historical records, photographs, and maps (Elliott 1990: 24-35; Roth 1992: 180-187; Crawford 1995:142).

Because of the isolation and remote location of most company towns, owners had to find a way to attract and retain skilled workers and their families. Although there were exceptions – notably the Rockefeller-controlled coal mines of Colorado where conditions were reported to be deplorable (McGuire and Reckner 2005: 220-222; Walsh 2005: 132) – company town owners made substantial investments in their communities by building schools, churches, and recreational facilities and making goods and services readily available, albeit at company prices (Allen 1966: 79; Garner 1992: 4; Crawford 1995: 29-45). Commercial and public buildings (stores, banks, libraries, cafés, theaters) were designed and constructed (usually over a period of several months), and



**Figure 2-17. Japanese Village Kerriston, Washington ca. 1928**

Note the distinctly Japanese architecture of the small building in the left center of the photograph with the children on the roof.

(Courtesy Michael Maslan Historic Photographs Seattle, Washington)

administered by the company because company owners believed that workers would be more productive and less likely to leave (or strike, as became prevalent in the 1910s) under these conditions (Carlson 2003: 187-198; McGuire and Reckner 2005: 217-241). As noted by Allen (1966: 106), the company dominated the community “in everything that is seen or talked about.”

In exchange for access to goods, services, and recreation, workers were required to follow whatever rules and regulations were imposed. This ensured their jobs and maintained a quality of life for themselves and their families that they might not otherwise be able to afford. Restrictions often extended to minimal dues for use of some of the recreational facilities (clubhouses, pool halls), prohibition or elimination of saloons and brothels within the towns limits, and strict prohibitions on the use and possession of alcohol. According to Carlson (2003: 10, 188-189), one of the primary reasons that companies chose to enforce the control and sale of alcohol was because of the experience of logging camp operators who had learned that alcohol-free settlements experienced fewer fights and fewer accidents in an industry that was, at the time, the most dangerous in the United States.

Company town owners did not always provide religious facilities. They would, however, often donate a building site or provide financial support for the congregation. There was usually only one, simply-constructed church building per community and the denomination was either at the discretion of the company owner, or nondenominational. Because most mining towns were not expected to survive more than a few years, company town owners were reluctant to invest in large, elegant churches (Gillenwater 1972: 95). In communities where a church building was not erected, ministers would use recreation halls, schoolhouses, residences, or even saloons for their sermons. The ministers themselves rarely worked for the company or lived in the town; most traveled to and from outlying communities to provide services (Allen 1966: 100-101).

Most company towns did have a dedicated school building – typically a simple one-room facility. The building was an integral element of the company town plan and was paid for by the company owner. School buildings also served as a center for community activities. To attract teachers, the company would either provide special housing, or would allow the teachers to rent cottages from the company at the same low rate as company employees (Carlson 2003: 63, 104-105).

Of all the assets, the company store is the most described feature of the western company town (Gillenwater 1972: 91). Perhaps more than any other, this element of the community illustrates how owners saw their towns as profit centers and a means of recovering most of the wages paid out (Carlson 2003: 12). Workers were obliged to purchase everything at the company-owned stores and, in both direct and indirect ways, pressure was applied to ensure that this was done. Reflective of the exploitative nature of most company towns, prices at company stores were usually higher than in non-company town counterparts. This was largely due to the lack of competition, the additional costs involved in shipping into isolated areas, the owner's willingness to extend credit to its employees, and ready access to goods and services for the workers (Allen 1966: 134).

In some towns, using the company store was a condition of employment and a payment system – specially designed scrip<sup>5</sup> and/or credit – was often used both as a safety measure to keep cash levels at a minimum and to keep employees at some level of perpetual debt (Knight 1975: 10; Green 2010: 57-58; Allen 1966:132-135) (Figure 2-18). Some employers were so rigid about payment methods that they provided only company-issued scrip wages that could not be redeemed for cash without an enormous loss of value. As late as the 1930s, U.S. Government investigators found workers who had not received cash wages for as long as 15 years (Brandes 1976: 45). The practice of indebtedness was so pervasive in the company town mining environment that it became the subject of a popular American song written in the late 1930s. The song, which was written by coal miner George S. Davis, was performed by American artist Tennessee Ernie Ford and became a number one hit in 1955. The first two stanzas of the song are provided below (West Virginia Historical Society Quarterly 2001). The entirety of the song, which tells more of the coal miner's tale, can be heard on the following Internet website – <http://www.youtube.com/watch?v=Joo90ZWUkU&feature=related>

*Some people say a man is made outta mud  
A poor man's made outta muscle and blood  
Muscle and blood and skin and bones  
A mind that's weak and a back that's strong*

*You load sixteen tons, and what do you get  
Another day older and deeper in debt  
Saint Peter don't you call me 'cause I can't go  
I owe my soul to the company store.*

In addition to being the town's primary source of goods, the company store usually served as the pay office (weekly wages), the post office, the bill collection office, and as one of the town's gathering places. Almost any item needed by the

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<sup>5</sup> *Scrip* is a substitute for legal currency. It is used as a form of payment or credit in locations where regular currency is either unavailable (remote, economically depressed areas) or its use is discouraged. Scrip appears in many forms including specially struck coins or tokens of metal or cardboard, or company-specific paper coupons. As shown in Figure 18, scrip coins were often dye-cut in unusual shapes to readily differentiate them from regular currency.

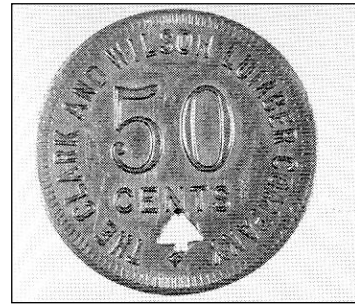


community could be purchased at, or through, the company store, including food, clothing, tools, or other items for the mill or mine workers, housewares, medical supplies, and, in later years even automobiles (Carlson 2003: 101; Johnson 1952).

Although the work ethic of the company town was dictated by company rules and values, the owners

realized that they needed to promote a social life that would keep the workers and residents content. This theoretically encouraged a stable workforce, reduced crime and disorderly conduct, discouraged excursions to saloons and brothels in surrounding towns, and promoted a sense of community camaraderie and pride. In the coal mining town of Hanna, Wyoming, the company provided a variety of recreational facilities and even made monthly contributions to the community fund. The fund provided among other things, an annual Christmas party at which every child in the community received candy, oranges, and a gift (Allen 1966: 55). Even the smallest towns had some form of entertainment, usually dances, and shivarees<sup>6</sup> and some had separate theaters, billiards and card rooms, bowling alleys, and other sports areas. Companies sponsored ball teams, brass bands, and drill teams, and organized picnics, barbecues, and other special events on holidays. Some communities had so many activities that the company hired a clerk to schedule the various activities (Carlson 2003: 79-80).

Among the most popular and well documented of the social activities in American company towns was baseball. Along with boxing, this sport was a dominant recreational activity among the working classes across the United States and almost every company town had at least one team (Figure 2-19); larger towns had their own leagues with multiple teams (Elliott 1990: 36-40). In some of the towns, team players were assigned to only the day shift “to make sure they had plenty of rest and time to



**Figure 2-18. Metal Token Form of Scrip**

This token was used in the Clark and Wilson Lumber Company, Company Store, Wilark, Oregon ca. 1924.  
(Allen 1996: 113)

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<sup>6</sup> A *shivaree* was a noisy celebration for a newly married couple. Shivarees were popular in the early years of the 20<sup>th</sup> century and were usually held in the middle of the night. Friends and neighbors would try to make as much noise as possible to awaken the couple, who would then feel obligated to provide refreshments in celebration of their newlywed status.

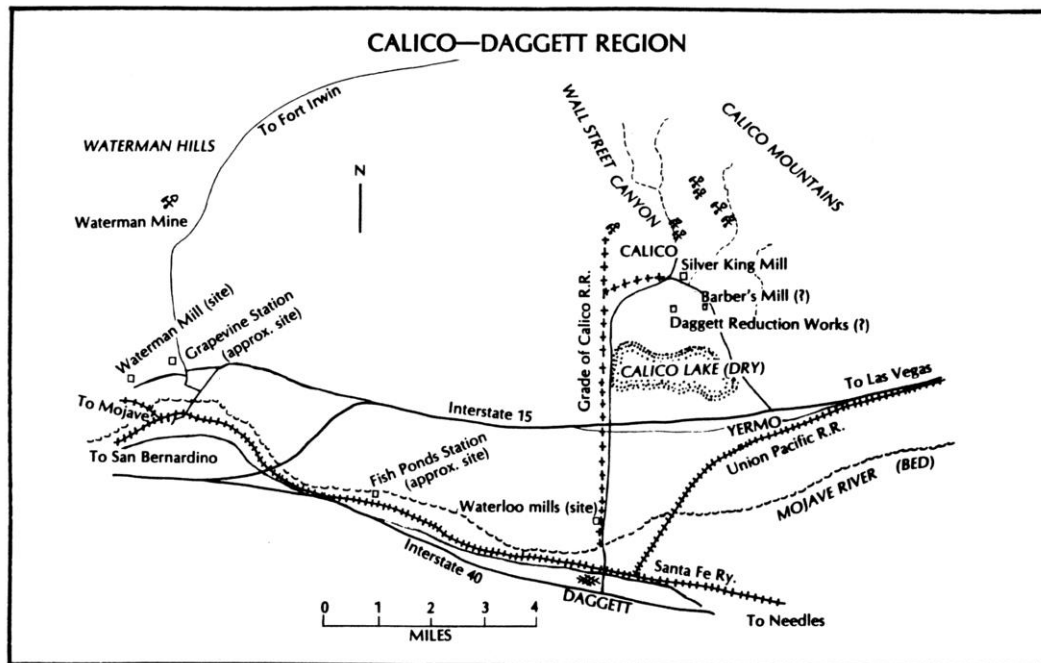


**Figure 2-19. Idaho Springs, Colorado, Miner's Baseball Team ca. 1900**  
(Courtesy Historical Society of Idaho Springs)

practice” (Clyne 1999: 59-60). Card rooms (primarily for faro or poker) were popular as well; however, this form of entertainment often lead to arguments and sometimes violence and was outlawed in many communities (Carlson 2003: 100). Contests of physical stamina were also popular, especially among the young miners (Jackson 1963: 72) and horse racing was very fashionable and popular in the late 1800s, particularly in Utah.

### **Community Profile: Calico, California**

Calico, California, is a former silver mining camp that was born, lived, and died, all on the cusp of the 19<sup>th</sup> and 20<sup>th</sup> centuries (1881-1904). It is contemporary with the three case studies described in Chapter Three and has a similar historical profile. The town is nestled in the folds of the Calico Mountains of San Bernardino County, approximately 11 miles northeast of Barstow (Figure 2-20).



**Figure 2-20. Calico, California, and Surrounding Communities**

This map of the Calico area shows the location of Calico silver and borax mining operations, the railroad network, and the adjacent communities as they would have appeared in the late 1880s and 1890s.

(Hensher 1986: 21)

Although there were recorded claims earlier, the Calico Hills silver rush and the history of Calico officially began on April 6, 1881, with the discovery of pure horn silver along the south flank of King Mountain. The claim – the Silver King Mine – was located by a group of six men and grubstaked by John Caleb King, the sheriff of San Bernardino County in return for a share in anything they found. Within five years, the Silver King Mine became one of the largest and richest silver mines in California's history.

The first year in the Calico Hills was difficult. About 40 miners camped in the deep canyon below the mines, slept in tents or open campsites, and had to haul everything in and out on foot or by pack animal. Within the first few months, a devastating spring flood covered the valley floor with mud and the miners were forced to seek higher ground. The men chose a narrow inclined bench (ridge) to the east, constructed a dirt road up its spine, and, on June 27, 1882, the area was officially surveyed for a new town site, which the miner's named Calico. By October 1882, wagons loaded with lumber and supplies from the nearby town of Daggett were arriving for the construction of the first houses, a store, and a variety of mining structures (e.g.

ore bins and chutes, mills). Surveyor's notes on the 1882 survey map reveal that there was "no living water on the town site or within five or six miles of it." The notes also indicate that there were "seven lumber houses – five for businesses and two for residences – and quite a number of dugouts in the cliffs, bush shanties, and tents (Surveyor General's Office 1882: 141).

Between 1881 and 1883, more than 300 claims were marked or recorded in the Calico Hills and three distinct pockets of mining emerged. The first was north of Calico along and above the steep walls of Wall Street Canyon, which bordered the town to the west. Among others, the Silver King, Oriental, Burning Moscow, and Red Cloud mines were found in this area. About one mile northeast of Calico was East Calico. The Bismarck, Alhambra, Birdseye, and Odessa mines were located there. The third group of mines was located about a mile to the west, the most famous of which was the Waterloo.

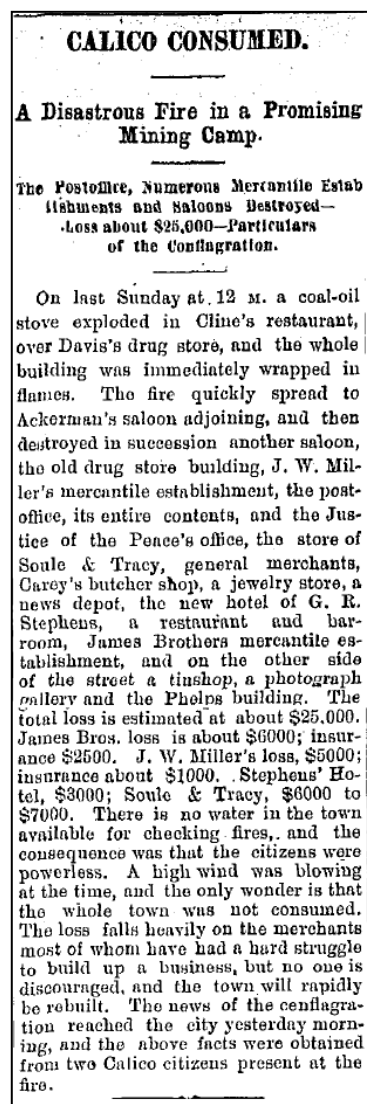
In the winter of 1882-1883, deposits of a white crystalline rock, borax, were discovered in Mule Canyon. The deposits were found by Calico storekeeper Hugh Stevens while prospecting for silver. Stevens had the samples assayed in San Francisco by chemist Thomas Price. Recognizing the value of the samples, Price revealed the results of the assay to William Tell Coleman, who owned borax properties in Nevada and Death Valley. By June 1883, Coleman had secretly purchased all of the borax-containing parcels in Mule Canyon, including those owned by Stevens. Coleman established and operated the borax mines using a small workforce from Calico, but by 1888, the company was cash strapped due to the expense of the operations and was sold to Francis Marion "Borax" Smith. By 1889, there were 120 miners working the property and Smith had constructed frame bunkhouses, a dining hall, a company store, a "reading room," and cabins for the storekeeper, mine foreman and their families. Smith also constructed a large home at the head of Mule Canyon for his visits and to entertain investors when they visited the site. He named the settlement Borate and concurrently constructed a small settlement at Marion near the northeast edge of Calico Dry Lake to process the ore (see Figure 2-20).

Between 1890 and 1906, Borate's work force rose to more than 600 and production grew from 80 to 3,900 tons of refined borax monthly. The most costly part of the effort – transportation to the Daggett depot by 10 mule team wagon – was cutting

into Smith's profits, and that element of the operation required several transformations. The first was to expand the 10 mule team rig to a two-man, three-wagon (two for ore one for water), 20 mule team, which eventually became the widely recognized symbol of the Borax brand name. This innovation cut transportation costs by about half. Anxious to trim even further, Smith imported an enormous steam-powered tractor. Commonly used in lumber camps, the tractor required a crew of three and hauled two specially designed wagons. The miners and teamsters, who were partial to the mules, thought it would never work, but "Old Dinah" doubled the output of the mule teams. Unfortunately, the experiment only lasted about a year due to constant maintenance and the 2,500 pounds of coal that the tractor consumed on each round trip. The mules returned to Borate and stayed on the job until the railroad was completed from Daggett to Borate in 1898.

After 24 years of successful production, the value of borax was declining and the Calico mines were reaching the end of their productive life. Smith chose to end his Calico operations and focus on his other mining properties. In 1913, the railroad line and buildings were disassembled and everything that could be reused was moved to Smith's borax operation in Death Valley.

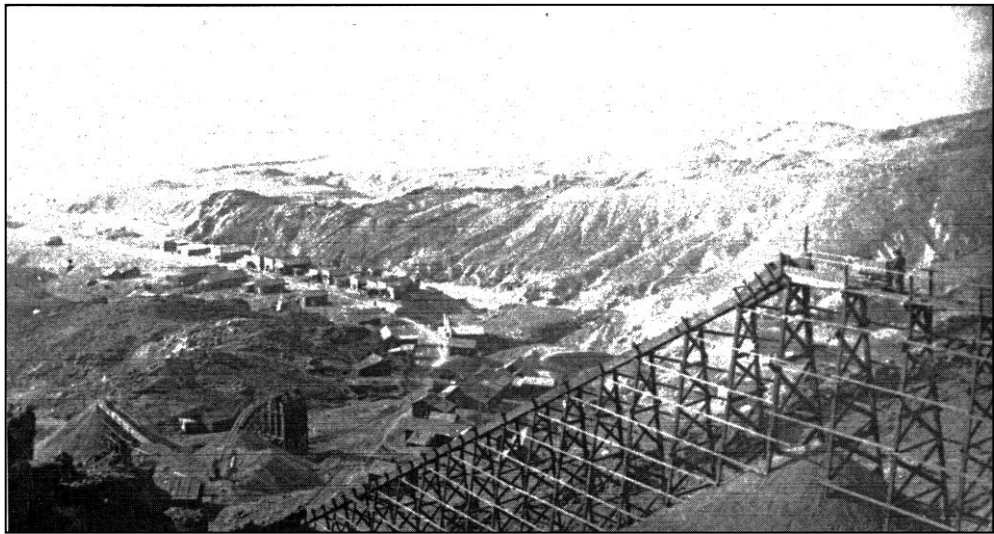
Concurrent with the borax operations in Mule Canyon, Calico was having its ups and downs. The first of three fires hit the town in 1883 and destroyed about 17 properties (*Los Angeles Times* 1883: O-6) (Figure 2-21). The second fire in 1884 destroyed a single miner's cabin and its occupant Tom Leonard. The last, and worst, was in 1887 (*Los Angeles Times* 1887: 4) and destroyed about 20 residences and commercial buildings. Each time there was rebuilding, but with less wood and more adobe and stone to act as fire breaks. Several new water wells were installed that reduced the cost of water and haulage and, by 1885, there were about 75 active businesses in town (Milliken 1895). Housing, which was initially in tents, gave way to wood or adobe and about 200 dwellings – some set into the rocky hillsides (Cousin Jack Houses – see Figure 2-6) – were eventually completed. At its peak between 1886-1896, there was also a bustling commercial district that included 22 saloons, several lodging houses and hotels, a post office, a newspaper (the *Calico Print*), a one-room school house that doubled as a church on Sundays, and a Chinatown in Jack Ass Gulch (just east of town) with a population of about 40 (Steeple 1999: 98). Although the numbers



**Figure 2-21. *Los Angeles Times* Article, Calico Fire 1883**  
(Courtesy *Los Angeles Times* 1883, June 17: O-6)

for the overall mining district are higher, the population of Calico proper fluctuated from a low of 40 in 1881 to a high of 1,200 in 1887. By 1890, the population had dwindled to about 400 and by the time the town was being actively abandoned, there were only 14 recorded residents (U.S. Census 1900).

The landscape in the mining areas was also changing. The Silver King Mine built a 90-foot-high trestle and tramway (Figure 2-22), a 30-stamp mill, and an ore bin that could hold 200 tons (Mellen 1995: 8-9). Other mines built long ore chutes and mills and, in 1888, the narrow gauge Calico Railroad (later called the Waterloo Mine Railroad) was completed to haul ore from Calico to the Waterloo Mining Company across the river from Daggett (Baltazar 1995: 13-16; Nadeau 1999: 262-263).



**Figure 2-22. Silver King Mine Trestle and Chute**

The 90-foot ore trestle and chute for the Silver King Mine was perched high above the town of Calico on the south flank of King Mountain. The mine was one of the largest and richest silver mines in California's history.

(Courtesy Mojave River Valley Museum)

According to the histories written about Calico, when the price of silver plummeted to 65 cents an ounce in 1896, most of the mines closed and the miners left for gold, coal, and borax mines in other parts of California, Nevada, and the American West. Given its isolation, terrain, sparse natural resources, climate, and marginal water supply for both mill, household, and fire fighting use, the population could not be supported for alternative endeavors and the last of the essential businesses (e.g. school and post office) were closed in 1898 (Steiner 2011: 1); many of the town's buildings moved to either Yermo or Daggett. By 1904, the town was essentially abandoned, although a few hardy stragglers stayed on to work in the borax mines until they closed in 1907. Accounts vary, but between 1881 and 1907, the Calico mines are believed to have produced about \$20 million in silver and \$9 million in borax.

Tables 2-2 and 2-3 and Figure 2-23 are provided below to augment the brief Calico history presented above and to graphically show various aspects of this silver boom town's physical and social environment. Inasmuch as 1887 was during the peak active years at Calico, it was utilized in Table 2-3 to illustrate the greatest level of community diversity. After 1898, Calico's population had decreased to the point where it was no longer listed in the directories and gazetteers.

**Table 2-2. Calico, California, Directory, Gazetteer, and U.S. Census Data 1883-1900**

<b>Directory Date</b>	<b>Number of Businesses and Professional Men</b>
1883-1884	18
1884-1885	51
1887	317
1889	236
1893-1895	156
1898	44
1900	14

Sources: L. M. McKenney & Co. Publishers 1884; L. M. McKenney & Co. 1885: 203-204; F. L. Morrill & Co., Publishers 1887: 189-197; Flagg & Walker, Printers and Binders 1889: 9-12; James Milliken, Publisher 1895: 167-169; Bushnell 1898: 190-191; U.S. Census 1900, Belleville Precinct: Sheet 6).

**Table 2-3. Calico, California  
Example Business/Profession Profile 1887**

<b>Businesses or Profession</b>	<b>Number by Profession</b>
Assayer	3
Barber	3
Blacksmith	6
Butcher	1
Carpenter	7
Cigar Store	1
Clerk	5
Druggist	2
Engineer	3
Farmer	3
General Merchandise Store	5
Horseshoer	1
Hotel	1
Jeweler	1
Justice of the Peace	2
Lawyer	2
License Collector	1
Livery/Stable	2
Machinist	2
Mechanic	1
Milliner	1
Millman	1
Miner	224
Newspaper/Printer	2
Notion Store	1
Painter	2



**Table 2-3. Calico, California  
Example Business/Profession Profile 1887**

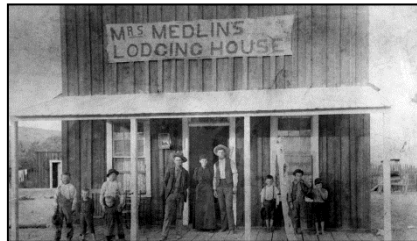
<b>Businesses or Profession</b>	<b>Number by Profession</b>
Physician	3
Post Office/Notary	1
Restaurant	4
Road Overseer	1
Saloon	11
Shoemaker	1
Stagecoach Driver	1
Surveyor	1
Tailor	2
Teacher	1
Teamster	6
Watchmaker	1
Wells Fargo Agent	1

Source: F. L. Morrill & Co., Publishers 1887: 189-197



**Second Calico School 1885**

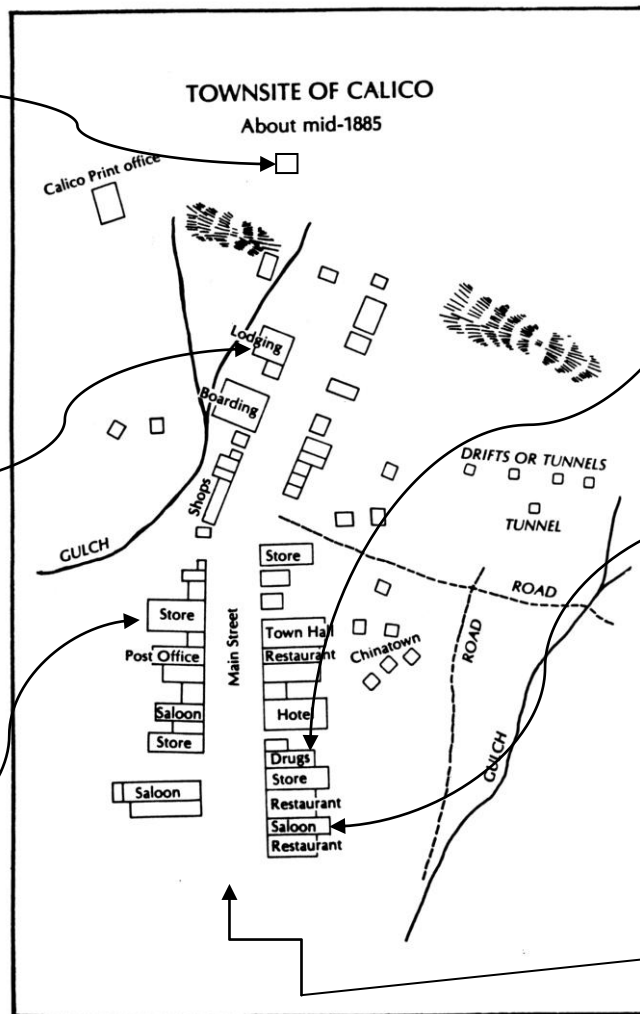
Image shows first class with teacher H. H. Heath.  
(Courtesy Orange County Archives)



**Mrs. Medlin's Lodging House 1885 – Mrs. Medlin and sons John Lewis and Hall (image center).**  
(Courtesy Orange County Archives)

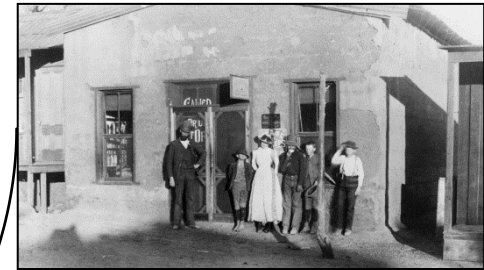


**Joe Miller's General Merchandise Store ca. 1886**  
(Courtesy Orange County Archives)



**Figure 2-23. Calico, California ca. 1885**

This plan of Calico was adapted from original mineral surveys prepared by the U.S. Bureau of Land Management.  
(Hensher 1986: 1)



**Dr. Albert Rhea's Drug Store 1885**

Dr. Rhea and son at image left.  
(Courtesy Orange County Archives)



**Isaac Noel Saloon 1886**

(Courtesy Mojave River Valley Museum)



**View looking north on Calico's Main Street ca. 1884**  
(Courtesy Orange County Archives)

## Industrial Features

Although this thesis focuses primarily on the non-industrial elements of western ghost towns, their industrial components were critical in shaping their landscapes and are an important element of the historic context for the case study locations. Mining towns (boom and company towns) have a distinctive industrial signature, with very specific components that provide strong visual definition to the landscape (Francaviglia 1991: 48-58). Among these are headframes, concentrator buildings and crusher houses, stamp mills, smelters and powerhouses with tall smoke stacks [chimneys], and transportation features for the movement of supplies and ores or bullion (e.g. railroad tracks, aerial trams, Wells Fargo Wagons). Even in ghost towns where there is little left to see in the landscape, these features, or remnants of them, are almost always visible.

The headframe or “A” Frame is a gallows-like structure that straddles a mine shaft. They are typically constructed of heavy timbers and have steel cables and pulleys for raising and lowering men and supplies into the mine. The headframe is one of the most recognizable features of the mining landscape and, with the possible exception of the smelter stack, often the tallest and longest surviving structure (Figure 2-24). All three case study locations had one or more headframes during their active years and each site has remnants of one or more headframes in 2012.



**Figure 2-24. Headframe, King David Mine, Frisco, Utah**  
(Photograph by Author, June 2009)

The concentrator building, also called a mill, was one of the largest features of a mining town. It was also one of the most distinctive features of the landscape, having a stepped design (to aid gravity feed). The workings of this building and smaller crusher houses increased the concentration of the raw ore by removing the dirt and waste rock, a process that creates a high-grade product that is less expensive to transport to the smelter for further refining. Large size metal-bearing ore enters the top of the building and is progressively reduced in size as it gets to the bottom of the process. Depending on the mineral being mined, either stamps or a system of chemical or other flotation settling tanks would be the final process within a concentrator building. Newhouse had a very large (100,000 square feet) state-of-the-art steel concentrator building and attached brick power house and a smaller crusher house at the west terminus of the Cactus mine tunnel; neither Frisco nor Silver Reef had a building of this size or sophistication, but they did have crusher houses, smelters, and stamp mills. An image of the massive Newhouse concentrator building is provided in Chapter Three.

Stamp mills are mechanical crusher houses that use a system of heavy metal weights to pound raw ores into the size of grains of sand. The number of stamps is a rough indicator of the size of the mill (Figure 2-25). Stamp mills are most often found associated with the extraction of gold; however, they are also used at silver and tin mines. None of the three case studies were high volume producers of gold. Newhouse did not have a stamp mill but used a flotation system with settling tanks. Silver Reef did not have train access to send its ores for refinement, but there was sufficient water power to run the mills and all of the processing was done on site. The easily crushable sandstone matrix at Silver Reef was well suited to the stamp mill process and, at the peak of its activities, there were five stamp mills and a total of 38 stamps (Proctor and Shirts 1991:82). After the ore was processed, it was formed into bullion (bars) using a process called retorting and housed and shipped from the Wells Fargo and Company Express building. A mold used to make Silver Reef bullion is among the artifacts housed at the Silver Reef Museum.

Retorting is the end process which liquefies the ore so that it can be poured into molds that form bars or “bricks” known as bullion. There is insufficient historical information to determine the percentage of mining towns that performed this end process. Because of the costs, most towns, including Newhouse and Frisco, shipped the



**Figure 2-25. Five-Stamp Crusher, Orphan Girl Mine, Montana**

This stamp equipment would have been housed within a concentrator building.  
(Photograph by Author, August 2007)

concentrated ores to a regional smelter for retorting. Silver Reef may have been one of only a few that performed the retorting process on site.

Smelting is the mining end process. Smelters use heat and chemical compounds to separate metals from their ore matrix. The distinctive landscape feature of smelters and powerhouses are tall stacks (chimneys) designed to dissipate noxious processing fumes well above the town. Between 1871 and 1900, there was a small smelter at Newhouse used for gold processing; however, Samuel Newhouse did not build a new smelter for his copper production and instead shipped the raw ores to Salt Lake City for smelting. The power house adjacent to the concentrator building at Newhouse had a 160-foot steel and brick stack. Both Frisco and Silver Reef also had smelters with tall smoke stacks.

In 1919, the Anaconda Company smokestack in Anaconda, Montana, was the tallest masonry [brick] structure in the world at 585 feet; the associated smelter-refining complex was also the world's largest non-ferrous processing plant. The Anaconda



smelter and stack is so woven into the identity of the community that images are integrated into various community emblems, including a stained glass window in the Methodist Episcopal Church of Anaconda (U. S. Department of the Interior, National Park Service 1961) (Figure 2-26).



**Figure 2-26. Stained Glass Window Anaconda, Montana, Methodist Episcopal Church**  
(State of Montana 2010)

The earliest smelters and power-houses in the West were fired by charcoal made originally in stone pits and later in kilns or ovens. Stone kilns were first introduced in 1872 and were shaped like a beehive or parabolic dome. As a result of the growing coke industry, the over harvesting of local trees, and decreasing freight rates, stone kilns were eventually replaced by either coke ovens or the operations of the smelters. At that time kilns were discontinued and the ores sent by train to regional smelters (U.S.

Department of the Interior, Heritage Conservation and Recreation Service 1982: 7; Francaviglia 1991: 54).

Beehive kilns were located across the West (Murbarger 1956: 4) and there were hundreds in the state of Utah. Frisco had a cluster of five granite kilns located adjacent to the smelter that was active between 1877 and 1882 (Figure 2-27). Newhouse and Silver Reef had one kiln each of similar design, although, because of the size of the smelters, the sizes were different (Newhouse smaller; Silver Reef larger). The Newhouse kiln was granite as well and used during the pre-Newhouse years of gold smelting (1871-1900). The Silver Reef kiln was constructed of sandstone and produced charcoal for the retort process and stamp mills (Proctor and Shirts 1991:74). All three kilns burned local juniper; Frisco also burned pinyon pine (U.S. Department of the Interior, Heritage Conservation and Recreation Service 1982: 9).



**Figure 2-27. Cluster of Five Frisco Charcoal Kilns**

The kilns at Newhouse, Frisco, and Silver Reef were all beehive-design, but the sizes varied based on the requirements of the smelter.

(Photograph by Author, June 2006)

All mining towns invested in a strong commercial and industrial transportation network. The industrial network had to be sufficient to transport heavy equipment as well as the unrefined ores within the camp or town and the concentrated ores from the

mine to the smelter. Depending on the ore type and the topography of the mining community, ore from the mine shaft, adit, or tunnel could require a headframe, narrow gauge railroad line, aerial tram system, or, in riverine environments, canals, barges or flumes. Both Frisco and Newhouse had standard-gauge railroad access between Milford and ultimately Salt Lake City. Silver Reef was never successful in acquiring railroad access, largely because of the terrain. Typical of all western mining towns from this period, all three case studies had narrow gauge railroads for the movement of ore within the town sites. Newhouse had a narrow gauge electric line in the Cactus Mine tunnel (see Figure 5-10). Silver Reef also had a 340-foot tramway similar to the one at Pioche, Nevada (Figure 2-28). Because of the terrain, there was no railroad line at Silver Reef; however, the alignments of the railroads at Newhouse and Frisco are shown on Figures 3-11, 3-12, and 3-33.



**Figure 2-28. Aerial Tramway, Pioche, Nevada**

Remnants of the aerial tramway that carried ore from the Treasure Hill Mine to the Godbe Mill. Gravity carried the full ore buckets downhill to the mill; a 5 horsepower motor returned the empty cars to the mine entrance – a distance of more than 2 miles. This portion of the tramway runs through the Boot Hill portion of the Pioche cemetery. The tall smoke stack of the Godbe Mill can be seen in the photograph background.

(Photograph by Author, April 2008)



### **2.2.3 Framework 3. Abandonment and the Archaeological Record**

Most of the research on settlement abandonment has been conducted either outside the United States (e.g. abandoned towns in the Australian outback; deserted medieval villages in Great Britain) or on North American prehistoric and indigenous settlements (Schiffer 1972; Bonnicksen 1973; Baker 1975; Beresford and Hurst 1989; Cordell 1975, 1997; Binford 1979; Upham 1984; Grant 1987; Sullivan 1987; Cameron 1991; Cameron and Tomka 1993; Dyer and Jones 2010; Nelson and Hegmon 2001; Diamond 2005). The studies are germane to the interpretation of the history and archaeological remains at abandoned sites worldwide and some of the data have been useful within this context; however, very little research on abandonment causes has taken place at more contemporary sites, and, as far as could be determined, none has been undertaken at historic sites in the American West.

Robert Ascher (1968: 43-52), one of the first to specifically consider how abandonment affects the archaeological record, posited that the way in which a site was abandoned influences the spatial arrangement of elements in the landscape. Others soon considered this premise as well (Lange and Rydberg 1972; Bonnicksen 1973; Baker, 1975; Stevenson 1983), however, it was Schiffer (1972, 1975, 1976, 1983, 1985, 1987, 2002, 2010) who introduced it to a larger audience. Schiffer (1972: 160, 2010: 36) was also one of the first to coin the term “de facto refuse” to describe artifacts and features that, although still usable or reusable, are left behind when a place is abandoned. There are several variables that affect both de facto refuse deposition and curate behavior (i.e., leaving items behind for later use) (Schiffer 2010: 36). Among these are the rate of abandonment, whether departure is planned or unplanned, the mode of transportation [to the new location], the season in which abandonment takes place, the distance to the new settlement, anticipated activities in the next settlement, the size of the relocating population, whether return is anticipated, and how easy it is to protect an item from theft or deterioration if it is left behind for later use (Baker 1975: 11; Cameron 1993: 3-5; Schiffer 2010: 36). The size, weight, replacement cost, and condition of the artifacts themselves (e.g. whether or not it was usable, but obsolete) are also variables (Stevenson 1982: 237; Schiffer 2010: 37).

## **Gold Rush Research in the Yukon**

One rare study at a recent North American site was undertaken by Marc Stevenson (1982: 261) on 19<sup>th</sup> century gold rush settlements in the Yukon. Stevenson's investigation considers the manner in which early 20<sup>th</sup>-century gold mining sites were abandoned, whether or not return was planned, and the spatial patterning of artifacts within enclosed living areas, specifically log-frame mining cabins with canvas walls<sup>7</sup>. Although Stevenson provides some useful and thought-provoking results regarding discard behavior, abandonment causes were not part of the research because the cause – a temporary seasonal exodus – was already known. In addition, Stevenson acknowledges that his research would only be useful if extrapolated to communities with parallel variables (Schiffer 1972: 160; Stevenson 1982: 238-241) (e.g. return planned, predictable caching habits). There has been no known replication of Stevenson's research, likely because of the narrow parameters that would have to be present to make the conclusions useful.

## **Deserted Medieval Villages**

Deserted Medieval Villages (DMVs) have been a part of Great Britain's and Ireland's history since the 1490s; however, the presence and importance of them was largely met with disinterest until 1908 when Arthur Hadrian Allcroft published a work on the earthworks of England. In his publication, Allcroft commented on several circumstances that are reminiscent of ghost towns in the American West. Among these are that deserted places are more numerous than often believed and that, as an archaeologist, these sites present unique challenges for excavation.

So slight were the dwellings of all but the great folks, even down to the fifteenth century, that Time alone was more than competent to remove them; and when Time was abetted by the purposeful efforts of the ploughman, the last vestige of their very foundations vanished within a few years (Allcroft 1908: 551).

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<sup>7</sup> Log frame cabins with tent-like sides were commonplace in late 19<sup>th</sup> -century – early 20<sup>th</sup> -century mining camps. The popularity of this type of dwelling is a direct reflection of the transient nature of most precious metals miners (Stevenson 1982: 248).

Other archaeologists investigating the site type between the time of Allcroft's publication and the early 1950s lamented the same conditions remarking that the "subject might have died due to the unsatisfactory nature of the results of the excavations and the feeling that excavations on medieval village sites were not productive enough to be worthwhile" (Beresford and Hurst 1989: 83).

Shortly after World War II (1948), the study of DMVs was elevated as a more legitimate research topic during a gathering of "distinguished English scholars" that included a tour of the earthwork remains at Knaptoft and Hamilton near Leicester (Dyer and Jones 2010: xvii, 1). The meeting generated fresh perspectives on the subject of deserted places and led to the founding of the Deserted Medieval Village Research Group in 1952 (still active in 2012 as the Medieval Settlement Research Group); however, the focus of the research continued to be on how and when the settlements were abandoned and not why. Rather, much like pervasive thought in the United States that ghost town abandonment was always the result of some economic issue, the why of DMVs was generally accepted to be the result of either widespread disease and the resultant contamination of living spaces (i.e., black plague) or changes in land use, typically the displacement of populations after a conversion to sheep pastures (ibid. 6).

Beginning in the 1960s, the study of DMVs took on new energy and a reoriented focus that included the current perspective that encompasses a wider range of possible causes and a much longer time frame than just the medieval period. The research to date, however, continues to primarily consider case studies from the period between the 5th and 16th centuries.

Although the physical, social, and economic environments of the American West between the 1880s and mid-1900s are quite different from the DMVs of Great Britain and Ireland, commonalities in the abandonment processes are overlapping and acknowledged. Among these are:

- The necessarily interdisciplinary approach required for evaluating abandoned places
- The skepticism with which the value of deserted settlement research has been historically viewed by the academic community
- The recognition that abandoned settlements are a world-wide phenomenon

- The frequently limited data available from excavating sites with “insubstantial buildings” (Dyer and Jones 2020: 2)
- The general lack of interest by scholars in questioning *why* these places have been abandoned.

While the various studies conducted by the above scholars and research groups provide useful historic context and are good examples of *how* sites were abandoned, there is no known literature that correlates these processes, patterns, and the artifactual remains with *why* they were abandoned. Even with a way to correlate the two, prehistoric abandonment patterns and the research conducted by Stevenson display an important element that is absent in the three case studies – most notably that the residents had neither the need nor the intention to return. Jobs were available at other mining towns across both Utah and the West; therefore economic hardships were either averted or minimized. Reliable transportation, including railroads, was available to move families and goods to a new location (including entire homes); therefore, there was no need to discard or abandon valuable or usable items or cache them for future use. In addition to the extensive removal of materials during abandonment, which was documented through the histories, extensive looting and other site disturbances have taken place within the case study sites. As a result, there are essentially no whole artifacts remaining in the modern landscapes that might help link the methods of their abandonment with overt or subtle causes for it. All that remains are small unusable, obsolete, or broken items of everyday life.

At the beginning of this research, there was no clear indication of the amount of academic material available on this research topic. Whether or not a correlation could be made between the archaeology of ghost towns and the circumstances of their abandonment was uncertain as well. The existing literature does offer some interesting thoughts about the physical aspects of abandonment – i.e., what abandoners choose to take or leave; spatial patterning of artifacts in the landscape – but these data do not provide much archaeological data to support reasons why the communities were abandoned. This revelation was, of course, somewhat distressing, since one of the goals of the thesis (research question two) was to determine if the archaeological remains in the Newhouse landscape could help us understand *why* the town was deserted after so few years. The literature reviews were not forthcoming in this regard, however, and

nothing was uncovered in any of the previous research to help link the how with the why.

### **Abandonment Triggers**

Cameron and Tomka (1993: 3) note that abandonment often “conjures up images of catastrophe, mass migration, and environmental crisis.” These types of spectacular events are well documented and of a nature periodically discussed in professional reports and articles. There are, however, other more subtle triggers that are less commonly recognized, and sometimes overlooked in discussions of abandonment. They are, nonetheless, just as devastating. A brief discussion of various triggering events is provided in the following sections. Some of these do not apply directly to this research; however, it is important to acknowledge each in order to assess their potential relevance to the case studies, any future studies of this subject, and the presence or absence of artifacts within the abandoned landscapes. Without an understanding of the universe of abandonment triggers, it would not be possible to determine which are applicable and which are not.

***Catastrophic Events.*** This trigger includes both natural and technological disasters that produce immediate or rapid changes in both the physical and cultural environments. Among the natural events are earthquakes, volcanic eruptions, hurricanes, tornados, floods, and fires (Davis 1978; Hansen and Oliver-Smith 1982; Cameron 1991). Technological or industrial disasters include explosions, mine collapses, dam breaches, and toxic or hazardous materials releases. In the aftermath of catastrophic events, the physical, cultural, and economic landscape is suddenly transformed and the potential for residents to return is either permanently revoked or delayed by long periods of time (e.g. decades, or even centuries). Unlike cyclical or episodic abandonment (e.g. the seasonal abandonment often undertaken by prehistoric foraging groups), this type of abandonment is undertaken in hours or days and is usually permanent, with little or no warning or time for collection and removal of items from buildings or the landscape. As Plunkett and Uruñuela have described (2003: 17), rapid evacuation is distinctively reflected in the types and placement of cultural remains because of the decisions that have to be made under extreme stress. Whole items are often found in these types of sites and they are found essentially where they were being

used at the time of the event. Depending on the source of the disaster, artifacts and features may be either frozen in time and eventually recoverable, or obliterated and completely lost to the archaeological record. Striking examples of abandonment by natural or technological catastrophe include the volcanic eruptions near Pompeii (Beard 2010), the nuclear disaster at Chernobyl (Sergiy 2008) and, in 2011, the earthquake and tsunami devastation in Japan.

None of the case study sites were affected by this type of catastrophic event, although each did experience lasting effects from damaging events such as mine collapses and devastating fires. One of the case studies was also plagued by mine shaft flooding that could not be overcome and ultimately proved to be a primary factor in its abandonment. As will be shown in Chapter Four, of the 105 settlements assessed in the Utah database, only one percent suffered natural or technological disasters that were either primary or secondary abandonment factors.

***Displacement/Encroachment.*** Displacement is planned and forced abandonment that may occur over weeks or months. As opposed to temporary displacement, where residents return following some type of optional (e.g. seasonal rounds) or precipitating event (e.g. temporary flooding), displacement is permanent and occurs when one entity – often a government agency such as the military, or private corporation – requires the relocation of a population for the use of lands for an alternative purpose (e.g. public or private benefit). Since this type of abandonment does not take place under the acute pressures associated with catastrophic events, artifacts are not found stored for an eventual return. Rather, there will be few, if any, complete items and only discards are left behind. This type of abandonment is well illustrated by the mining community of Etzweiler, Germany, which was forced into desertion in the 1990s to make way for the expansion of a strip mine (coal) (Gheys 2004:2). Residents had limited, but sufficient time to remove items during the relocation, but anything remaining after their departure was either confiscated or eventually obliterated by the mining activities.

In contrast, displacement's opposite effect on the landscape comes from a study of the Levi Jordan Plantation in Texas. Between 1890 and 1891, occupants of the plantation's sharecropper enclave were deliberately evicted following a legal dispute and forced to desert the community, leaving behind all of their possessions (Brown

1995: 5-118). This resulted in the preservation of artifacts representing items hastily abandoned and in positions relatively close to the place where they were used (Brown and Cooper 1990: 8).

Displacement or encroachment was not a factor at the three abandoned Utah case study locations and only a primary factor at 4.8 percent of the 105 settlements analyzed in the Utah database (see Chapter Four). Leaving these communities was neither planned nor forced; rather each experienced a more gradual decline that allowed them to transport their possessions to the new location and discard only that which was no longer needed or useable. Displacement has taken place at other locations in Utah, however, most notably Garfield, which was adjacent to the Bingham Mine near Salt Lake City (now the Kennecott Mine). The company-built town, which once had a population of more than 2,000, was forced to leave and the buildings dismantled in 1940 to allow for the mine's rapid expansion (Notarianni 2010).

***Economics.*** The abandonment of western American towns – especially those extracting natural resources – is most frequently attributed to economic factors (Roth 1992: 176). Economics-based abandonment can be triggered by fluctuations in world markets (e.g. sudden drops in the price of metal or fuel ores), the decline of an industry to the point where it will no longer support the population (e.g. the closing of a manufacturing plant that is the primary source of community revenues), or the perception of residents that there are greater gains to be realized in another location (e.g. precious metals miners that move from town to town in search of richer, quicker strikes) (Hardesty 1985, 2010). In economies that are predominantly extractive, critical resources are harvested but not necessarily locally consumed or processed. This economic environment is, therefore, extremely sensitive to worldwide price fluctuations, because there are few other industries on which the labor forces can rely (White 1991: 242-246). Depending on the precipitating event, abandonment for economic reasons can occur within days or months, which in turn has an effect on what is transported to the new location and what is left behind. Many such abandoned sites are found around the world, from abandoned whaling stations in the South Atlantic to Japan's Ghost Island, a coal mining community (1887-1974) that once was the most densely populated place on earth. When petroleum replaced coal as the primary source of energy in Japan, the mines closed and the population gradually vanished from the

island. According to historical records, the residents left behind only unneeded belongings and a few stray cats (Gaffney 2002:5).

Although economic factors have a role in many cases of abandonment, it is a premise of this thesis that economics should not be viewed as the only cause; rather that there are more nuanced and complex processes involved. Periodic worldwide declines in the value of precious metals and, for the three case studies the banking collapse of 1907, undoubtedly affected many communities. Yet, substantial deposits of mineable ores remain at these places even today, indicating that there were other issues that prevented them from surviving those economic events. Of the 105 ghost towns evaluated in the Utah database, economics is the typically attributed cause for abandonment in 46 percent of the non-company constructed towns and 83 percent of the company towns. Careful scrutiny of the historical records, however, reveals that economics was only a primary cause in 25 percent of the non-company constructed settlements and 20 percent of the company towns (see Chapter Four).

***Environmental Conditions.*** The range of environmental abandonment triggers is broad. Among these are inhospitable climates, or an inability of residents to adapt to them; poor management of, or a lack of, natural resources (forests, agricultural and grazing land, water); and long and short-term climate changes, especially prolonged droughts. There has been considerable research devoted to the various environmental triggers and how populations react or adjust to changes in environmental conditions resulting from both natural and human-induced events (White 1991; Cameron and Tomka 1993; Manzanilla 2003; Diamond 2005; McAnany & Yoffee 2010). Given the length of time it usually takes for environmental issues to evolve, reactions are often gradual and prolonged. Residents that are not able or willing to adjust will abandon an area first and, later, when conditions do not improve, the remaining residents follow.

Environmental situations can be localized – e.g. in an isolated settlement with a limited supply of resources – or regional, such as periods of prolonged drought. As well, abandonment from environmental causes can be either short-term or permanent. The underlying cause will affect the structure of the abandonment and what is later found among the archaeological remains will be based on both expectations to return and the distance to the new location (Schlanger and Wilshusen 1993: 85-98).



An example of a settlement affected by environmental conditions is Sego, Utah, a coal mining town that collapsed because of reckless management of the water supply during an extended drought (Carr 1972: 153). A larger scale example, on a regional scale, was America's Dust Bowl phenomenon of the 1930s, which involved several interconnected environmental conditions. In the latter example, an extended drought exacerbated decades of overgrazing and poor agricultural practices (e.g. no crop rotation or cover crops to prevent erosion). Periodic strong winds created destructive dust clouds that blanketed more than 100 million acres across five western states. With farmland rendered useless, hundreds of communities were abandoned and thousands of residents relocated permanently (Gregory 1991; Egan 2005).

Environmental conditions affected abandonment at all three case study locations, with water (depending on the location either too little or too much) being a primary factor. Analysis of the Utah database reveals that 42 percent of the non-company constructed towns were adversely affected by environmental conditions. Almost identically, 43 percent of the company towns were abandoned for either a primary or secondary environmental factor.

**Environmental Marginality.** Environmental marginality considers areas that are less desirable for living and farming (Coles and Mills 1998; Majoral et al., 2000). The subject is not one that is well developed in North American literature and no published materials could be found as the subject relates to the American West generally or western abandoned places specifically. Never-the-less, given the focus of this thesis, the premise is applicable to western ghost towns and, particularly the Frisco case study.

Climatologically, mining towns generally operate without regard to annual fluctuations; however, the factor could certainly be a legitimate issue in agricultural settlements (prehistoric and historic) – particularly those reliant on seasonal rains. Towns such as Frisco that had no reliable source of potable water perpetually lived on the edge of success or failure because of it. Ortley, Oregon, which is discussed below, could be considered a marginal community as well, although its primary abandonment factor was poor planning and community management. While detailed discussions of this subject are beyond the scope of this thesis, it is a topic worthy of examination by

future researchers and a possible line of inquiry for marginalization as it relates to western ghost towns has been proposed in Chapter Six.

***Social Issues.*** Social issues as they relate to abandonment include conflict between races, ethnicities, classes, and religions. As noted by White (1991: 328-352), these types of stressors eventually create conflict. Between 1875 and the 1930s, immigration into the United States was at its peak (U. S. Immigration Support 2010). By the late 1880s, many immigrants were moving to the western United States as farmers, ranchers, and particularly, miners. Much of the social conflict described for the West during the late 19<sup>th</sup> century and early 20<sup>th</sup> century has been attributed to the romanticized notion of the West (i.e., accounts of gunslingers, stagecoach robbers, and saloon killings), but more realistically it was the mingling of cultures, values, and practices of the immigrant populations. While this factor is not usually a primary cause of abandonment, it is frequently noted in community histories, first person accounts, and regional newspaper articles and believed to be a contributing factor.

Representations of social differences are manifest in the modern landscape by the presence of Boot Hill cemeteries, cemetery segregation (usually by ethnic origin or religion), and the obvious separation of living spaces by either ethnicity or social status (Elliott 1990; Allen 1966: 84-93; Hardesty 1998a: 88; Carlson 2003: 36-49). Based on newspaper accounts from the periods of study, two of the three case study communities have histories that describe social strife (Frisco and Silver Reef); however, records for the Newhouse reveal no indication of it. Of the 105 settlements in the Utah database, the newspaper accounts reveal that 12 percent of the non-company towns had some level of social discord. Among the company towns, the percentage was seven percent.

***Isolation.*** Isolated settlements are more susceptible to crime and the repercussions of social conflict, have more difficulty acquiring and/or retaining reliable communication and transportation networks, and have limited access to both essential and preferential goods and services. This vulnerability can be a factor in any location where settlements are physically separated by great distances; divided by impassable natural boundaries (mountain ranges, large lakes); or surrounded by dangerous, inhospitable, or uninhabitable environments (desert expanses). To varying degrees isolation was a characteristic of all of the 105 ghost towns assessed in the Utah database and that made each sensitive to environmental, technological, and social conditions

(Manzanilla 2003: 95). As noted by Clements (2003: 21), “It (the American West) was the sort of country in which – as one prospector had been warned – a fellow was as likely to find his tombstone as his fortune.” Few towns had full time law enforcement and many did not have a jail, which made them vulnerable to Indian attacks, thieves, roving bands of robbers, and inter-community crime. Most communities had only one good road to connect them to other communities and those were often seasonally affected. Acquiring railroad access was either not feasible or too expensive for many of these remote towns and those that did have train service often suffered its removal by the railroad company if the populations decreased or the town’s industry was not sufficiently profitable.

Most of these isolated settlements also had no hospitals or physicians, making residents more vulnerable to disease, epidemics (White 1991: 190-191), infections, industrial injuries, gunshot wounds, and the deaths of infants and mothers during childbirth. Communications systems, including mail service, telegraph, and telephone were either non-existent or unreliable. The town of Calico, California, which was 75 miles from the closest drug supply, suffered at least three epidemics in the late 1880s and early 1890s. The diseases, which spread rapidly through the town, killed many of the town’s children because they were unable to obtain medical assistance in time to save them. Richmond, Oregon, was abandoned when the automobile replaced horses and wagons. The availability of motorized vehicles reduced travel time to larger neighboring communities from a day to a half-hour drive. With quicker access to larger commerce centers, Richmond was soon bypassed (Clements 2003: 13).

The effects of isolation on the three case studies varied and are described further in Chapter Three.

***Planning and Management.*** The question of effective planning and management as a legitimate abandonment trigger was not directly noted by previous researchers, but repeatedly emerged during this research. This abandonment trigger is particularly relevant to the circumstances at Newhouse, but close examination of other communities reveals that the extent to which local decisions affect communities is clearly present and forms an undeniable, and largely unrecognized, pattern.

Abandonment resulting from one or more bad business decisions can be either abrupt or gradual. Depending on the circumstances, what is left behind will mimic

either the acute stress present in catastrophic evacuations or the more gradual processes associated with displacement and environmental situations. In the case of Ortley, Oregon, commercial lots and small orchard parcels were surveyed and sold by the Hood River Orchard and Land Company without first determining whether or not the environment (high winds, soils, availability of water) was suitable for the growing of apples. The town struggled from the beginning and was gradually abandoned by more than 300 hundred residents over an 11 year period (1911-1922). Residents had ample time to remove household items and the town was never re-inhabited. In 2011, Ortley is barely visible in the landscape (Smede 2002).

In contrast, Guilliford (2003) describes an interesting contemporary example that explores the elements of corporate greed and employee victimization. In this case, the Exxon Corporation developed a new community in Colorado (Battlement Mesa) for the extraction of oil shale – a response to the energy crisis of the 1970s. For almost 2 years (1980-1982) there was extensive development, with Exxon promising the community that it would support its growth for decades. Without notice, Exxon abruptly shut down the operations and laid off the entire workforce of 2,100. When they reported to work, the gates were locked and the workers were not even allowed to retrieve their personal belongings. The underlying rationale for Exxon's decision was the declining price of oil per barrel; however, the company had secretly provided itself with an escape clause that essentially prevented any liability (Guilliford 2003: 12, 231).

As noted, of the various abandonment triggers, economics – particularly in western mining towns – is the most commonly *perceived* reason for abandonment. This perception is repeatedly espoused in popular media, but it is also rather uniformly put forward in academic writings. Hardesty (1985: 215; 2010: 179-182) and Purser (1999: 120) support this view by citing the unpredictable nature of extracting natural resources and the effect it has on world market values, particularly since the West has historically been dependent on foreign investments. This opinion is also seen in scholarly literature from Australia, which describes a similar boom and bust experience in the Australian Outback goldfields during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Bell 1984 and 1998; Lawrence 1998; Ulm 2005; Lawrence and Davies 2010).

Given the widespread acceptance of this explanation in both academic and popular literature, the contribution of other possible triggers is rarely advanced. There

are, however, many ghost towns with historical indications of primary or secondary causes for abandonment other than economics and many that continue to actively mine ores believed to have been exhausted even today. Still others were resilient enough to reinvent themselves, sometimes more than once. On the publication of Jared Diamond's *Collapse* – a treatment of environmental and sociopolitical issues surrounding abandonment – one reviewer commented that resilient societies are “the nimble ones, capable of long-term planning, and of abandoning deeply entrenched, but ultimately destructive, core values and beliefs” (*Nature* 2005). Examples of some of the more nimble western towns are Aspen, Colorado, which first boomed as a silver mining town and later as a ski resort and Breckenridge, Colorado, which rebounded from three eras of gold mining: placering, lode mining, and dredging.

Samfordyce, Texas, which boomed when the railroad arrived in 1905, had a revival after 1910 as a military supply town during the border troubles of the Mexican Revolution, and then had a rebirth during an oil boom in the 1930s. Lenado, Colorado, had five reinventions over a 100 year period. Beginning in the 1890s, the town first boomed as a silver mining, camp, then lead mining, zinc mining and milling during World War I, lumbering, and finally as a haven for the mid 1960s counterculture (Clements 2003:8).

Certainly there are economic pressures that affected the success or failure of western settlements and the case studies were not immune to these. What this research considers is that economic issues are neither the only factor, nor in many cases, even the primary reason why many western towns were abandoned and that historians and historical archaeologists should look beyond that. Perhaps this has not been done to date because, as Church proposes (2002:238), archaeologists seem to be more comfortable with economic explanations than the implications of more subtle or indirect effects.

### **Abandonment and Post Abandonment Behavior**

Because of their ephemeral nature, western ghost towns as a class are a unique site type. Their archaeological footprints are shallow and there are often limited historical records pertaining to them. Their remote locations make most ghost towns

highly vulnerable to natural degradation and, based on colorful albeit often imagined histories, a repeated target for salvagers and unauthorized artifact collectors.

In a publication on behavioral archaeology, Schiffer divides abandonment behavior into five useful categories (2010: 38-40). The behaviors include:

- *Reincorporation*, where settlements are abandoned and then reoccupied by the same group, which then reuses elements that were cached (e.g. tools, cooking pots);
- *Salvage*, when a site becomes occupied by a different group that then claims and reuses the abandoned items (different from the type of salvage undertaken by residents as they deserted the town);
- *Scavenging*, which takes place when previously deposited items are reused by the original inhabitants;
- *Collecting*, which involves the removal of items from a site or settlement's landscape for use at another location (reuse, display or sale);
- *Disturbance*, which transforms materials within the archaeological context from activities such as plowing, excavation, looting, land clearance and leveling, and trampling.

Given the isolation of the three case studies, there was intense effort and need to salvage and recycle usable items and transport them to new locations. Evidence of this is clearly reflected in the lack of standing structures and whole items remaining in each case study site, but it is also echoed in the historical records. The documents describe what was removed (entire dwellings, churches, boarding houses, schools, train depots) and how they were removed (by horse-drawn wagon or wooden skids; dismantled or intact) (Brown 1996; Horton 2002: 556) and often indicated the final destination. The need to salvage was also the result of a scarcity of building supplies during this period. Trees had been overharvested to supply the smelters and often had to be imported from as far as Salt Lake City just to keep them running. More permanent materials (brick, cut stone) were expensive and had to be imported, and the quality of clays to build rammed-earth adobe structures was marginal at best. Given the distance from commercial centers, the cost to purchase new trade tools or household goods would have been prohibitive.

The amount of salvage and the level of disturbance (environmental and human) to the case study sites over the 100 plus intervening years since abandonment, has also significantly affected each case study assemblage and landscape. Bell (1998: 35-37) discusses similar effects in his treatment of Australian ghost towns and adds that the situation has been exacerbated in the last few decades with the advent of four-wheel drive vehicles which make sites more accessible. There is also compelling data showing that salvage and “looting tends to increase during periods of economic downturn” (Loew 2011: 1, 6). Lamenting the situation, Larry Coben, Executive Director of the Archaeological Institute of America’s Sustainable Preservation Initiative, remarked “How can someone tell a poor person not to economically exploit a site, even if destructive, without providing a viable economic opportunity that provides income to that person. People can’t eat their history” (Archaeological Institute of America 2012:1).

When the case study sites were abandoned, there was no intention to return on behalf of the residents, nor was there any subsequent reoccupation. Inasmuch as the abandonments were gradual and not acute (i.e., during some sort of catastrophic event), some scavenging likely took place by residents, and that would have included both de facto and refuse items. The most prominent behaviors that affected the case studies, however, were collection and disturbance. Unfortunately, both drastically affected not only the archaeology of the three settlements, but also the ability to interpret patterns at the regional level. A discussion of collection and disturbance behaviors in the form of historic salvage, trampling, and looting, and their effects on the case studies is discussed further in the *Research Methods* section.

## **2.3 RESEARCH METHODS**

This research reviewed scholarly and avocational literature relating to the three frameworks. Archival and other literature searches related to hundreds of U.S. western ghost towns in general, and the three case studies specifically, was undertaken and informal interviews with individuals having knowledge of the case study locations (e.g. local residents familiar with the site histories) were conducted. Two autobiographical accounts were also acquired from the descendants of former residents of Newhouse and Silver Reef (Mariger ca. 1959; Lundell 1973). As described in Chapter Four, a database

of 105 Utah settlements was also developed and analyzed. Archaeological field work consisted of 9 weeks of survey, mapping, and photography that included all three case study locations. At Newhouse and Frisco, global positioning systems (GPS) equipment was used to record locus boundaries, features, and artifacts and limited surface collection (approximately 100 diagnostic artifacts) was undertaken at Newhouse with permission of the land owner. By using the data from these various sources, the historic context was developed, the case studies and artifacts analyzed and compared, and conclusions about abandonment processes as they relates to western ghost towns in general and the Newhouse town site specifically, formulated.

### **2.3.1 Archival and Literature Searches**

Extensive effort was expended towards the archival and documentary evidence relating to this research. Journal and newspaper articles, books, photographs, maps, and electronic media (movies and audio recordings) were acquired and reviewed from repositories nationwide – particularly libraries, archives, and personal collections located in California, Nevada, and Utah. Newspaper articles and census records were an especially useful source of evidence. These original documents made a significant contribution to the interpretation and understanding of the social and cultural context of the study sites and provided valuable comparative information with which to verify other textual sources.

***A Word about Historic Newspapers.*** Because they are often the only historical accounts that survive, much of what is known about western ghost towns comes from newspaper accounts. Historians of the West consider them to be valuable resources and often remark about the importance of this media genre to their research. Dr. Robert Schuyler utilized newspaper accounts extensively while researching Silver Reef (1984) and Casey Tefertiller (1997) relied on them heavily for his comprehensive biography of Wyatt Earp. Dr. Donald Hardesty (2010: 7) has commented that mining town newspapers, although often short-lived and sometimes prone to embellishment, provide the most detailed accounts of mining towns and Dr. Douglas Steeples (1999: 65-78), in his research for Calico, dedicates an entire chapter to the *Calico Print* as the most important source for Calico's history. Historical newspapers, including articles from



multiple newspapers about the same issue, were used as a primary resource for this research, particularly for Newhouse, about which little substantive has been published.

### **2.3.2 Interviews and Oral Histories**

There are no known surviving individuals that might have lived in the case study locations; however, informal interviews were conducted with individuals having direct knowledge of the subject. This includes members of the Wintch family, Wah Wah Ranch, Utah, who have owned the Newhouse town site since 1931 and have historical materials relating to it; Ms. Charlice Brown, an avocational historian, who lived in Milford and has physically explored and researched the towns of Newhouse and Frisco over many decades; Mrs. Valerie Wood, whose grandmother (Edith Erickson Lundell) lived in Newhouse and wrote a brief account of her time there (Appendix A); and Dr. Harold Hickman, St. George, Utah, whose mother lived in Frisco and who has childhood recollections of visits there with her. Dr. Hickman has also written articles (academic and popular) on many ghost towns (including all three case study locations) and produced a short film on Frisco for his Master's Degree from Utah State University. In addition, Mrs. Mari Pritchard Parker owns a home and assay shed in Milford, Utah, that were once located in Newhouse and later moved to Milford along with many other homes and buildings when the town was abandoned. Photographs of Mrs. Parker's property are provided in Chapter Three.

An oral history interview was conducted with Mrs. Gladys Whittaker in Milford, Utah, in April 2008. A transcription of the interview and a release form that was acquired from Mrs. Whittaker prior to undertaking the interview is provided in Appendix B. Although Mrs. Whittaker did not live in Newhouse or Frisco, she had some knowledge of both towns and was able to offer insight into the historic activities there. Although nearly 80 years of age at the time of the interview, Mrs. Whittaker was in good health and had good, albeit limited, recollections of both communities.

Oral histories can be a very effective tool for recording personal recollections, experiences, thoughts, and feelings about specific events and places. They add a personal dimension to studying the past and are a valuable complement to other sources of historical data (The American Folklife Center 2011). As with historical newspapers, there are inherent cautions associated with the use of oral history interviews as they are

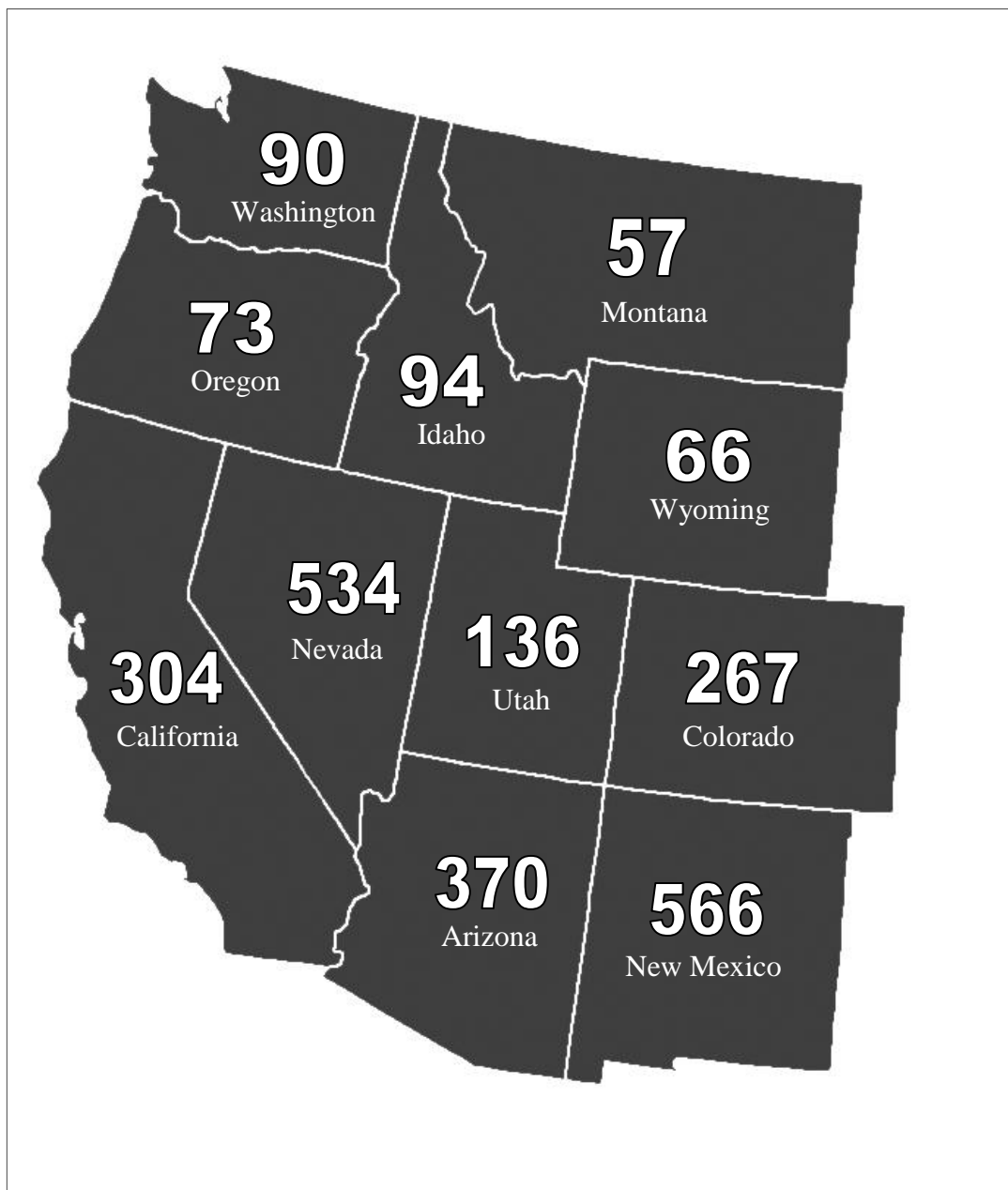
grounded in memory and memory is a subjective instrument for recording the past. Memories are also often shaped by the present moment and individual psyche (Indiana University, Center for the Study of History and Memory 200). Nonetheless, there is great value in the recording of oral histories as they often “tell us less about events as such and more about their meaning” (Portelli 1981: 96-107).

It is important to know certain facts which have lingered in people's memories although they may not know exactly what the fact was, why it happened or what led to it. But they might easily know something that we do not know and that we have no other means of learning (Christie 1972: 105).

### **2.3.3 Ghost Town Database**

Between 2006 and mid 2011, a large volume of general ghost town information was collected, organized, and synthesized. Initially, the data collection included the entire United States, however, the volume of material from such a large area was far too extensive to synthesize and analyze for this thesis. The dataset was therefore reduced to the 11 far western states and forms the basis of the comparative analysis presented throughout this thesis. Based on a rough count gleaned from the various data sources (Murbarger 1956, 1961; Nadeau 1965; Weiss 1971; Carr 1972; Sherman and Sherman 1975; Thompson 1982; Dallas 1985; Hall 1988; Silverberg 1988; Bial 2001; Jordan 2001; Brown 2002; Fifer 2002; Harris 2003; Raisch 2006; Underwood et al. 2009), all of which vary in numbers, there are at least 2,557 abandoned towns within the 11-state region (Figure 2-29).

The state of Utah is the specific regional focus of this research. Utah was selected because of the wide range of geographical and environmental settings and climates within which the state's ghost towns are situated (mountains, deserts, arid, humid); a reasonable range of abandoned town types (mining, ranching, farming); a mix of non-company and company towns; a manageable number of abandoned towns with sufficient historical information appropriate for statistical analysis; ability to gain land-owner permission for access (inhibited by the liability at active and abandoned mining sites); and the challenge of expanding the body of knowledge known about Newhouse. Based on the available data, 105 Utah ghost towns were recorded in an Excel database (Appendix C). A more detailed discussion of the database and its analysis is presented



**Figure 2-29. Approximate Number of Abandoned Towns by State**  
(Base map of the Far Western United States adapted from *Mappery* 2010)

in Chapter Four.

### 2.3.4 Archaeological Field Work

Archaeological field work was conducted in 1-2 week blocks of time between 2006 and 2010. Over this time period, the case study locations were photographed, mapped, and recorded and all of the archival research and interviews conducted.

Newhouse and Frisco, both in Beaver County, Utah, were mapped, photographed and recorded using GPS in the North American Datum (NAD) 83 coordinate system.

Because of land-owner issues and the unavailable status of the previously collected artifacts housed at the University of Pennsylvania, Silver Reef, which is in Washington, County, Utah, was largely studied through archival records and by photography and analysis of artifacts located in the Silver Reef Museum. Land owner preferences also prohibited the collection of artifacts at Frisco and Silver Reef. Artifacts from these locations were photographed and evaluated either in the field or, in the case of Silver Reef, at the collection repository. Artifacts at Newhouse were also evaluated and photographed in the field; however, with permission of the landowners, approximately 100 artifacts were collected, photographed, and catalogued for further laboratory identification and analysis (e.g. various ceramic patterns; bottle marks). At the conclusion of the research, the Newhouse artifacts will be returned to the land owner for placement in a small museum at the family ranch. The museum will be housed in the Newhouse train depot, which was moved to their property when the town site was purchased in 1931.

Given the shallow footprint of the Newhouse community, which was active for only about 12 years, the surficial nature of artifacts within the landscape (i.e., no deposition below the first 2-3 inches), and heavy disturbance to the site from historic salvage, cattle trampling, and modern looting, there was no subsurface excavation conducted.

The initial approach to field work at Newhouse – more than 3,000 acres in size – required the overlay of computer generated grids using Geographic Information Systems (GIS) software and GPS coordinates in Universal Transverse Mercator (UTM) format. The grids were placed over five Newhouse “neighborhoods,” including the area of the cemetery (Grid 1); the company town portion of Newhouse (Grid 2), the industrial section (including the mill and the tent town portion of Newhouse) (Grid 3), the sheep shearing area (Grid 4), and the cactus mine (Grid 5). Two semi-permanent datum points were also established, approximately 0.5 mile apart – one in the company town portion of Newhouse, adjacent to a permanent, historic water system standpipe within Locus 7, and one in North Newhouse near the southeast corner of the Rock

House (Locus 9) (Figures 2-30 and 2-31). A third datum, a United States Geological Survey (USGS) Benchmark located at the southeast corner of the reservoir was also utilized.

Within the five grids, 10 loci were selected using the grid coordinates, historical data, and field reconnaissance (Figure 2-32). Based on historical narratives, photographs, and maps of Newhouse, the 10 loci encompass a variety of features representing aspects of everyday life. These include residential, commercial, transportation, recreation, and social elements, including the town's bank (Locus 1); the Cactus Inn, a boarding house (Locus 2); the train depot (Locus 3); the reservoir and pump station (Locus 4); a dwelling within the company town portion of the community (Locus 5); the Cactus Café (Locus 6); the town center park (Locus 7); a miner's cabin in North Newhouse (Locus 8); the "Rock House" (Locus 9); and a North Newhouse dwelling (Locus 10), which is sometimes referred to in the field records as the "Dog House" locus because of a small associated storage building resembling a dog house. Some consideration was also given to features that might have complementary elements at Frisco that could be used for comparison (e.g. the two boarding houses). The selection was not based on the density of artifacts noted during field reconnaissance. Indeed, several of the loci had little to offer in that regard, but were nonetheless representative of a type a feature believed to be useful for comparison (e.g. Locus 9, the North Newhouse dwelling which had minimal artifacts when compared to Locus 5, the town center dwelling). Information about each locus and the artifacts found at both Newhouse and Frisco are presented in Chapter Five.

At Frisco, the four loci surveyed and recorded were one of the Horn Silver Mines general stores (Locus 4) (Figure 2-33); a miner's dwelling (Locus 1); the home of E. N. Slaughter, which was a restaurant and boarding house historically known as "the White House" (Locus 2); and a town center commercial building (Locus 3). Existing USGS Benchmarks and a historic survey plat indicating coordinates at the intersection of Main and Cedar Streets were used as datums.

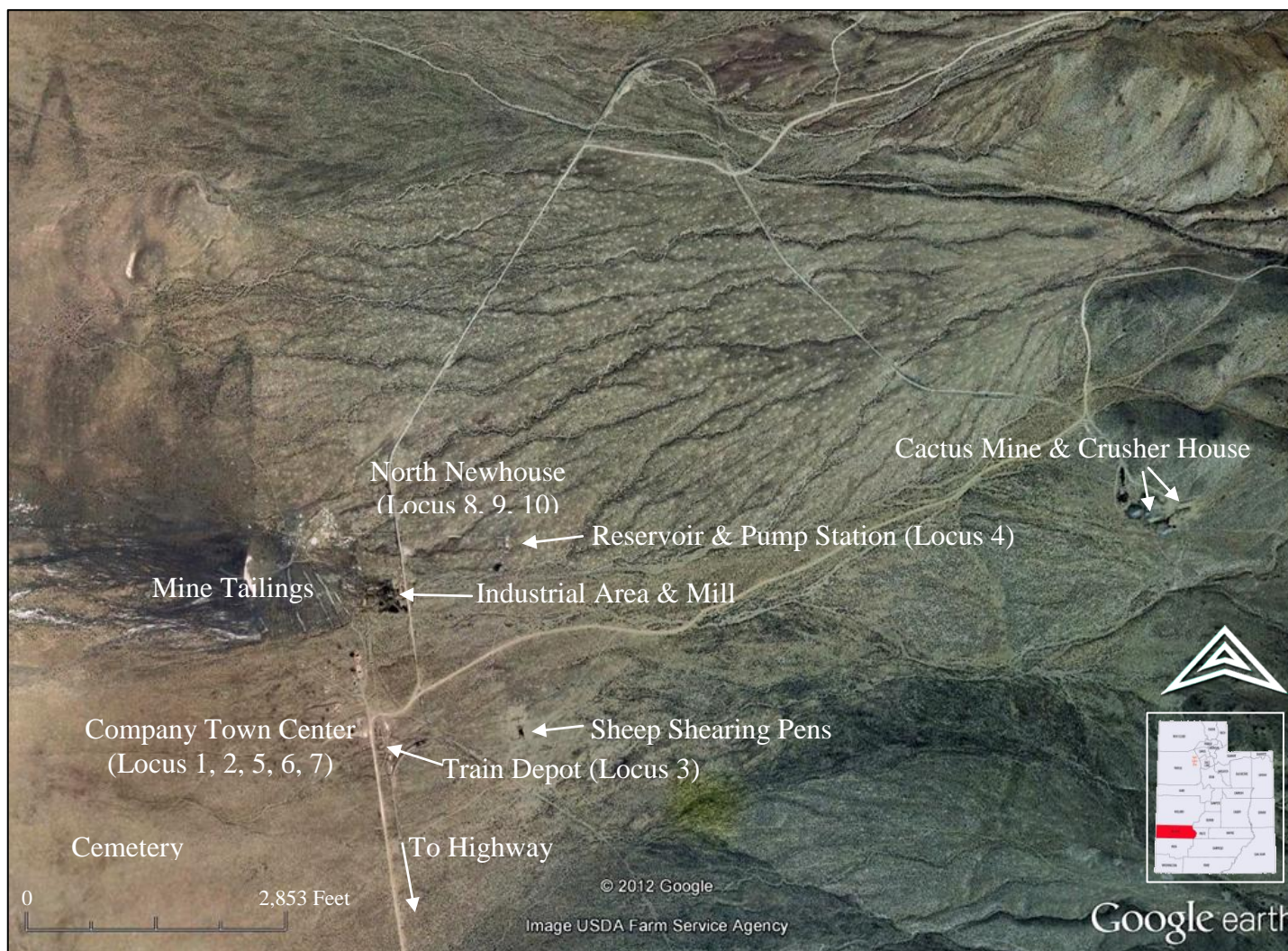


**Figure 2-30. Newhouse Datum 1, Locus 7, Company Town Park**  
(Photograph by Author, June 2009)



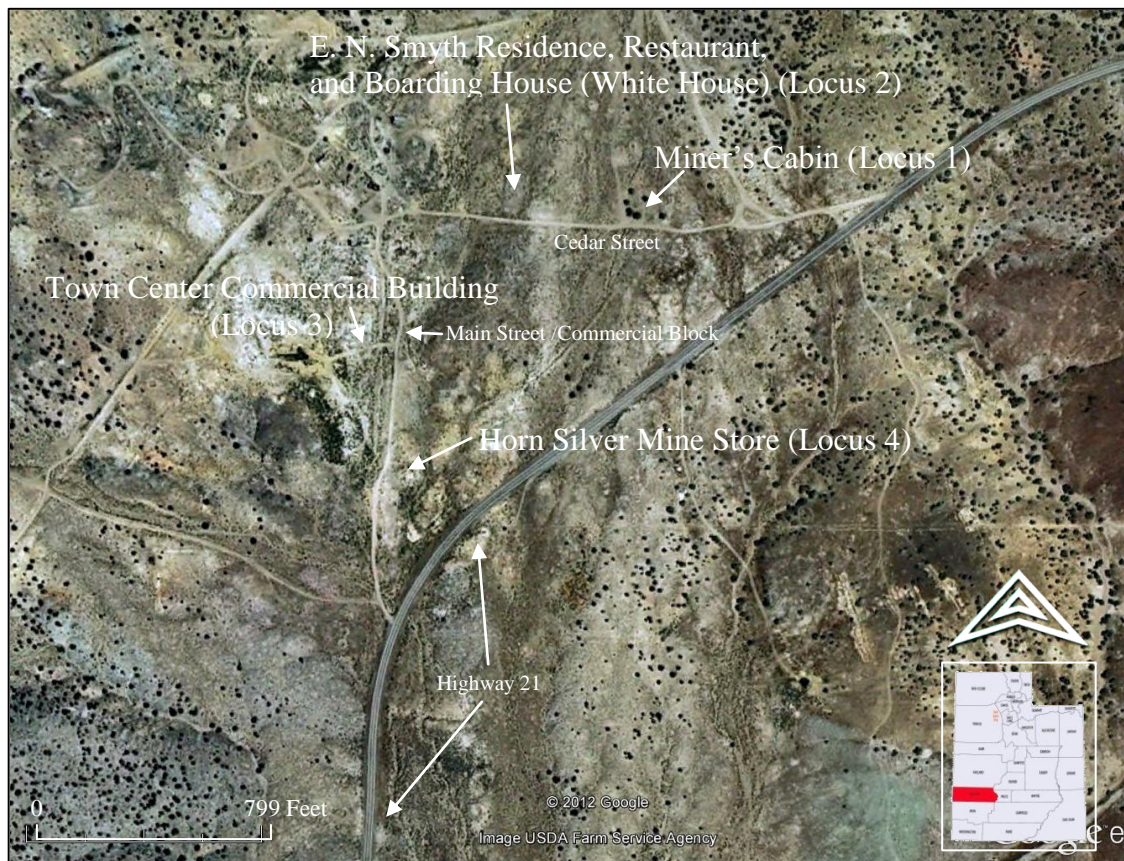
**Figure 2-31. Newhouse Datum 2, Southeast Corner Rock House**  
(Photograph by Author, June 2009)





**Figure 2-32. Newhouse, Utah – Features and Surveyed Loci**  
(Base Image Source Google Earth 2012)





**Figure 2-33. Frisco, Utah – Features and Surveyed Loci**  
(Base Image Source Google Earth 2012)

Given the focus of the research, industrial features such as the mills or smelters, mines (glory holes, tunnels, adits), kilns, and other technical areas were not systematically surveyed or formally recorded; however, historical and modern photographs, maps, and other information about these elements were used to construct the historic contexts and ground truth various features.

There are cemeteries at all three case study sites; each is discussed in Chapter Three and described in Appendix D. Given their poor condition and the number of unmarked graves, the cemeteries were not surveyed using standard archaeological methods or Ground Penetrating Radar (GPR), but the cemetery records, U. S. Census records, death certificates, and etchings on the gravestones provided useful genealogical and ethnological information. Photographs were taken of each cemetery and the gravestones and a table listing names, dates of birth and death, age, sex, and country of origin (as available) was completed for each burial and compared to the Utah Cemeteries and Burials Database for accuracy. In each case, this research was able to



expand the Utah burials database. At Newhouse, where there was no previous record of a cemetery, a graves database was newly created (see Appendix D).

The boundaries for each locus surveyed at Newhouse and Frisco were determined through historical records, aerial photographs, and historical photographs and matched to current conditions and the distribution of artifacts noted during field reconnaissance (i.e., the approximate point where artifact distribution dropped off). Each locus was physically demarcated using corner posts and the GPS coordinates noted. Each locus was then intensively surveyed, photographed, and sketched, and diagnostic artifacts collected as appropriate. GPS coordinates for features and any collected artifacts were also recorded.

To approximate the artifact density at each locus and the town site in general, a meter-square frame was placed at two to four different locations within each locus and the number of artifacts within the meter-square counted. The sample area was determined by the size of the locus, the distribution of artifacts, and by using professional judgment. The average of the densities was then calculated to give the approximate artifact density of each locus. Artifact density by locus is shown in Tables 2-4 and 2-5 and example photographs are provided in Figures 2-34 and 2-35. With the intensive salvage efforts undertaken at the time the towns were abandoned. The higher densities of artifacts at the two boarding houses reflect the types of materials typically found in this locus type, and are predominantly ceramic sherds and glass shards.

The same general approach to the field work employed at Newhouse was applied to the Frisco town site; however, as a smaller comparison site, fewer loci were surveyed. The locations of most of the Frisco town site features are poorly recorded, heavily disturbed, and the subject of a current doctoral thesis by Heather R. Puckett that is not yet complete; however, historical records, photographs, and maps provided reasonable guidance for the locations of the selected loci. As noted, the four surveyed areas were a miner's cabin (Locus 1, which is similar to Newhouse Locus 8); the E. N. Smyth residence, restaurant, and boarding house (Locus 2, which is similar to Newhouse Locus 6); a town center commercial building (Locus 3, which has no parallel at Newhouse); and one of the Horn Silver Mines general store sites (Locus 4, which also has no parallel at Newhouse).

**Table 2-4. Artifact Density by Locus - Newhouse\***

<b>Locus Number</b>	<b>Locus Name</b>	<b>Number of Sample Squares</b>	<b>Averaged Density of Artifacts</b>
1	Bank	3	31
2	Cactus Inn	3	29
3	Train Depot	4	55
4	Reservoir and Pump Station	2	22
5	Town Center Dwelling	4	36
6	Cactus Café	4	74
7	Park	3	25
8	North Newhouse Miner's Cabins	3	46
9	Rock House	4	56
10	North Newhouse Dwelling ("Dog House")	3	40

**Table 2-5. Artifact Density by Locus - Frisco\***

<b>Locus Number</b>	<b>Locus Name</b>	<b>Number of Sample Squares</b>	<b>Averaged Density of Artifacts</b>
1	Miner's Cabin	2	11
2	E. N. Smyth Residence, Restaurant, and Boarding House	4	65
3	Town Center Commercial Building (Saloon/Brothel)	3	39
4	Horn Silver General Store	4	31

\* Meter Square sampling areas were recorded on the field sketches.

**Figure 2-34. Locus 3: Newhouse Train Depot – Meter Square Artifact Density Count**

(Photograph by Author, June 2009)



**Figure 2-35. Locus 4: Frisco Horn Silver Mines General Store – Meter Square Artifact Density Count**  
(Photograph by Author, June 2009)

### 2.3.5 Challenges of the Field Work

#### **Inherent Dangers**

Abandoned western towns in general and mining sites in particular are rife with inherent dangers. Among these are unstable construction features (e.g. roofs, chimneys, walls, foundations); sharp artifacts, such as broken window glass, rusty nails, and metal siding; hidden mine shafts, some of which are hundreds or thousands of feet deep; and noxious gases that are known to emanate from abandoned shafts and adits that may not be readily detectable (Figure 2-36). In addition, the same environmental conditions that made life difficult and dangerous for early residents of the American West also make modern field work hazardous. Some of the hazardous conditions included extremely low humidity (often single digits), omnipresent winds, a complete lack of water, and extremes of temperature, all of which contribute to dehydration. In all three of the case study locations, summer highs can reach well into the 100s (degrees Fahrenheit) and winter temperatures are frequently below zero. Some of the desert vegetation is poisonous or has formidable thorns (e.g. cactus and cholla) and there is a wide range of stinging, poisonous, or threatening wildlife (e.g. scorpions, rattlesnakes, mountain lions, coyotes). Given the isolated locations of Frisco and Newhouse (25 miles west of Milford), there is also no available cellular phone or medical services (Figure 2-37). Silver Reef has a very small adjacent population (the town of Leeds), but services are





**Figure 2-36. Warning Sign at Frisco**  
(Photograph by Author, June 2009)



**Figure 2-37. “Next Services 83 Miles”**  
Sign at the western edge of Milford on Highway 21 leading to Frisco and Newhouse.  
(Photograph by Author, June 2008)

limited to a single fuel station and small market; the closest full-service community is St. George (approximately 16.5 miles to the south).

Because of the conditions, careful preparation and contingencies were always made for the conditions. These included a two-person team at all times, extra supplies of water and food, first aid items, snake guards, and a satellite communication device in case of emergency. In addition, the landowners (Mark and Nikki Wintch) were always aware of the Newhouse and Frisco field work dates and provided an additional layer of safety at all times. John Bogdanich, owner of the Frisco site provided a letter of permission to access the site (due to the No Trespassing signs) and was aware of the survey dates, as was Mrs. Mari Pritchard Parker, who owns property in Milford and occasionally provided one of her archaeological field school students to assist with the field recordation.

### **Site Disturbance**

All three of the case study sites were abandoned by the 1920s. At the close of their active years, usable construction materials were salvaged for use elsewhere; as feasible, buildings and their entire contents were relocated; and most of the industrial equipment sold or auctioned. Anything remaining was abandoned in place and is what is reflected in the modern landscape. Primarily, this includes remnant walls or foundations made of stone or rammed-earth adobe and small fragments of everyday life such as glass and ceramic fragments, nails, and broken tools. Whole items are rarely found.

With the exception of Schuyler's work at Silver Reef in the 1980s (Schuyler 1984, 1988), there has been no disturbance to any of the sites from systematic, professional archaeological studies; however, all three have experienced some degree of vandalism and unauthorized collection. Given that Highway 21 cuts through the old Frisco town site, access is easy and that site has received the highest level of disturbance. The site is pockmarked with looters' pits and piles of broken and discarded artifacts. The locations of both Silver Reef and Newhouse (1-2 miles from a major highway) have spared the degree of unauthorized damage suffered by Frisco, but the disturbance is present and easily visible nonetheless. As an active cattle ranch since the 1930s, Newhouse has also been subjected to trampling by cattle and, at times, sheep.

U.S. laws protect sites on public and state lands, but looting and vandalism of abandoned western towns is extremely common and irreversibly affects the archaeological and historical context. It is most prevalent and lucrative for illegal traffickers in prehistoric materials, but there is also a high demand for intact historic artifacts, particularly bottles, ceramics, toys, and other collectible items. The laws do not extend to private lands, but permission is required from the landowner and most of the private sites are signed to warn against trespassing (see Figure 2-37). Landowners are rarely near enough to observe looting, however, and the remote locations and vast areas that need to be monitored and patrolled by law enforcement officials make it difficult to curb and prosecute trespassers. During every visit made to Newhouse and Frisco between 2006 and 2010, unauthorized collectors were present. Because looters usually carry firearms, they were never approached or confronted by myself or other members of the field crew.

Estimates of archaeological site disturbance in the United States reveal that nine out of every ten archaeological sites have been disturbed. The disturbance runs along a continuum from land development and resource extraction to commercial looting and intentional vandalism (Canouts and McManamon 1999). More ARPA [Archaeological Resources Protection Act] crimes are prosecuted in Utah than anywhere else in the nation. In Utah's San Juan County alone, there are an estimated 20,000 prehistoric and historic archaeological sites on Bureau of Land Management (BLM) land; more than 90 percent have been looted (Cart 2001). Figures 2-38 through 2-43 illustrate the types of disturbances found at each of the case study sites.





**Figure 2-38. Unauthorized Artifact Collection Area - Newhouse**

Note the fringe of broken artifact castoffs surrounding the piles of screened soil. Because of the shallow deposition at Newhouse, the looter's area does not show deep pits. Near Locus 5 Town Center Dwelling. View to northwest.  
(Photograph by Author, June 2009)



**Figure 2-39. Fringe of Broken Artifacts – Unauthorized Artifact Collection Area, Newhouse**

Near Locus 6, Cactus Café. Artifacts in this photograph are representative of a dining establishment and consist of shattered and/or melted and burned ceramic sherds, glass shards (window, drinking, and bottle), and food items (cut bone and oyster shells). There were no whole items found and no attempt was made to quantify the artifacts.  
(Photograph by Author, June 2009)



**Figure 2-40. Unauthorized Artifact Collection – Frisco**  
Men with shovels excavating south of Cedar Avenue (black circle).  
See Photograph 2-41.  
(Photograph by Author, April 2008)



**Figure 2-41. Unauthorized Artifact Collection [Looter's] Pit – Frisco**  
Pit created by unauthorized artifact collection south of Cedar Avenue  
See Photograph 2-40.  
(Photograph by Author, April 2008)





**Figure 2-42. Area of Controlled Excavation by Dr. Robert Schuyler in the 1980s – Silver Reef**

Remains of the Elk Horn Saloon Foundation

(Photograph by Author, June 2009)



**Figure 2-43. Elk Horn Saloon – Silver Reef**

Shattered glass remains near the controlled excavation from the 1980s. Since excavation the area has been affected by local fires and unauthorized scavenging.

Key in image used as scale.

(Photograph by Author, June 2009)

## **CHAPTER THREE. THE CASE STUDIES AND THEIR HISTORICAL CONTEXT**

This chapter presents the prehistoric and historic context for the three case study regions and settlements – Newhouse, Frisco, and Silver Reef, Utah. All three case studies are indicative of the transient nature of thousands of communities that developed on the western American landscape during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries and virtually disappeared within 10 to 50 years. The towns and their histories are also reflective of the capricious nature of gold, silver, and copper extraction; the miners, most of whom were single, who pursued those precious metals; and the men, women, and children who rarely had the opportunity to develop permanent roots or loyalties in any given location.

The contexts provide a basis for understanding the archaeological remains analyzed in Chapter Five and encompass historical, physical, environmental, and social aspects of each community; a brief biography of Samuel Newhouse follows the Newhouse community description. Given the strongly historical nature of this chapter, quotations taken directly from the archival documents are used throughout to illustrate, clarify, or emphasize the text. Interpreting the past encourages us to use the context of the people that experienced it and that is best revealed in their direct voices, rather than digested, presumed, or interpreted forms of it (Stucki 1966; DeLyser 1998; Dixon 2002; Poff 2004; Topping 2011; Davis-King 2011).

### **3.1 PREHISTORY OF SOUTHWESTERN UTAH**

#### **3.1.1 Ancestral Puebloan Cultures**

##### **Paleo-Indian Period**

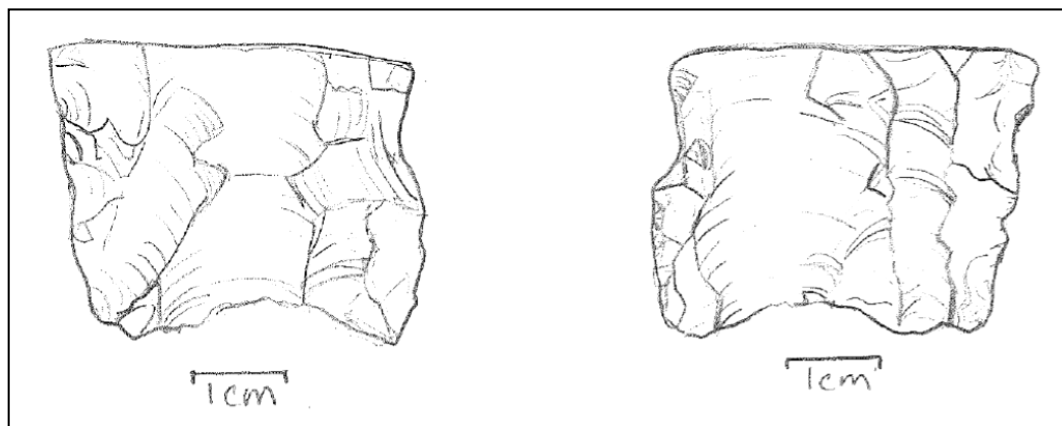
The prehistory of the eastern Great Basin is believed to extend into the past for approximately 11,000 years (Fowler 1986: 20; HRA, Inc. 2005: 5). The Great Basin is “an area of distinctive cultural distributions and natural environment” that encompasses portions of several U.S. western states; however, a large portion of it is centered on western Nevada and Utah (D’Azevedo 1986: 6-7). Most of the information known

about the region's prehistory has been collected from sites around dry lakebeds, streams, and within caves and rock shelters, and it is from these locations that Utah's prehistoric cultural periods have been established.

Large, fluted spear points used to hunt big game (e.g. bison, mammoth) are diagnostic of the earliest period (Paleo-Indian Period ca. 10,000-7,000 B.C.E. [Before the Common Era]). Although Paleo-Indian Period sites are rare in Utah, a complete Clovis point (isolate) was found in the St. George area (approximately 18 miles south of Silver Reef) in 1991 (Kohl 1991: 79-83) and two Clovis base fragments were found in Iron County (approximately 50 miles north of Silver Reef) in the late 1980s (Copeland and Fike 1988: 5-28). Fluted point base fragments were most recently found in the Mineral Mountains (approximately 25 miles to the east of Frisco and Newhouse) in 2009 (Parker 2009) (Figure 3-1). With the exception of a cache of 56 Clovis tradition artifacts found at the Fenn site near Utah's northernmost border in 2007, almost all of the fluted tradition finds in Utah have been isolates (Center for the Study of the First Americans 2012).

### **Archaic Period**

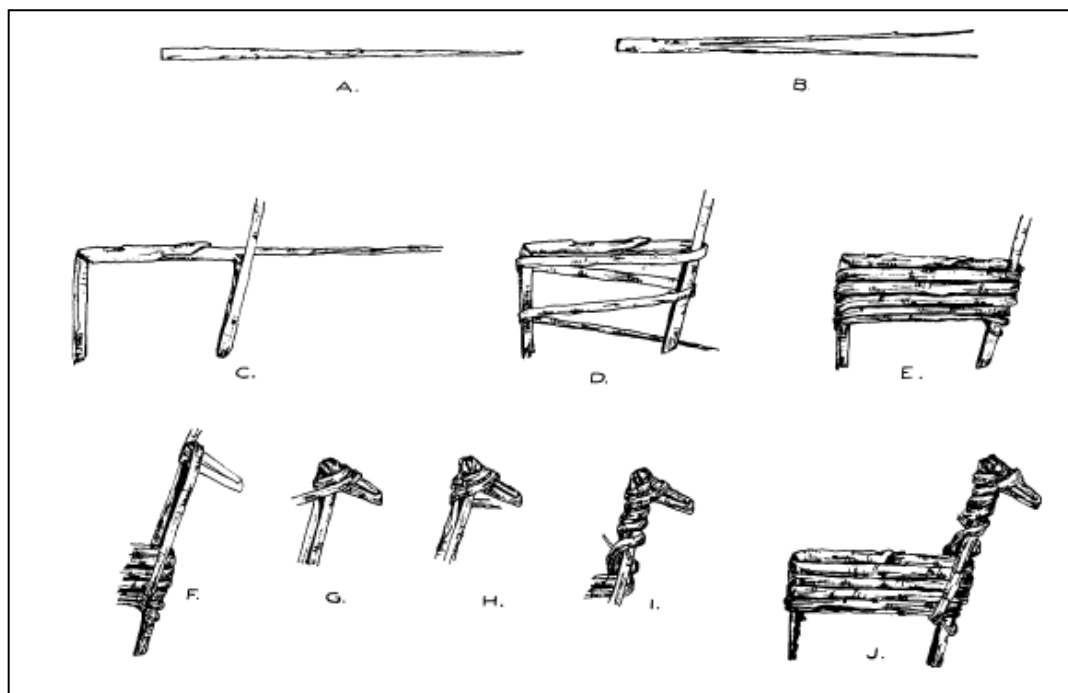
Archaeological remains from the Archaic period (approximately 7,000-400 B.C.E.) are largely representative of cultures that followed a seasonal pattern of hunting small game (rabbit, deer, squirrel) and the gathering of a wide variety of edible and medicinal plants. The Archaic is divided into three periods (Early, Middle, Late) and is characterized by a number of different small side-notched points and larger lanceolate points used with the atlatl (spear-throwing stick); however, their use for temporal and diagnostic chronologies has been problematic because of site reuse, and the presence of Split-Twig figurines (Figure 3-2) and fiber sandals (first open-twined and later woven) and baskets is more commonly used. Archaic period sites have been well researched from protected cave and rock shelter locations in southeastern and south-central Utah (the Glen Canyon area); but the data from southwestern Utah is limited and comes from largely scattered open sites. There are no known recorded Archaic sites in the immediate vicinity of Frisco or Newhouse and the nearest sites to Silver Reef containing Archaic components are near Coral Canyon and Sand Hollow – approximately 15 miles to the southwest (HRA, Inc. 2005: 6-7).



**Figure 3-1. Fluted Point Bases, Mineral Mountains, Utah**

These two fluted point bases are diagnostic of the Paleo-Indian Period. They were found approximately 25 miles east of the Frisco/Newhouse area in 2009.

(Parker et al., 2009)



**Figure 3-2. Split-Twig Figurine Construction Temporally Diagnostic of the Archaic Period in the Great Basin**

Split-Twig figurines were made from a single twig – typically willow. The twig was split down the middle and then carefully folded into animal shapes – most often believed to represent deer or sheep.

(Schwartz et al., 1958: 269)

### **3.1.2 Formative Period – Fremont and Virgin Anasazi**

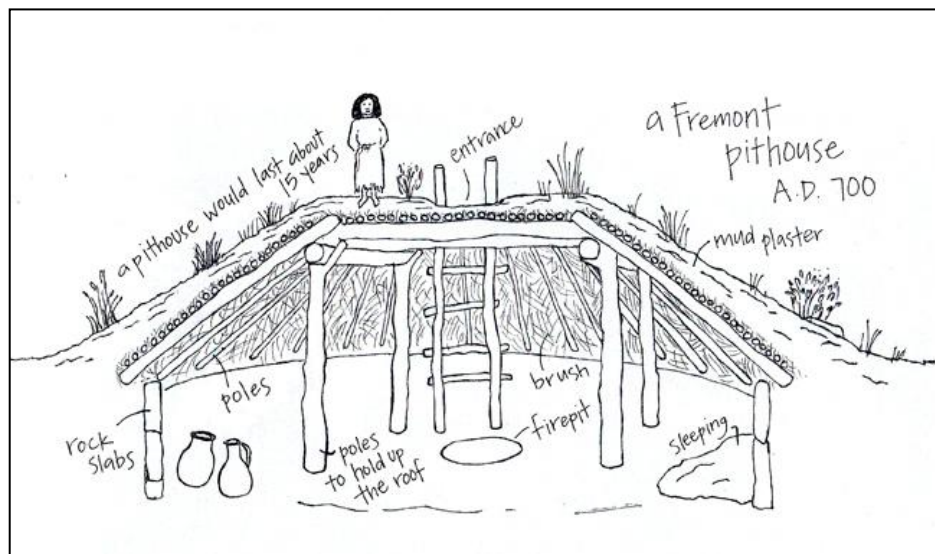
#### **The Fremont Culture**

The territory of the Fremont culture encompassed all of Utah and the Colorado Plateau. The culture is identified by a unique set of archaeological markers that overlap with, but are distinct from, the Anasazi that lived in Arizona and southern portions of Utah during the same period in prehistory (approximately 400 B.C.E to AD 1300) (see following section). During this period, the Fremont were largely a foraging society due to the climate and lack of water (Fowler and Fowler 1969); however, they also experimented with farming (beans, squash, maize) along river bottoms (Marwitt 1986: 161) and practiced extended periods of sedentism in small scattered villages. Features indicative of the Fremont culture are pit houses (varying construction materials, but all dug into the ground with poles supporting a roof) (Figure 3-3); grain grinding stones (manos and metates); atlatls; fiber baskets; grayware ceramics with pinched patterns; leather and dew claw moccasins made from the lower-leg of large animals; and unfired trapezoidal-shaped anthropomorphic clay figurines. The Fremont are also distinguished from their contemporary cultures by unique rock art designs (both pictographs and petroglyphs) that resemble their clay figurines and are often detailed with elaborate headdresses, ear bobs, necklaces, and facial expressions. “Abstract designs, geometric shapes, and handprints are also common” (National Park Service 2008) (Figure 3-4).

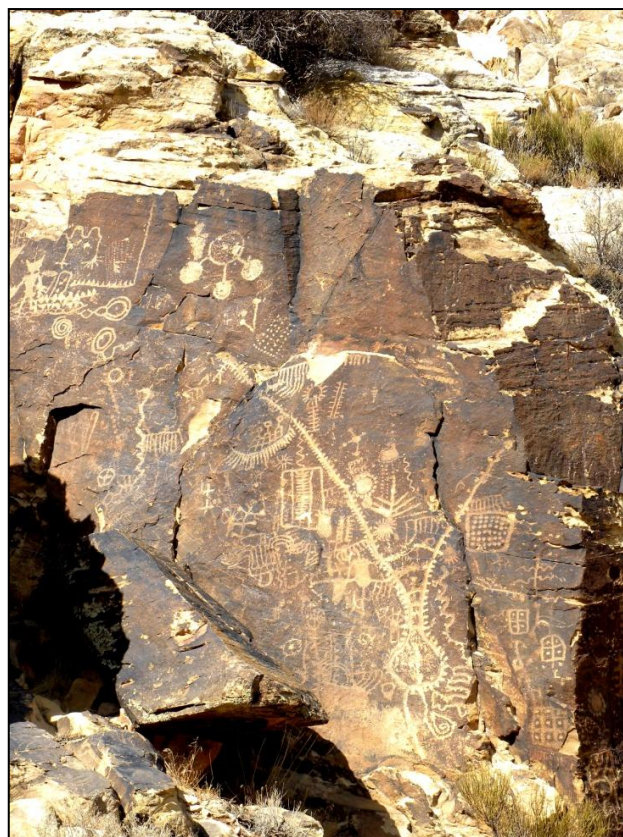
The peak year for the Fremont culture was around A.D. 1000. Between A.D. 1150 and 1300, the Fremont population decreased rapidly and eventually vanished (National Park Service 2008). There are various thoughts on the sudden disappearance of the Fremont culture from the archaeological record – drought (as verified through tree ring and paleoclimatological indicators), displacement, assimilation – but there is no clear consensus on the cause (Lipe 1984: 482; Ambler and Sutton 1989; Lyneis 1994, 1995).

Fremont sites have been found along stream banks near Milford (approximately 25 miles to the east of Frisco) and the Newhouse and Frisco town sites are likely within the footprint of the Fremont foraging area (e.g. pine nuts, deer, rabbits). Given the extreme lack of water in the Frisco/Newhouse areas the Fremont are not thought to have ever settled in that part of the county and, to date, there are no known archaeological sites attributed to them.





**Figure 3-3. Diagram of Typical Fremont Pit House**  
(State of Utah 2012)



**Figure 3-4. Distinctive Rock Art Designs of the Fremont Culture**

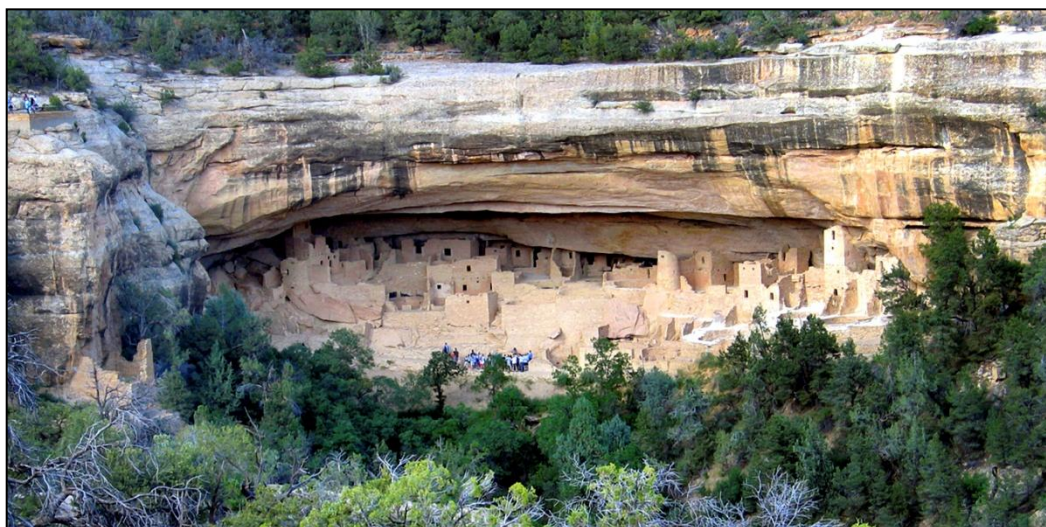
Parowan Gap, Utah, is a summer solstice site that also encompasses a system of cairns and displays large panels of Fremont rock art. The “V-shaped” glyph in the image center is known as the Zipper Glyph and has been interpreted by some as a calendar. A trapezoidal-shaped human figure, also indicative of the Fremont, is seen at the upper left of the panel.

(Photograph by Author, June 2009)

### **The Virgin Anasazi**

The Formative Period in Great Basin archaeology also includes the prehistory of the Anasazi culture (interpreted to mean “ancient ones”), who inhabited the western part of the Colorado Plateau and the river valleys of southern Utah and northern Arizona and New Mexico. The far western-most group of the Anasazi were known as the Virgin Anasazi because their homelands were within southwestern Utah’s St. George Basin and Virgin River areas (18 miles south/southwest of Silver Reef). As noted above, the Virgin Anasazi are contemporary with, but distinct from, the Fremont, although some archaeologists believe the Fremont may be a regional variant of the Anasazi (Lipe 1983: 461; Cordell 1984: 98).

Until about A.D. 700, the Anasazi were primarily a foraging culture. At that point in their history, the culture began practicing floodplain agriculture (corn, beans, squash) and constructing large settlements in order to support increasing populations. In general, the Anasazi are most noteworthy for the construction of extensive mud-brick (adobe) or sandstone “cities” situated in steep cliffs; some are found within natural caves, and atop the edges of canyons and mesas. Typical Anasazi villages had hundreds of rooms on multiple levels accessed by ladders, towers, granaries, and one or two subterranean sacred chambers (kivas) used for spiritual ceremonies (Figure 3-5).



**Figure 3-5. Anasazi Cliff Dwelling – Mesa Verde, Colorado**  
The Mesa Verde cliff dwelling is the best preserved of the Anasazi “cities.” For scale, note the group of visitors in the photograph center.  
(National Park Service 2012)

The more western Virgin River Anasazi built smaller villages with fewer rooms (40-50) that better suited their seasonal agricultural practices. The Virgin Anasazi Period has been divided into five sub-periods and encompasses a time from approximately 300 B.C.E to A.D. 1225. Although the time frames vary somewhat from report to report, they are generally (HRA 2006: 7; Nash 2012):

- **Basket Maker II (300 B.C.E to A.D 400).** This sub-period is marked by early attempts at sedentism and agriculture (corn and squash); dart points, pit structures, slab-lined storage cists (circular or oval food storage rooms) (Figure 3-6) and grinding stones. In this early formative period, there were no ceramics, or bows and arrows.
- **Basket Maker III (A.D. 400 to 800).** The Basket Maker III sub-period is characterized by introduction of the bow and arrow, gray ware ceramics, black-on-gray and red wares in small percentages, and slab-lined storage cists.
- **Pueblo I (A.D. 800 to 1000).** Decorated and red ware pottery become more common in the Pueblo I sub-period and pit houses are more elaborate.
- **Pueblo II (A.D. 1000 to 1150).** The Pueblo II sub-period is marked by the presence of trade wares, the curving alignment of storage rooms, corrugated plain wares, and the presence of rock shelters containing rooms.
- **Pueblo III (A.D. 1150 to 1225).** During this final sub-period of the Virgin Anasazi there are indications that populations are aggregating.

Ceremonial kivas are rarely found in Virgin Anasazi sites (Lyneis 1995: 217-218); however, there is some evidence of animal domestication (wild turkey). As with the Fremont, the population of the Virgin Anasazi declined dramatically in the 13<sup>th</sup> century and the culture vanished from the archaeological record at that time, probably for one or more of the same reasons as that of the Fremont.

### **3.1.3 Protohistoric and Historic Periods – Southern Paiute**

The cultural groups that followed the Fremont and Virgin Anasazi are the Shoshoni, Ute, and Southern Paiute. All of these groups were nomadic, non-horticultural, and spoke related Numic (Uto-Aztecan) languages (Aikens 1983: 173).



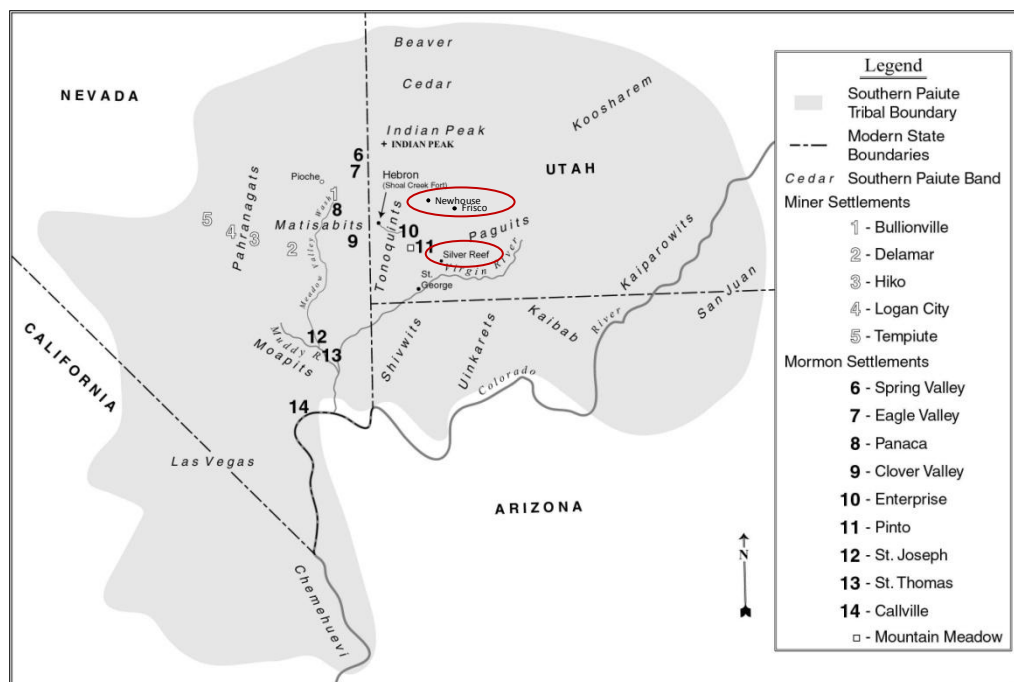


**Figure 3-6. Virgin Anasazi Slab-Lined Storage Room**

This storage pit was excavated at Utah Site No. 42Ws1809 – the Plain View Site in Washington County, Utah (approximately 12 miles southwest of Silver Reef). (HRA 2006: 20)

By about 1300 A.D., there were 16 identifiable groups of Southern Paiute (also seen as Pah-ute and Piute) Indians inhabiting portions of southern Utah and Nevada (Kelly and Fowler 1986: 368-369; Bassett 2008: 6) (Figure 3-7). The nomadic culture exploited the entire region for plants, small animals, and obsidian (to make tools), but there is no indication from the sparse number of prehistoric archaeological sites that they utilized outcropping gold, silver, or other precious metals (Wray 2006: 293).

While Spanish exploration of the American Southwest in the mid 1500s may have encountered these groups, there is no direct evidence of contact, although there were Spanish settlements in close proximity to their territorial homelands (Fowler and Fowler 1981: 150). The first Europeans to describe the Southern Paiute were part of the Dominguez-Escalante expedition of 1776. Based on their landscape and material culture, the explorers described them as exhibiting “largely aboriginal” conditions, with non-hostile ways and little evidence of any “foreign presence” among them (i.e., no indication of previous European contact) (Euler 1966: 32-38).



**Figure 3-7. Indigenous Territory of the Southern Paiute**

As shown on this figure (red circles), Newhouse, Frisco, and Silver Reef were all within the cultural footprint of the Southern Paiute.

(Reeve 2007: 7 [Adapted])

By the early 1800s, the affects of European exploration had become more apparent. Many of the Southern Paiute had been enslaved and were subject to active slave trading by both the Spanish explorers and American trappers. When the Old Spanish Trail was opened between New Mexico and the Pacific coast of California as a major trade route (1829), it also became a route for the slave trade. As noted in the journals of Thomas Farnham, one of the early traders who used the route (Farnham 1843: 11):

The Piute were hunted in the spring of the year, when weak and helpless, by a certain class of men, and when taken, are fattened, carried to Santa Fe [New Mexico] and sold as slaves. A girl in her teens brings often-times £60 or £80. The males are valued less.

As a result of their enslavement, the Southern Paiute became openly hostile, a circumstance that did not diminish until the Mormon settled in Utah in 1847. Brigham Young and the Utah territorial legislature ultimately ended the slave trade by the middle 1850s (Malouf 1966: 14), but it was quickly replaced by the permanent Mormon

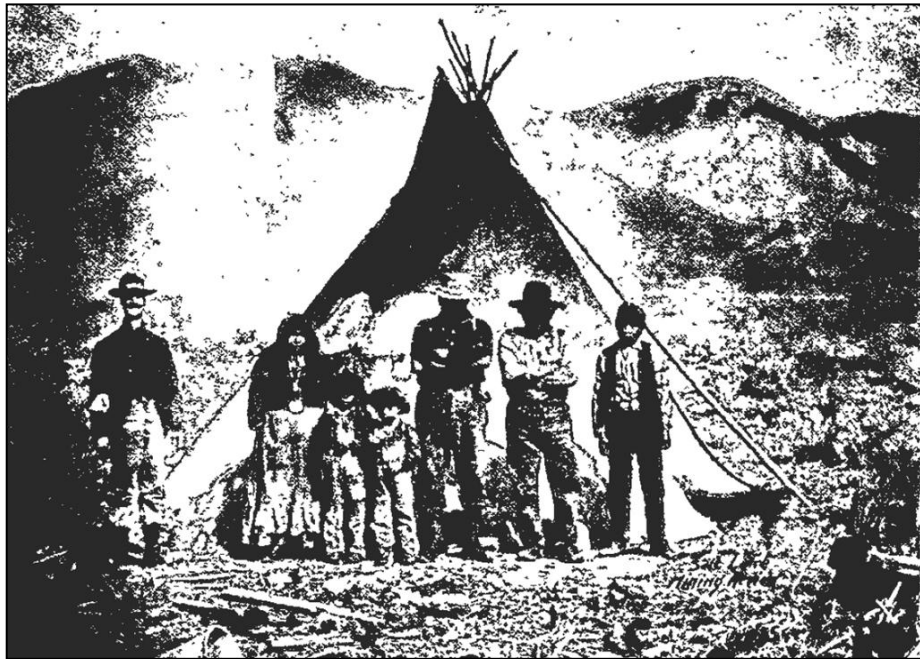
presence, whose farms and settlements displaced the Paiute from their “best gathering and horticultural lands” (Kelly and Fowler 1986: 387). The Paiute’s retaliated with raids on the Mormon settlements throughout the late 1850s and 1860s and the Mormon settlers adopted the typical view that most Americans from that period had of western Indians groups (Euler 1966: 61, 64; Fowler and Fowler 19971: 107-108):

These ranged from common stereotypes about laziness and stealing to positive attitudes noting their basic industry, intelligence, and educability. Many felt that although Indians were basically ‘savages,’ they could and should be taught civilized ways. Few Whites advocated a policy of direct integration of the two cultures, as they were held to be too distinct and separate.

After decades of conflict resulting from the various explorations and American settlements in the West, the Paiute bands were displaced from their traditional foraging areas and forced to relocate to various reservations established by the Federal Government. With the exception of a small group near Cedar City, by the early 1900s, nearly all of the Southern Paiute had been relocated to dedicated lands in other parts of Utah, Nevada, or Arizona (Kelly and Fowler 1986: 387).

Although they were not usually recorded on early census records, according to the 1900 census for Grampion/Frisco, approximately 20 Paiute were living in the Frisco area (U.S. Census 1900). The only recorded prehistoric site attributed to the Southern Paiute within the Newhouse/Frisco vicinity (Utah State Site No. 42Be2258) consists of a small scatter of lithic debitage (obsidian) situated in a saddle area of the San Francisco Mountains. The only known photograph of their presence in the Newhouse/Frisco area is provided as Figure 3-8. In 2010, part of a broken metate (Figure 3-9) was discovered in the central area of the Frisco town site; however, given the heavy disturbance of the entire town, little can be interpreted from this isolated artifact (Puckett 2010).

In 2012, Paiute Indian Reservations are found in Washington, Iron, Sevier, and Millard counties (Paiute Indian Tribe of Utah 2012). There are none in Beaver County (Figure 3-10). The closest reservation to Silver Reef is near Ivins, Utah, approximately 25 miles to the southwest.

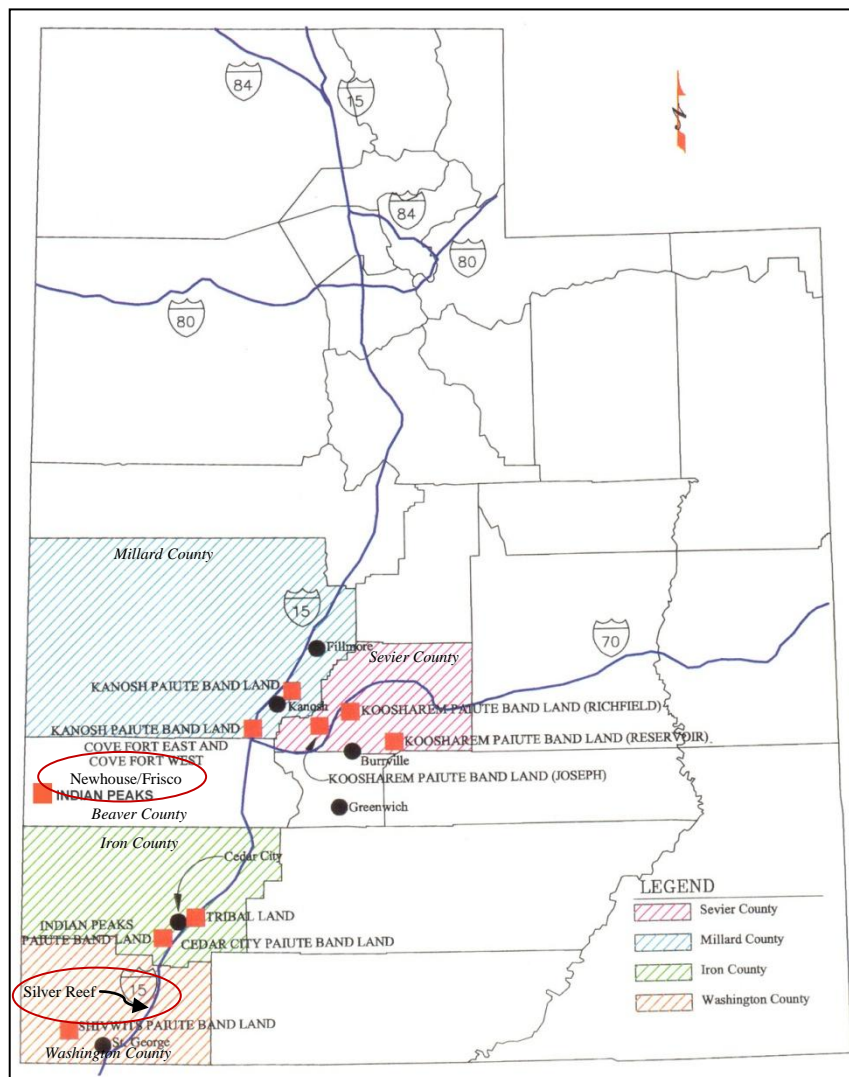


**Figure 3-8. Indian Wickiup, formerly on the Site of the Newhouse Mill**  
The Newhouse, Frisco, and Silver Reef areas were all the indigenous territory of the Southern Paiute.  
(The Salt Lake Mining Review 1905a)



**Figure 3-9. Partial Metate found at Frisco in November 2010**  
(Photograph by Heather R. Puckett, November 2010)



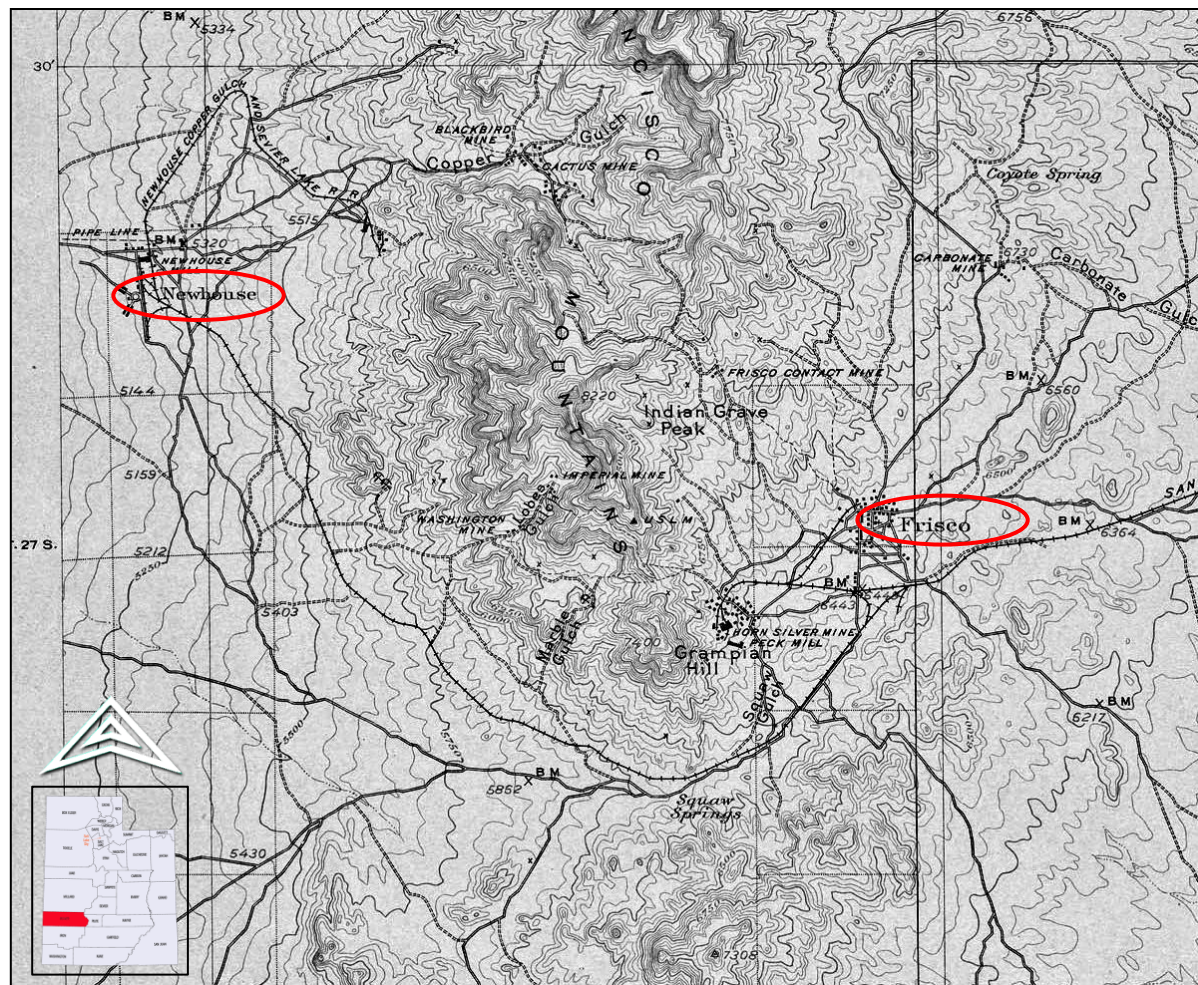


**Figure 3-10. Paiute Indian Reservations in Utah in 2012**  
(Paiute Indian Tribe of Utah 2012 [Adapted])

### 3.2 PRIMARY CASE STUDY: NEWHOUSE, UTAH

#### 3.2.1 Environment

Newhouse is situated within the Wah Wah Valley of Beaver County, Utah, 25 miles west of Milford and 2 miles north of Highway 21 (Figure 3-11; see also Figure 1-1). The remote valley is bounded on the west by the Wah Wah Mountains and on the east by the San Francisco Mountains. Situated at approximately 5,500 feet above sea level, the high desert/steppe environment is dry year-round, with temperatures reaching the low 100s (degrees Fahrenheit) in the summer and dipping to below zero (°F) in winters. Annual precipitation includes approximately 11 inches of rain, most of which



**Figure 3-11. Location of Newhouse and Frisco, Utah 1906**  
15 Minute Topographic Map – Frisco Special Quadrangle, Survey of 1904-1905. See also Figure 1-1.  
(U. S. Geological Survey 1906)

falls from thunderstorms between July and September (National Climatic Data Center 2009) and as much as 72 inches of snow in the winter (Bassett 2008: 4). Vegetation is sparse and consists of low shrubs and grasses, including sagebrush and rabbit brush; in the higher elevations of the San Francisco Mountains, the terrain is characterized by pinyon-juniper woodlands (Southern Utah Wilderness Alliance 2008).

### **3.2.2 History**

Gold, silver, and copper were the first mineral deposits discovered in western Beaver County. The Cactus Mine, which was the reason for the establishment of Newhouse, is part of the 7-square-mile San Francisco Mining District. Some historical documents and maps have incorrectly placed the Cactus Mine within the more northerly Preuss Mining District; however, the Utah Geological Survey and original mine patents acquired from the Beaver Country Recorder's Office confirm that it is located within the Copper Gulch area of the San Francisco Mining District (Ege 2005: 29).

Between 1871, when the San Francisco Mining District was established, and 1900, the Cactus mine was owned and operated by two French companies. One of the companies developed the mines; the other constructed a small smelter in 1892 for reduction of the Cactus ores (primarily gold). During these years, almost all mining efforts in Utah were directed at the extraction of gold and silver. There was no stable market for lead and copper was worth very little. The presence of copper was actually believed to be a hindrance to the gold and silver mining, as there was no market for it and no known process for cost effective extraction. By about 1903, however, uses for copper were becoming more widespread and the value of it was increasing. In this regard, the focus of mining in Beaver County began to change and those changes are reflected in the following newspaper article from *The Salt Lake Mining Review* (1903c: 15):

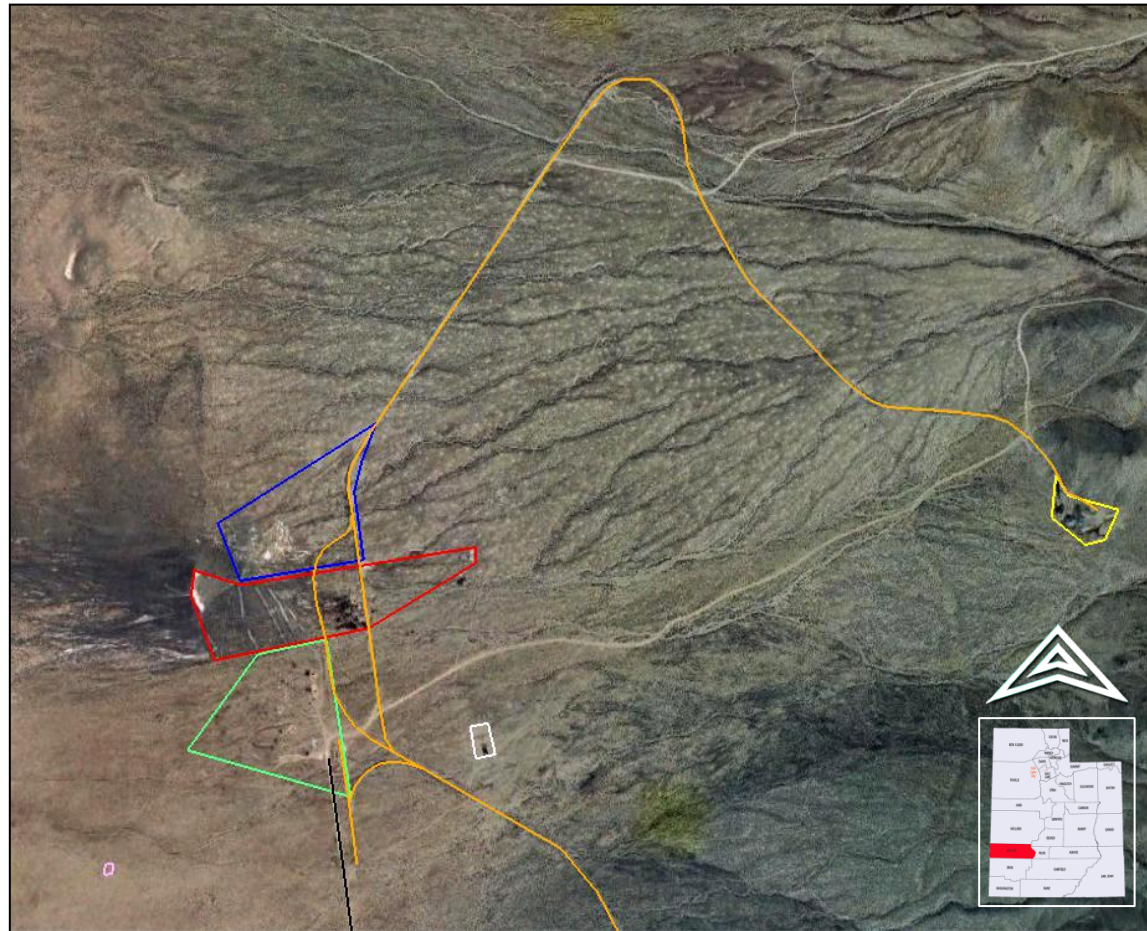
With the advancement in the times and commercial conditions, changes became noticeable in mining operations in Beaver county. Deposits of lead ore, long ignored and neglected, became of great value because of an increased demand and improved facilities for its handling and treatment. Of late years, the immense deposits of copper-bearing ore, so long despised, have also become the bone of contention between those in search of wealth through the avenues of our great mining industry, the rapidly increasing popularity of copper mining having

been brought about by the almost unlimited uses to which copper is applied in this day and age; the ease with which it is now mined and handled; and the greatly enhanced quotation upon the red metal. As a result, Beaver County, at one time productive almost exclusively of gold and silver, is now in the lead as a copper-producing section.

In mid 1900, a dispute between the two French companies resulted in the sale of the Cactus property to the Royal Copper Mining Company, owned and operated by prominent mining men from Salt Lake City, Chicago, and Boston, including Samuel Newhouse (*The Salt Lake Mining Review* 1900b: 5; *The Salt Lake Mining Review* 1901a). Royal Copper developed the east side of the San Francisco Mountains along with several other mining claims, but the Cactus mine was the focus of their efforts because of the high grade of copper it contained. The shaft below the hoisting apparatus (headframe) was dug to the 300-foot level and a 440-foot tunnel was dug through a portion of the San Francisco range to dewater the shaft. A small tent/shack town grew up haphazardly west of the mine and consisted of a boarding house, bunk houses, residences, and a small smelter (later closed) and assay office (*The Salt Lake Mining Review* 1900b: 6-7; *Daughters of Utah Pioneers of Beaver County* 1948: 256). This original settlement continued to support mining activities at Newhouse even after a more modern company-constructed community and mill was established (1901-1905), but the two areas were separated physically and culturally by the new large mill buildings (Figures 3-12 through 3-14).

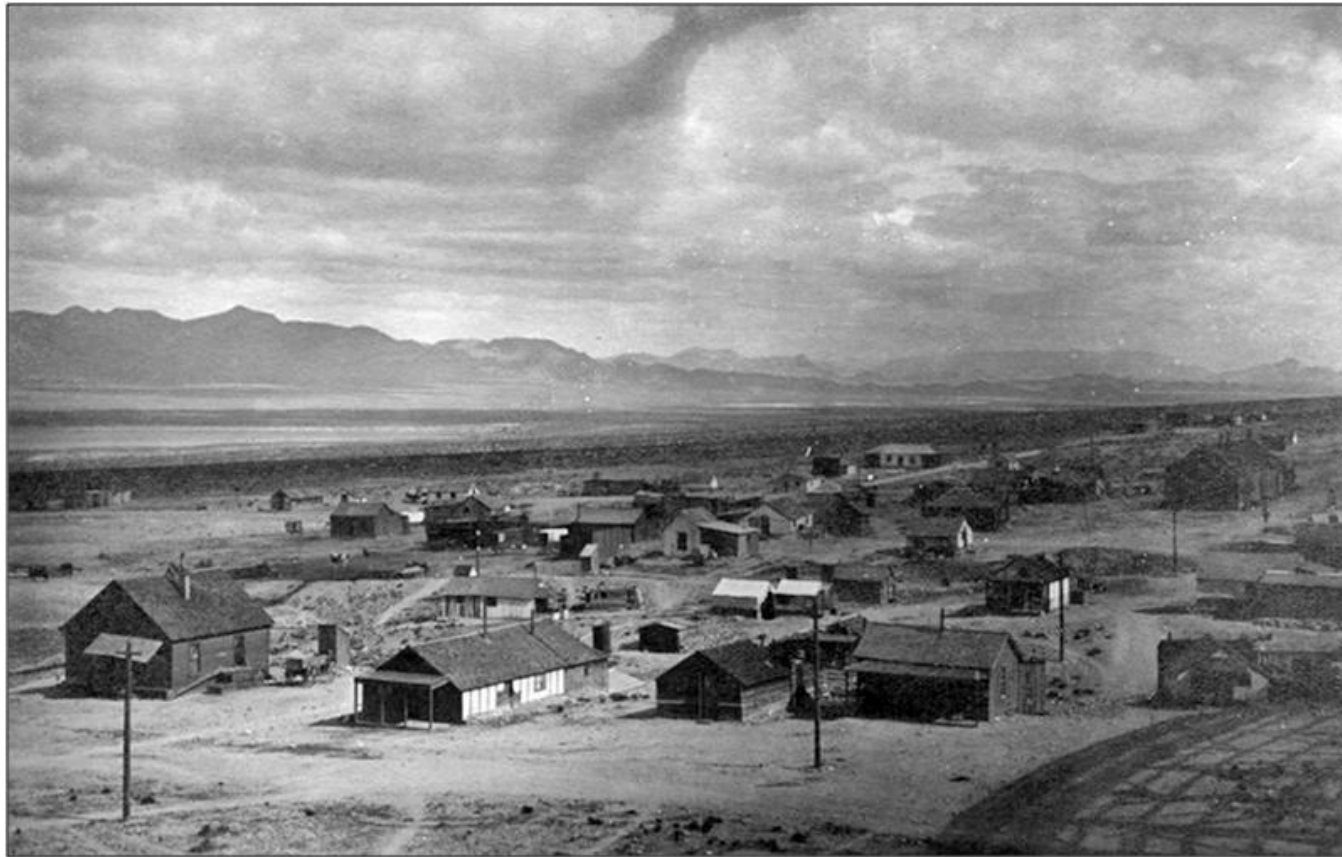
In October 1901, Samuel Newhouse purchased the Royal Copper Mining Company and the Cactus mine for \$200,000. The mines were already in operation, but as the new owner Newhouse planned to expend at least \$1million additional dollars to expand the production and establish an adjacent town. According to *The Salt Lake Mining Review* (1901b-c), the presence of Newhouse was welcome in Beaver County and “means much for the advancement of the industry in this favored locality.”





**Figure 3-12. Newhouse Landscape and Features**

Blue: North Newhouse; Red: Industrial [Mill] Area; Green: Company Town; Pink: Cemetery; White: Sheep Shearing Area;  
Yellow: Cactus Mine/Crusher House; Orange: Railroad Network; Black: Road to Highway 21  
(Base Map Google Earth 2010)



**Figure 3-13. North Newhouse in 1908**

This photograph shows North Newhouse – the non-company area – of the town (looking northwest). This area of Newhouse (often referred to as Tin Can Alley) is more typical of late 19<sup>th</sup>-century – early 20<sup>th</sup>-century mining camps and consists primarily of wood shacks and wood-framed miner's tents. The area had no piped water or electricity; however, telegraph poles are seen in the foreground. On the lower right, note the shadow of the high Newhouse train trestle that accessed the Cactus Mine.

(Daughters of Utah Pioneers 1908a; Lundell 1973)



**Figure 3-14. Newhouse Industrial Area in 1908**

View to North – North Newhouse (the ten/shack town) is on the far side of this gravity feed concentrator building and power house. The large structure and a deep natural drainage separate the original settlement with the newer company town. In this photograph, the company town portion of Newhouse would be in the foreground.

(Utah State Historical Society 2001a)

To ensure the company was well capitalized Newhouse offered eastern United States and European investors excursions on his private train cars to the San Francisco Mining District. On one such excursion, he hosted the ex-treasurer of the United States, a millionaire shoe manufacturer, an investment broker, a physician, several bank presidents, and a state Senator (*The Salt Lake Mining Review* 1902a; *The Salt Lake Mining Review* 1907a).

In July 1903, Samuel Newhouse incorporated the Cactus copper mines as the Newhouse Mines and Smelters Company. At the time of incorporation, the company was reportedly worth more than \$6,000,000 (*The Salt Lake Mining Review* 1903d); however, the anticipated value of the Cactus vein was estimated at more than \$1 billion

Between early 1903 and March 1905, Newhouse completed substantial improvements to the Cactus mine property (Figures 3-15 through 3-18). Among the improvements were construction of the 800-ton, 96,000 square-foot concentrator<sup>8</sup> building, with a 160-foot smokestack; a 7 mile extension of the San Pedro, Los Angeles and Salt Lake Railroad (Utah Southern Railroad) from Frisco to Newhouse; a 3-mile railroad spur and high trestle from the newly completed Newhouse train depot to the mouth of the Cactus tunnel (named the Newhouse, Copper Gulch and Sevier Lake Rail Road line) (see Figures 3-11 and 3-12); a power plant with two 800 horsepower turbine engines to light both the mill and the town; a 400,000-gallon concrete reservoir; a 6,000-foot-long tunnel, with electric cars to move the ores; a crusher house using newly invented “Gates” crushers; a large ore bin; a sawmill, blacksmith shop, and machine shop; and a complete new town, with electric lights, a water system, houses of modern design, a theater, hotel, school house, hospital, and a 50-room boarding house (the Cactus Inn). The new community was described in local newspapers as having “every metropolitan comfort and luxury. The town will be laid out and its landscape and architectural features planned along lines of modern municipal art” (*The Salt Lake Mining Review* 1904a, b, c, d, e, f, g; *Southern Utonian* 1912h). Given the magnitude of the project in such an isolated area, newspapers also frequently reported on the construction progress, noting that it was being developed “on a plan which at first strikes one as financially daring to the point of audacity.” Articles regularly commented

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<sup>8</sup> A concentrator is a large facility where ore is crushed and mixed with chemicals to form a concentrate for smelting.



**Figure 3-15. Newhouse Company Town Center in 1908**

View to southwest. Company Housing is shown in the center distance, just beyond a circular landscaped park. The Newhouse Theater/Opera House is to the left and the Cactus Club is to the right.

(Utah State Historical Society 2001b)



**Figure 3-16. Newhouse 3-room Bungalow in 1908**

View to west. Additional company housing is shown behind this residence. There were 3, 4, and 6-room bungalows.  
(Utah State Historical Society 2001c)





**Figure 3-17. Newhouse Trestle entering the Concentrator Building from the North in 1908**  
View to northwest. The Newhouse, Copper Gulch, and Sevier Lake Rail Road trestle constructed by Samuel Newhouse ran between the Concentrator Building and the Cactus Mine tunnel.  
(Utah State Historical Society 2001d)



**Figure 3-18. Newhouse Train Depot in 1908**

View to southeast. In 1931, the train depot was the only intact building remaining at Newhouse. The building was moved at that time across the valley to the Wah Wah Ranch to be used as the ranch headquarters. The building has been restored and is still actively used. Remnants of the rock stairway leading up to the train depot are still visible at Newhouse in 2012. The restroom for the depot is the small building to the right.

See Figures 3-25, 5-20, and Appendix G.

(Wintch 2008b)



about how every detail was being done for the convenience of the employees, but also that “no haunts of vice will be permitted within the geographical lines of the camp so that temptation of employees to indulge in dissipation is now and will continue to be kept at a minimum” (*The Salt Lake Mining Review* 1904b and 1906e).

Insisting on the most modern operation of his enterprise, Newhouse also experimented with several types of unique and very expensive mining equipment. Among these were the Vican steam shovel that was being used in mines in the Midwest and an innovative “car-turner” developed by the Silver Brothers Iron Works Company in Salt Lake City (*The Salt Lake Mining Review* 1904h). The enormous steam shovel was used to strip large surface areas of ore, but it was unwieldy and replaced by smaller diesel-powered shovels within a few years. The car-turner was a cylindrical apparatus for upending and emptying seven ore cars all at one time and remained in operation until the mines were abandoned. Both devices were costly to maintain in the Newhouse environment, however, and that far outweighed their usefulness (*The Deseret News* 1906a; *The Salt Lake Mining Review* 1904h; *The Salt Lake Mining Review* 1906c). When the town was abandoned, all of the mining equipment was either dismantled and moved to other mining locations or sold as scrap at auction.

***Newhouse Water Supply.*** Although there are a few springs along the flanks of the San Francisco Mountains (e.g. Kiln Springs, Squaw Springs), their production was insufficient for operation of the Newhouse mill and town, and the quality of the water was generally unsuitable for consumption. Because of this Samuel Newhouse purchased six springs situated approximately 9 miles southwest of the town from Edwin and Lydia Squires (*Deseret News* 1903a; *The Salt Lake Mining Review* 1903a; *The Salt Lake Herald* 1903b). Water from the springs was piped into a receiving tank (the stone-lined Wah Wah reservoir), from which a line of 12-inch spiral riveted steel pipe was laid 44,000 feet across the valley to the reservoir above (northeast) the mill and town; (Figures 3-19 through 3-21) an additional 14,000 feet of pipe was laid to interconnect the six springs at their sources (*The Salt Lake Mining Review* 1904h and 1905a). The pipeline delivered 1,500 gallons of water per minute and, for the time, was reported to be a “great engineering enterprise” (*The Salt Lake Herald* 1903b). The enormous quantity of water available to Newhouse provided the mill and company town with indoor plumbing and offered centralized spigots so that the tent town residents could fill



**Figure 3-19. Newhouse Water System**

The red line indicates the 9 mile route of the Newhouse water system between Wah Wah Springs and the Newhouse reservoir. The alignment of the system remains visible in the modern landscape; however, since the town was abandoned, the segment between the Wintch Ranch and the Newhouse reservoir has deteriorated and is no longer operational.

(Base Map Google Earth 2010)





**Figure 3-20. Rock Lined Wah Wah Springs Reservoir**

Although filled with reeds in this photograph, the reservoir continues to generate rapidly flowing water that still services the Wah Wah Ranch. Newhouse is in the far distance beneath the snowy mountain peak. View to northeast.

(Photograph by Author, April 2008)



**Figure 3-21. Remnant of 21-inch Spiral Riveted Pipeline at the Wah Wah Reservoir**

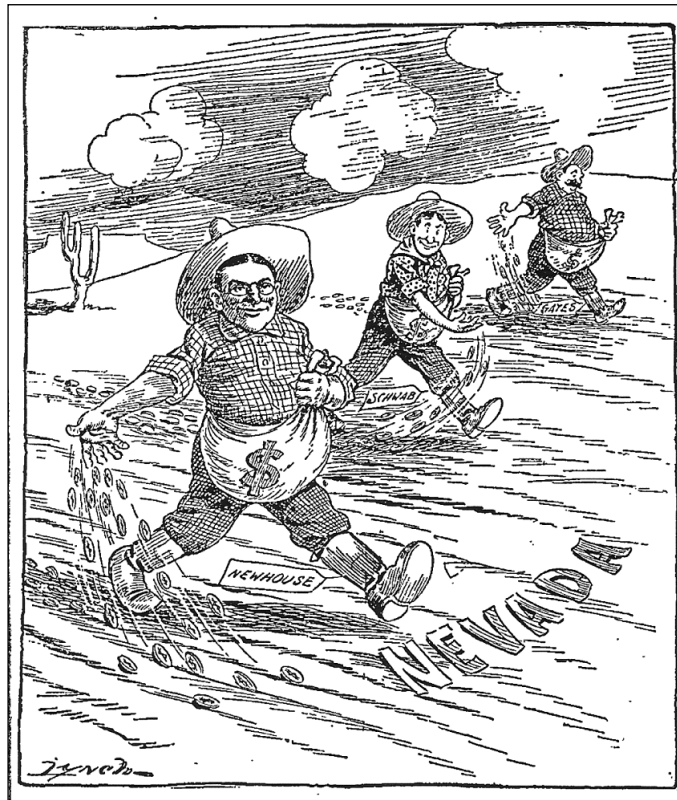
(Photograph by Author, April 2008)

their water barrels. Such a plentiful supply of water also permitted the town park to be planted with beautified with trees and shrubs and allowed for the construction of three “bathing pools” and an ice manufacturing plant (The Salt Lake Mining Review 1905h). On completion, the *Milford Times* newspaper described the system’s features and the magnitude of the construction effort:

The great Newhouse pipeline is now pouring water upon the Newhouse town site at the rate of two million gallons every twenty-four hours. It forms a small river as it courses down the hillside into the valley and the stream is a guarantee that the Newhouse enterprise will never be afflicted by a water famine. This Newhouse water system is the greatest enterprise of the kind ever projected in southern Utah. The original cost of the springs was \$70,000, and the total cost of the system will be about \$200,000 (*The Milford Times* 1903a).

The original small smelter was abandoned in the late 1890s (there was not enough gold being processed) and there was no new smelter erected at Newhouse. Construction of a smelter was originally planned but the American Smelting and Refining Company in Murray, Utah, offered Samuel Newhouse such a low rate for processing that he accepted the offer (*The Salt Lake Mining Review* 1903g; *The Salt Lake Mining Review* 1905c) and shipped ore from the Cactus as concentrates (Daughters of Utah Pioneers of Beaver County 1948: 272).

By March 1905, the Newhouse mill and town was operating at full capacity and by January 1906 more than 7,500,000 pounds of copper ore had been extracted from the Cactus mine (*The Salt Lake Mining Review* 1906a). With this success, Samuel Newhouse approached Daniel Guggenheim and Charles Schwab, millionaire mining magnates from Nevada (Figure 3-22), about consolidating several of their mining interests. Among these were the Boston Consolidated Copper Company at Bingham (Newhouse was the president), the Utah Consolidated at Bingham (Newhouse was the original owner and largest stockholder), the Cactus mine at Newhouse, and Guggenheim’s large mining camps in Ely, Nevada (the Nevada Consolidated) (*The Salt Lake Mining Review* 1906b). Within 2 weeks, negotiations broke down over a \$1 million difference in the asking price and the stock price of the Boston Consolidated plummeted. The deal was never completed and the stock prices recovered, but not before rumors of trouble within Boston Consolidated had alarmed stockholders.



**Figure 3-22. Sowing Dollars in Nevada**

Cartoon of Samuel Newhouse and other mining magnates indicating the significant contributions being made to the economy of the region.

(*The Salt Lake Mining Review* 1906f)

Between 1904 and the end of 1907, Samuel Newhouse continued to finance excursions to his mining properties, make improvements to the equipment and facilities, travel back and forth to Europe and the east coast to meet with investors, and entertain lavishly, attempting to secure backing to keep the Boston Consolidated and Cactus mine operating (*The Salt Lake Mining Review* 1908a). In addition, Newhouse borrowed heavily from the United Metals Selling Company (more than \$2 million in less than 2 years) as an advance on future copper earnings. Aggravated by the Panic of 1907, the plummeting price of copper, and a major mine collapse down to the 500-foot level (Wray 2006: 325), Newhouse found himself in spiraling debt and was forced to close the Cactus mine in early 1908 (*The Salt Lake Mining Review* 1909 e; *The Salt Lake Mining Review* 1913a). By December 1908, the property was showing up on the *Delinquent Tax Lists* in the *Southern Utonian* newspaper (1908h) and Samuel Newhouse had laid off 75 of his employees (*Southern Utonian* 1908g).

In June 1909, stockholders received notice that the Newhouse Mines and Smelters Corporation was in arrears with various payments, would not be able to meet its sizeable future obligations, and intended to reorganize (*The Salt Lake Mining Review* 1909a). Under the trusteeship of the Trust Company of America, the Newhouse Mines and Smelters Corporation reorganized as the South Utah Mines and Smelters Company in November 1909. By court decree, mortgaged properties at Newhouse were ordered to be sold at auction in order to eliminate indebtedness (*Southern Utonian* 1909f). A new Board of Directors was appointed and the company was capitalized at \$4.3 million. Samuel Newhouse continued to be a major stockholder in the new company, but was not elected to the Board of Directors (*The Salt Lake Mining Review* 1910a). The mill was enlarged and improved and the mine and town functioned at nearly full capacity through early 1913 (*The Salt Lake Mining Review* 1909c and d). The company never fully recovered from the reorganization and indebtedness, however, and by April 1913, operations at the mine were only active 2-3 days a week (*Southern Utonian* 1913a). On June 13, a second mine collapse caused the death of an unnamed Italian mine worker (*Southern Utonian* 1913b) and by September most of the mill operations had ceased (*The Salt Lake Mining Review* 1913a). By the time the Cactus mine closed, it had yielded 25,341,183 pounds of copper, 9,959 ounces of gold, and 224,911 ounces of silver (Bradley 1999: 126).

By May 1914, the few remaining workers and residents of Newhouse were gone and the town was essentially abandoned (*The Salt Lake Mining Review* 1914a). The mill buildings were purchased by Morris Rosenblatt of Salt Lake City (in 1914), who tore them down and hauled the materials away (Daughters of Utah Pioneers of Beaver County 1948: 275) and the mining-related equipment was sold at auction by the Eastern Iron & Metal Company, Salt Lake City in 1923 (*The Salt Lake Mining Review* 1923a). In 1917, William Morris, a long time resident of Newhouse, took over the company store, post office, and café (which burned down in 1921) (Daughters of Utah Pioneers of Beaver County 1948: 275) to serve a few straggling gold and silver miners, local sheep shearing operations, and a crew that was filming a movie in the Wah Wah Valley (*The Covered Wagon* 1923). The railroad line between Frisco and Newhouse was removed in 1921 and, when the sheep shearing operations relocated to Milford, the remaining town buildings were either moved to Milford (Figures 3-23 and 3-24) or the materials salvaged for other purposes. The dwellings were moved to Milford and





**Figure 3-23. Newhouse Assay Shed**

Relocated from Newhouse, Utah, to Milford, Utah, in the 1920s the assay shed still contains the original oven and original assay cups (inset). View to northwest.  
(Photograph by Author, June 2008)



**Figure 3-24. Home of Mari Parker, Corner N. 400 Street W. and W. 200 Street N.**

This dwelling was moved from Newhouse, Utah, to the present location in Milford, Utah, in the 1920s. The original Newhouse street number (33) is still affixed above the front porch (inset). View to northwest.  
(Photograph by Author, April 2008)



relocated primarily along 100 and 200 Streets West, south of 500 South. The dance floor from the Newhouse opera house was moved to Milford's Arion Dance Hall and one of the boarding houses was converted to the Ira Fisher home (in Milford) (Horton 2002: 556).

In 1930, the Newhouse mining properties, Wah Wah Springs, and 9,200 acres of land in Wah Wah Valley were sold at a sheriff's auction in Beaver, Utah. By this time, the South Utah Mines and Smelters Company was \$80,000 in bonded indebtedness (Beaver County Utah, County Recorder 1930: 245). The land and all improvements were purchased by J.D. Ryan, who was caretaker of the property and storekeeper at Wah Wah Springs. Ryan did not have the \$80,000 needed to pay the entire bond, but instead used property as collateral for the balance, believing he could obtain a loan for the outright purchase. Given America's economic conditions of the early 1930s (the Great Depression), Ryan was unable to secure a loan and approached Wilford Wintch, a livestock (sheep and cattle) owner from Manti, Utah, who had previously indicated interest in the property. Wintch partnered with Parley Madsen, another sheep rancher and purchased the entire acreage (Beaver County Utah, County Recorder 1930: 592). The last remaining building at Newhouse, the train depot, was relocated 5 miles west to the Wintch Ranch in 1931 (Tripp 2000). The building has been restored and continues in use as the ranch headquarters as of 2012 (Figure 3-25).

Wilford Wintch and Parley Madsen operated the land jointly until 1954, when Madsen sold his interest in the land to Wintch; the property has remained in the Wintch family since that time (Tripp 2000). It is locally known as the Wah Wah Ranch and is owned and operated by John Wintch and his son Mark. The Wintch family currently has a herd of approximately 1,000 cattle, continues to extract water from Wah Wah Springs, and grows winter rye for their livestock (Wintch 2008). The Cactus mine is the only portion of the Newhouse property not owned by the Wintch family. In 2012, the mine is owned by the Copper King Mining Corporation (formerly the Western Utah Copper Company).



**Figure 3-25. Wintch Ranch Headquarters**

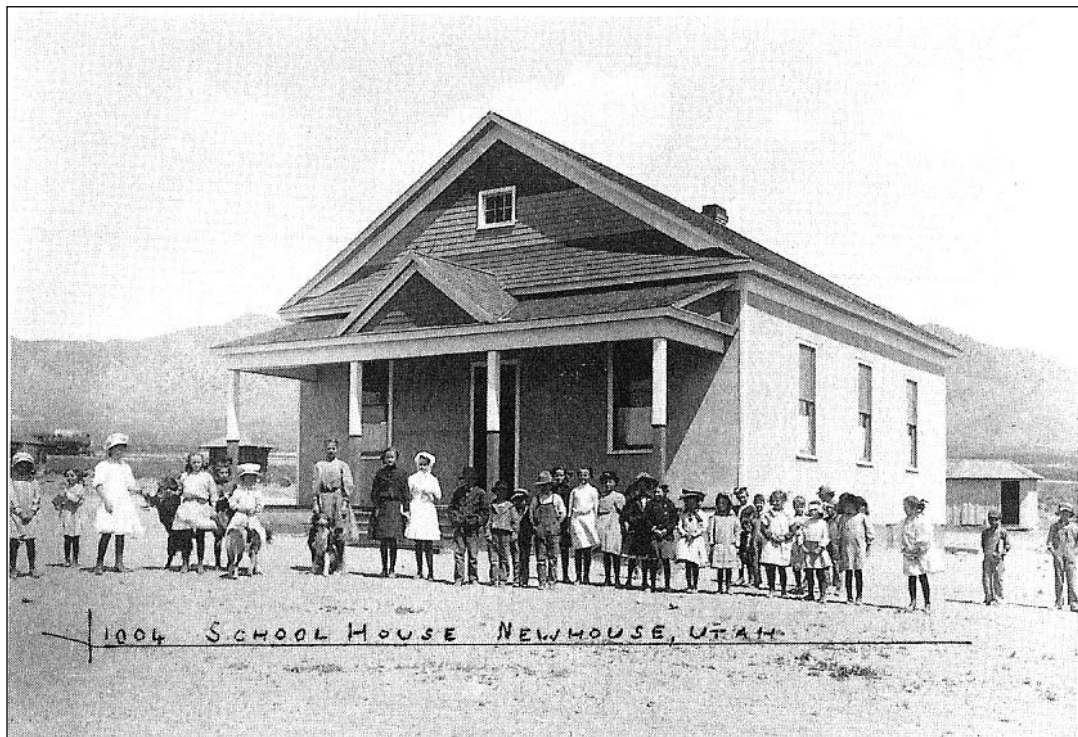
View to southeast. The Newhouse train depot was relocated to the Wintch Ranch in 1931 for use as the ranch headquarters. See Figure 3-18 for a historic photograph of the train depot.

(Photograph by Author, June 2008)

### 3.2.3 Social History

A review of late 19<sup>th</sup>-century and early 20<sup>th</sup>-century western town histories reveals that social experiences were not always well chronicled; however, a brief period in Newhouse's history was captured in detail through a series of newspaper entries submitted to the *Southern Utonian* [newspaper] and through the brief autobiography of Edith Erickson Lundell, the full context of which is provided as Appendix A. The newspaper articles are most often titled "Newhouse Notes," but the author, a resident of Newhouse is not known. Although only covering a few years in the history of Newhouse, these items are rich in the description of daily life in a western mining town between 1907 and 1914, the content of which is offered in the following sections.

**Politics.** Newhouse was its own county precinct (Precinct 3 until 1910 and then Precinct 4) and school district (School District No. 8) (*Southern Utonian* 1909d). The town had its own schoolhouse (Figure 3-26), Justice of the Peace, teachers (sometimes two) (*Southern Utonian* 1909e; *Southern Utonian* 1912l), registrars, and road supervisors (*Southern Utonian* 1908a and d). An organization for Newhouse Republicans was formed in 1912 and a joint primary in the towns of Newhouse and



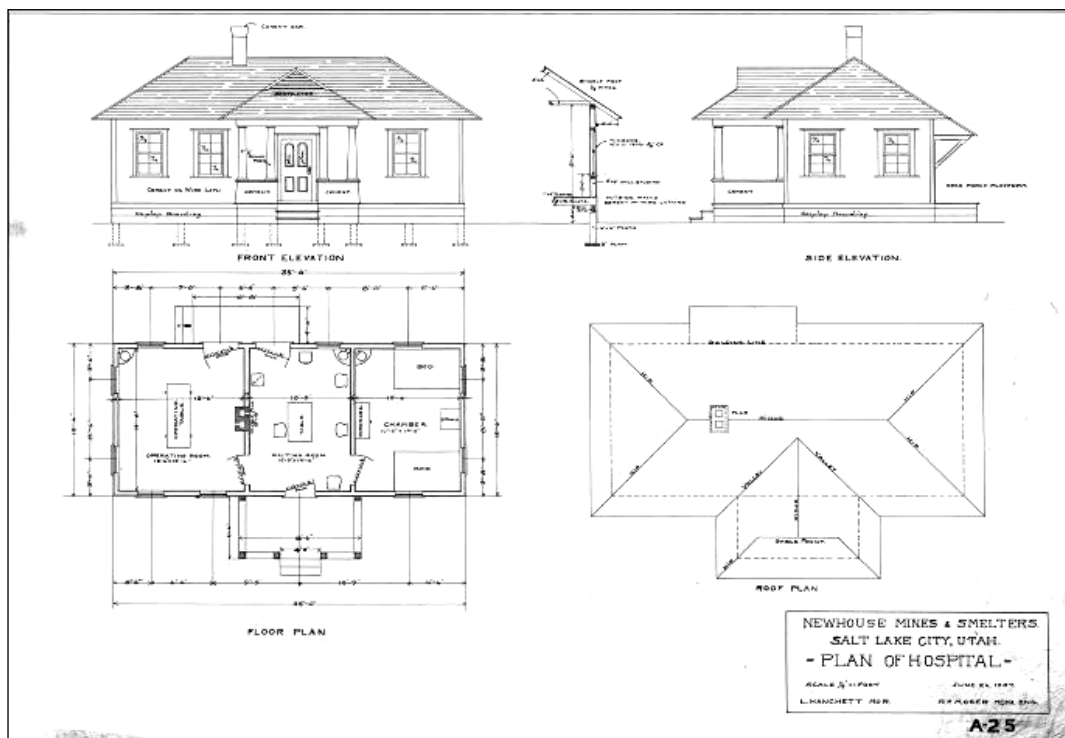
**Figure 3-26. Newhouse Schoolhouse 1905**  
(Utah Historical Society 1908a)

Frisco was held in August 1912 for the purpose of electing delegates to the State and Judicial Conventions to be held in Salt Lake City (*Southern Utonian* 1912k):

The Cactus Club has arranged to have a telegraph instrument in the opera house election night, and will receive the returns by wire from the entire United States. A dance will be held and the returns will be flashed upon the curtain by the motion picture machine as they come in. The opera house has been thrown open to all county candidates who desire to address the voters of Newhouse (*Southern Utonian* 1912o).

Although it was a small precinct, the newspaper articles reveal the significance of voting rights and elections to the Newhouse community and their desire to hear the candidates speak about issues important to them.

**Health/Medical Care.** Although boom towns [non-company towns] did not usually have hospitals or ready access to medical care, most company towns did and Newhouse had its own small hospital and drug store (*Southern Utonian* 1912c and d) (Figure 3-27). The first 10 years at Newhouse there was a full-time doctor (Dr.



**Figure 3-27. Plan of Newhouse Hospital**  
(Utah State University 1905)

Fennemore) (U.S. Census 1910), but after his death in June 1912 and the town was starting to decline, the doctors came as needed from Milford (*Southern Utonian* 1912b). Newspaper articles document numerous mining-related injuries, town accidents, births, and deaths. There was also a smallpox epidemic that killed several people in Newhouse in 1911; an epidemic of “lagrippe” [influenza] in early 1913 that affected many of the residents (*Southern Utonian* 1913i); and a measles epidemic that “infected the town because proper precautions have not been taken to prevent the disease from spreading as there has been no health board appointed here” (*Southern Utonian* 1913e). Newhouse did not have its own dentist. A dentist from Salt Lake City made occasional trips to Newhouse to treat “all the sick teeth that came his way” (*Southern Utonian* 1912a).

**Cemetery.** Prior to this research, there was no recorded evidence of a Newhouse cemetery; however, during the field work, the current landowner revealed the location of an unmarked graveyard approximately 1 mile southwest of the town site (see Figure 3-12). The cemetery is barely discernible on the landscape and displays no visible artifacts other than a corner post and remnants of a barbed wire fence (Appendix D). The presence or absence of graves is unclear and the Utah Cemeteries and Burials

Database has no record of this cemetery. Although unconfirmed, the headstones that were once present may have been removed through vandalism or for relocation to other cemeteries. A set of 46 death certificates located during this research recognize at least 14 burials in the Newhouse cemetery - three adults and 11 children (The Church of Jesus Christ of Latter-day Saints 1905-1915). The remaining burials of Newhouse residents took place at the cemeteries of surrounding communities, including Milford, Minersville, Beaver City, Manti, and Salt Lake City (Southern Utonian 1911a; Southern Utonian 1912a and c). Of these, 15 were buried at Frisco and 17 were buried at the other locations.

***Criminal Activity/Law Enforcement.*** Newhouse had its own jail, but no historically documented full-time sheriff; the Beaver County Sheriff (W. J. Robinson or N.B. Neilson) handled law enforcement for the entire county (*Southern Utonian* 1913c). Over the years covered by the “Newhouse Notes,” the sheriff arrested and jailed several offenders. Among these were a Greek immigrant from Newhouse (name unknown) who forged a check for \$301 (*Southern Utonian* 1909b) and another Newhouse resident for stealing a horse (*Southern Utonian* 1909f). The most serious of the recorded Newhouse crimes happened in 1907 and involved John Erickson (an immigrant from Finland) who got into a fight with another Finn named Henderson over a card game at the “Finn saloon at Newhouse.” During a meeting of the Beaver County Commissioner’s office a few months later, the Board refused to grant a new license for the Finn Saloon which was met with the reportedly unqualified approval of all the people of the county (*Southern Utonian* 1908f). The county sheriff once stated that Newhouse was by far the driest town in the county (*Southern Utonian* 1912n).

Since the company owner prohibited saloons at Newhouse, the Finn Saloon was situated outside the town limits. U.S. Census records indicate no residents from Finland at Newhouse, but there was a large population at Frisco. It is believed that the Finn saloon was built by enterprising Frisco residents recognizing an eager, captive market at Newhouse. The exact location of the Finn Saloon is unknown; however, a newspaper article from February 1913 refers to a fire that destroyed “the old saloon building on the hill” (*Southern Utonian* 1913j). No material remains of the building could be located, but it was most likely situated on the steep hillside between Frisco and Newhouse and

within the 2-mile area between modern Highway 21 and the south edge of the Newhouse town limits.

***Segregation/Separation.*** The tent/shack town area of Newhouse (see Figures 3-12 and 3-13 is referenced several times in the “Newhouse Notes” and in Mrs. Edith Lundell’s autobiography as Tin Can Alley (Lundell 1973) (see Figure 5-7). Historic photographs and drawings of the company town and the archaeological remains of the two neighborhoods confirm the distinct separation between the older settlement and the company town:

At this time Frank Osborn worked on the tunnel into the mine, before the [company] town itself was built. Most everyone lived in tent houses and the place was called Tent Town (Daughters of Utah Pioneers of Beaver County 1948: 272).

Our house was a square hastily constructed one of 4 rooms of equal size, a kitchen, dining room, and two bedrooms. The part of Newhouse we now lived in was called 'Tin Can Alley' [North Newhouse] because of a deep gully running back of our house in which everyone threw their tin cans [A drainage ditch with tin cans and other household remains was verified during the fieldwork] (Lundell 1973).

Mr. Thomas Johansen has organized a company with lots of capital that will go into the mercantile business here. Thomas says their intentions are to carry a large stock of high class goods. Mr. Johansen is now in Salt Lake buying the goods. The store will be located in Tent Town or North Newhouse (*Southern Utonian* 1914a).

The reference in the last quote to a “new store” in the Tent Town area occurs in the terminal months of the town’s life (1914). During the active years of Newhouse, the owner [Samuel Newhouse] would have discouraged the construction of a competing store in his community, particularly in the Tent Town area. As such, the attempt to construct this store may be seen as a final effort to cling to some sort of livelihood in the Newhouse area and support the few gold miners and sheep ranchers that remained; there is no evidence that it was ever constructed.

Census records, along with various histories and newspaper accounts indicate that the majority of Newhouse residents were first generation Americans; many were listed as being born in Utah. There were, however, also several small immigrant populations (Canada, Italy, Greece, Germany, Russia) (U.S. Census 1910). The distribution of immigrant enclaves on the landscape (beyond the broad space of Tent Town) could not be confirmed. There were large Chinese populations at both Frisco and Silver Creek and Japanese workers at Frisco (Daughters of Utah Pioneers of Beaver County 1948: 268), but there are no Chinese or Japanese residents noted for Newhouse.

**Religious Features.** There are no references to a church at Newhouse. Articles in the “Newhouse Notes” indicate that religious services were irregular, marginally attended, and usually held in private homes (*Southern Utonian* 1912a and 1913j). The lack of a Mormon (The Church of Jesus Christ of Latter-day Saints) church at Newhouse was likely the result of Brigham Young’s philosophy, which preached that precious metals mining and its associated booms and rushes was an unacceptable way of life (Stucki 1966: 9; *the Atlanta Journal Constitution* 1989). Although the historical records are not clear on the subject, Newhouse may have simply chosen to have his residents decide for themselves how, where, and when to conduct religious services.

**Recreation.** Typical of most company towns, Newhouse had several athletic teams. There were two baseball teams (the *Scrubs* and the *Regulars*) and they often played each other. There were also games between Milford, Frisco, Beaver City, and Garrison, Nevada (*Southern Utonian* 1912k). Uniforms were provided by the Cactus Club (*Southern Utonian* 1911a; *Southern Utonian* 1912c) and tennis teams were so popular that they had to construct a second “lawn” court (*Southern Utonian* 1912a and h).

In addition to the baseball diamond and tennis courts, Newhouse had three bathing pools (Figure 3-28), one of which was “specially for the ladies” (*Southern Utonian* 1912e); fishing was popular at Wah Wah Springs. Because of the town’s isolation, Cactus Club managers made special arrangements when sporting events of regional or national interest were happening. The results of the events (e.g. prize fights) would be posted in the Cactus Club as soon as they were received by radio (*Southern Utonian* 1912e).





**Figure 3-28. Beach Area of one of the Newhouse Bathing Pools**

The water associated with this bathing pool was in the foreground, just outside the photograph. The four ladies in the upper left of the photograph (white dresses with hats) are believed to be Margaret Erickson, operator of the Cactus Café and Boarding House, and her three daughters Inez, Edith, and Meredith (see Figure 5-34 and Appendix A).

(Utah State Historical Society 1908)

**Cultural Activities.** In 1908, the Cactus Club at Newhouse had 200 members. From the time it was organized, the Club raised more than \$7,000 to build an opera house and \$6,000 to build a café. The Cactus Café had a reading room, billiard hall, and other conveniences for its members – “showing what the members of a small club can do” (*Southern Utonian* 1908d).

The moving picture shows and vaudeville shows given in the opera house each Saturday night are drawing large crowds. Last Saturday night the Newhouse Comedy Co., put on a one-act sketch entitled ‘Miss Civilization,’ and it was much enjoyed by everyone present. Next Thursday evening the Cactus will give a dance in the opera house (*Southern Utonian* 1912a).

There was an orchestra from the Italian immigrant community that played in the plaza (the circular landscaped park in the center of town) each Sunday evening; the

orchestra was named the “Banduna Orchestra” (*Southern Utonian* 1912b). There was also a town band and dances every Saturday night.

**Company Store.** The Newhouse Mercantile Company, also known as the Cactus Trading Company, was the company store (Daughters of Utah Pioneer of Beaver County 1948: 274). It was reported as doing “a big business and treating the people right” (*Southern Utonian* 1912g). The store, which also housed the post office, the bank, and a dining facility, was so successful that it constructed a “cement warehouse, which will be used for hay and grain storage” (*Southern Utonian* 1912n). It is unknown as to whether or not the company store required the use of scrip.

**Utilities and Mail.** Originally the town of Newhouse was powered by a steam plant; however, it was later serviced by a transmission line of the Beaver River Power Company (Daughters of Utah Pioneers of Beaver County 1948: 256); the power line was completed in February 1908 (*Southern Utonian* 1908b). Although extremely remote, Newhouse had power before the town of Milford (*Southern Utonian* 1908c). Mail service was irregular and provided to Newhouse by either train or stage coach. Regular mail and stage service was eventually established by the Dearden Stage Line between Newhouse and Ely, Nevada (*Southern Utonian* 1912h; *The Salt Lake Mining Review* 1906d).

The people of Newhouse want to know why they can't have daily mail. We are cut off from the world three days at a time. We ask the people of Frisco to join us in this matter and see if there can be something done. If nothing else we would like a Pony Express (*Southern Utonian* 1912a).

**Social Events.** Given the remote location of Newhouse, social functions were important to the community and Samuel Newhouse actively organized and promoted them. Weddings and other celebrations of marriage occurred often and were attended and enjoyed by the whole town. Returning newlyweds were usually met at the train depot with a wedding parade:

Tuesday's train brought in two newly married couples. The parties involved were Mr. and Mrs. W. J. Reynolds and Mr. and Mrs. Eugene Kirk. The happy couples were met at the depot by the Newhouse band and a large can and cow

bell brigade. The two brides were seated in an old fashioned hand cart; the grooms were made to pull them through the streets, everybody seemed to enjoy it every much, especially the newly-weds (*Southern Utonian* 1912o).

Samuel Newhouse also offered \$50 to the parents of the first child born in Newhouse. The first baby was born to the Johnson family in June 1905 (Daughters of Utah Pioneers of Beaver County 1948: 273).

***Prohibition/Alcohol Consumption.*** In the early 1900s, Utah was caught up in the temperance [anti-alcohol] movement along with the rest of the country. Most of the counties and precincts were dry, but the larger cities were “wet” (i.e., licensed businesses were allowed to sell and consume liquor). As shown in the histories, alcohol consumption at Newhouse was controlled during the years that Samuel Newhouse operated the town. By 1913, however, when Utah decided to put the question of prohibition to the voters Newhouse no longer owned the town and residents had every right to decide on this issue for themselves. Newhouse was its own voting precinct by this time as well and it cast its votes along with all the other precincts in Beaver County. The liquor election provided a victory to the wets in Beaver County by 45 votes. Frisco, which was never a dry town and reportedly had at least 28 saloons between 1880 and 1909 (Cullmer 1880: 329; Graham 1883: 248; Stenhouse & Co. Publishers 1893: 73; R. L Polk & Co. 1909), voted 210 to 103 to approve the right to sell and consume liquor in their precinct. Newhouse, ostensibly a dry town under Samuel Newhouse’s management, approved the right to sell and consume liquor with a vote of 80 to 0 (*Southern Utonian* 1913g).

### **3.2.4 Industries that Co-Existed with Newhouse**

#### **Sheep Shearing**

Sheep grazing and shearing began in the Newhouse area as early as 1898. Pens were constructed and all of the shearing was done by hand. In January 1913, Andrew Morris and Associates constructed a new sheep-shearing corral a few hundred yards north of the company town (see Figures 3-12 and 5-7). The operation was designed to handle 100,000 sheep each spring, was powered by electricity, and employed 15 men (*Southern Utonian* 1913d, i, and j). At the peak of operations, 175 sheep were sheared each day; it was reported to be one of the most modern shearing operations and one of

the two largest in the state (*Southern Utonian* 1913d). Remnants of this facility are still present at Newhouse in 2012. Although the operation functioned efficiently between 1906 and 1928, mountain lions and coyotes were a constant threat (Horton 2002: 559; Wintch 2008a). In addition, once the railroad track from Frisco to Newhouse was removed (1921) and the water line from Wah Wah Springs began to deteriorate from a lack of use, water and supplies to operate the shearing pens had to be hauled in. At that point, the Morris family moved their business into Milford (Daughters of Utah Pioneers of Beaver County 1948: 302-303).

### **Dry Farming**

In June 1912, a German farmer from Los Angeles (Dan Pitzral) visited Newhouse with a large gas engine tractor equipped with plows and scrapers. Mr. Pitzral had tracts north and east of Newhouse that he hoped to farm in the summers (*Southern Utonian* 1912b). Pitzral believed that the Wah Wah Valley was well adapted to dry farming and had hoped to cultivate large expanses of the area; however, the endeavor was never successful because of the infertile, rocky soils and low annual precipitation (*Southern Utonian* 1912n; *Southern Utonian* 1913b; Bradley 1999: 15).

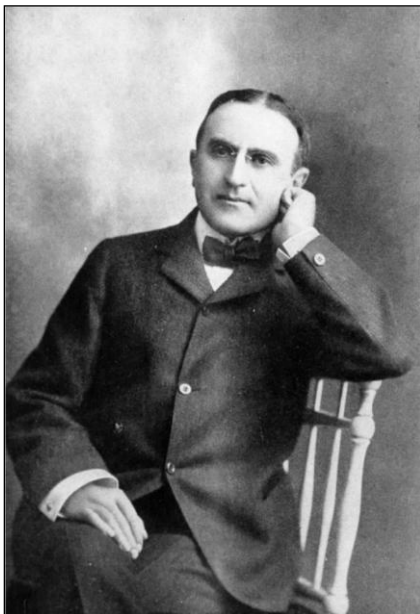
### **Gold and Silver Prospecting**

Gold and silver prospecting was an active endeavor at Newhouse from the time the Cactus mine was found in 1871, but it was not profitable and extracting the gold from its matrix was task-intensive. In later years, most of the gold was gathered from the various mill spoil piles. While Samuel Newhouse recognized that there was gold in his mining properties, his efforts focused on copper because it was more economical to extract and its value higher per ounce. In addition, the types of equipment that Newhouse purchased for his copper operations were not suitable for gold extraction. Like the sheep herders and dry farmers, when the town of Newhouse folded, a number of gold prospectors remained in the area for a few years (U.S. Census 1920), but the reward was not worth the effort and the prospectors moved on after 1920.

There are no known plats of the entire Newhouse town site. For orientation of many of the activities discussed in this chapter, images depicting various locations within the Newhouse landscape are provided as Figures 1-1, 2-33, 3-12, and 5-7.

### 3.2.5 Samuel Newhouse Biography

As discussed in Chapter Two, there are several triggers that can affect the abandonment of a settlement. One of those presented – risky or ineffective planning and management – emerged in several of the ghost town histories, but was never explored in the existing literature. The flamboyant and socially ambitious lifestyle and aggressive business practices of Samuel Newhouse had a direct effect on the short, but colorful years of the Newhouse mining town. For this reason, a brief biography of Samuel Newhouse is included in this section.



**Figure 3-29. Samuel Newhouse**  
(ca. 1910)  
(Utah State Historical Society  
n.d.a)

Samuel Newhouse was born on October 14, 1853, in New York City (Figure 3-29). The son of Jewish Bavarian immigrants, he was the oldest of nine children (U.S. Census 1870: 110). Until 1879, Samuel Newhouse lived, attended school, and worked in Pennsylvania, where he was educated in Philadelphia's public schools. At the age of 17, he apprenticed with the prominent law firm of Edward N. Willard in Scranton (*The Salt Lake Tribune* 1930a: A-1; Warrum 1919: 733) and, in 1873, took a position as the Clerk of the Court for Luzerne County, Pennsylvania (Harrison 1902: 251). Although Samuel Newhouse never became an active member of the Bar, he served for 3 years as the Luzerne County Clerk, a position that provided

him with an important advantage during his long business career.

In 1879, Newhouse moved to the active mining town of Leadville, Colorado, where he initially started and published a newspaper (*The Los Angeles Examiner* 1912: 415). Because there was no railroad line to Leadville, he soon realized that there would be more lucrative opportunities in the freight business. Between 1880 and 1886, Newhouse operated a freight company between Leadville and the surrounding mining camps. The freight was hauled by wagons and mules up and down steep, narrow mountain roads (Rochlin 2000: 41) and, at the time, was considered the “greatest

freighting service that America has ever known” (*The Los Angeles Examiner* 1912: 415).

While in Leadville, Newhouse met and married Ida Hiram Stingley (Figure 3-30). At the time of the marriage (January 1, 1883) (Warrum 1919: 733), Ida was 16 years old and Samuel was 29. A waitress in a Leadville boarding house (Whitney 1904: 643), Ida was from Denver, Colorado, and the daughter of a prominent Virginia family (*The Salt Lake Telegram* 1930: 1; *The Los Angeles Examiner* 1912: 41). After their marriage, Ida and Samuel operated a hotel in Leadville, where they met and befriended a wealthy Englishman (unidentified in the histories) who was ill with pneumonia. Ida nursed him back to health and “it was through this gesture of kindness that Newhouse obtained the first financial backing for his early mining ventures...” (Rudd 1979: 292).

Newhouse sold his freight business in 1886 and with the capital he earned and the financial backing from the Englishman, invested in three mines in Ouray, Colorado – the Wheel of Fortune, the Maid of the Mist, and the Lost Lode (Warrum 1919: 733). After several years of successful production, Newhouse sold the mines in Ouray and moved to Denver, where he promoted a variety of enterprises. These included the construction of mining camps and the famous Newhouse Tunnel at Idaho Springs<sup>9</sup> (*The Salt Lake Tribune* 1899a), and investments in several silver mines (Rudd 1979: 293).



**Figure 3-30. Painting of Ida Newhouse**  
Oil painting by the famous Russian painter, Pierre (Prince) Troubetzkoy (date unknown)  
(Utah State Archive n.d.b)

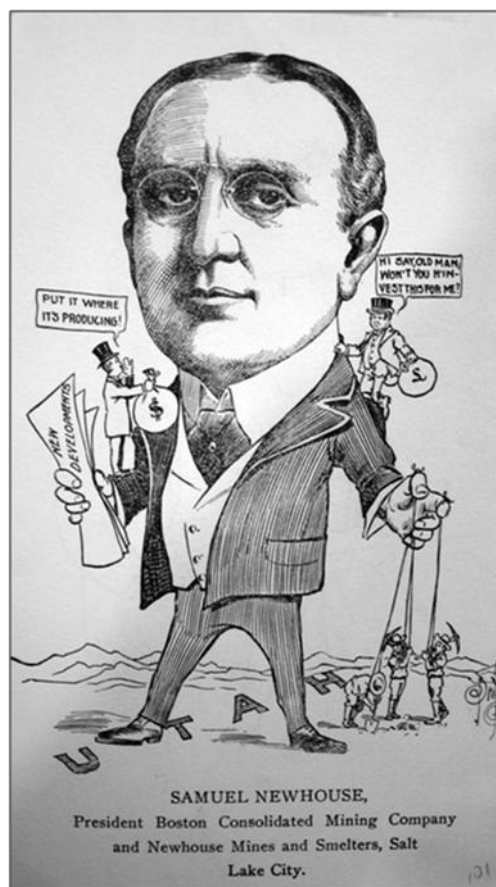
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<sup>9</sup> The Newhouse Tunnel, later renamed The Argo Tunnel, was constructed between 1893 and 1910. The tunnel is 4.1 miles long and 12 feet in diameter and was designed to drain six flooded gold mines once called the richest square mile on earth. Located near Idaho Springs, Colorado, the tunnel was listed in the National Register of Historic Places in 1977.

In 1896, Ida and Samuel Newhouse moved to Utah. By this time, Samuel was a millionaire and was well known as a shrewd mining magnate (*The Salt Lake Tribune* 1951) (Figure 3-31). Between 1896 and 1906, Newhouse bought, developed, and sold more than \$10 million in mining properties, most of which were in the Bingham Mining District near Salt Lake City (Rudd 1979: 293). In partnership with Thomas Weir, a well-respected Utah mine operator, Newhouse purchased the Highland Boy, Omaha, and Henry M. mines and formed the Highland Boy Mining Company. Of these claims, the Highland Boy (a gold mine) was the most significant – not for the gold, but for the presence of high-grade copper. Ultimately, the discovery of copper at the Highland Boy mine, made Bingham Canyon, Utah, one of the largest copper-producing locations in the United States (*The Salt Lake Mining Review* 1900a).

Because of his success with the Highland Boy mine, Newhouse was able to secure additional backing from several British investors. With these funds, he and Weir established the Boston Consolidated Copper and Gold Mining Company, Ltd. on May 14, 1898 (*The Salt Lake Tribune* 1899d). Shares of stock sold on both the American and European stock exchanges and, despite what some believed to be “outlandish” projections, the investment yielded a reported 1 billion tons of ore (Arrington and Hansen 1963: 24).

Using profits generated by the Boston Consolidated and some supplemental backing from British and French investors, Newhouse purchased additional mining properties in Utah and numerous parcels in New York City. Among the notable buildings financed, constructed, and briefly owned by Newhouse in New York City, was the famous Flatiron Building, one of New York’s first skyscrapers. The building



**Figure 3-31. Caricature of Samuel Newhouse**  
Thompson 1906  
(Utah State Historical Society)



was completed in 1902 and, in 2012, is still a well-known historic landmark (*The New York Times* 1930).

As noted previously, among Newhouse's Utah holdings was the Cactus copper mine in Beaver County, which he began developing in 1900 (*The Salt Lake Herald* 1902a: 6). In addition to the mine, the property consisted of an existing settlement and mill [North Newhouse] (*The Salt Lake Mining Review* 1905a). Newhouse constructed a "model" company town on the property, which he named after himself, and within 5 years, it was one of the most prosperous copper producing communities in Utah (*The Salt Lake Mining Review* 1906a). From *Utah Since Statehood*:

He [Newhouse] never regards as foreign to his interest anything that has to do with the material development, the civic up-building or the social interests of community or country. There is perhaps no history in this volume, which illustrates more clearly the opportunities that lie before young America, and his record proves that it is under the stimulus of necessity and the spur of opportunity that the best and strongest in the individual is brought out and developed. His career along various lines would entitle him to mention among the notable business men of the country, but there is perhaps no single activity of his life so deserving of recognition as his discovery of the value of porphyry<sup>10</sup> mining, to which whole pages were devoted in western papers and in engineering and mining circles in 1897 and 1898, thus giving to the outside world a knowledge of his wonderful achievement in this direction (Warrum 1919: 733).

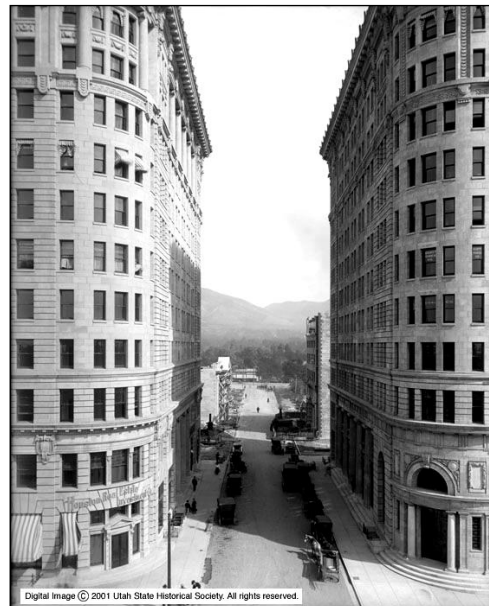
By 1905, the price of copper was beginning to fall, but that did not deter Newhouse from expanding his operations. In that year, he financed additional construction and equipment at Newhouse, built a new \$1.5 million concentrator at the Highland Boy mine, and initiated the costly and innovative, but ultimately impractical, use of steam shovels at several of his mines (*The Deseret Evening News* 1906a). In 1907, he also launched a massive building program in Salt Lake City designed to shift the city's center and create a miniature Wall Street. Newhouse donated land for

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<sup>10</sup> Any fine-grained igneous rock with large isolated crystals. Within the context of this thesis, porphyry mining refers to gold and copper.

construction of the Salt Lake Stock Exchange and Commercial Club and financed construction of the lavish Newhouse Hotel, the Boston Building, and the Newhouse Building, which were Salt Lake's first skyscrapers (Rudd 1979: 299) (Figure 3-32). Newhouse was also instrumental in the construction of about 25 additional Salt Lake City buildings, including the exclusive Federal Heights residential area (Powell 1994). *Notables of the Southwest* described Newhouse in 1912 thusly:

What he [Newhouse] has done for Salt Lake City is likely to become his most striking monument. He was the first man to build a modern steel skyscraper, and he did not stop at that, but built three, and they are among the finest in the western half of the United States. He has also erected other fine buildings, among them one of the most beautiful of private residences. He owns much residence property, and this he has had improved and beautified in the best style. He has brought immense sums of foreign capital, chiefly English, to Utah, to be used in the development of her varied resources, and his credit is high in the world's financial centers (*The Los Angeles Examiner* 1912).



**Figure 3-32. Boston and Newhouse Buildings, Salt Lake City, Utah**  
(Utah State Historical Society 1909)

Newhouse and Weir retained control of the Boston Consolidated until 1910, when it merged with the Utah Copper Company (Whitney 1904: 652). By this time, an American banking collapse, the Panic of 1907,<sup>11</sup> had weakened the U. S. economy and taken its toll on the mining and construction industries in the West (Noyes 1909). All of Newhouse's enterprises (including the town of Newhouse) were suddenly

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<sup>11</sup> In the summer of 1907, the American economy began showing signs of weakness after a number of business and Wall Street brokerages went bankrupt. The collapse of the Westinghouse Electric Company and Knickerbocker Trust in New York City touched off a series of events known as the Panic of 1907.

overextended and in substantial debt and Newhouse (the community) began to decline. As a result, much of the town site was either dismantled and the buildings moved to nearby communities, or allowed to decay on their foundations (Rudd 1979: 298). Financially, Newhouse was ruined and by 1914, he had declared bankruptcy (Malmquist 1971: 25).

Because Ida preferred living outside of Utah, Samuel and Ida spent most of their marriage living apart and, in 1914, they separated permanently (Powell 1994: 642; *The Salt Lake Tribune* 1930). Their extravagant mansion in Salt Lake City (the former Brigham Young residence) was sold in 1915 and Samuel moved into the newly completed Newhouse Hotel. In 1919, Samuel sold his interest in the hotel and moved to France; Ida moved to Los Angeles, where she lived at the Beverly Hills Hotel until she had exhausted her money. She died at the age of 91 on March 17, 1955, (*Los Angeles Times* 1955) in a convalescent home in Los Angeles, California. At the time of her death, she was impoverished and supported solely through the charity of friends from Salt Lake City (Utah State Archive n.d.a).

Samuel Newhouse died on September 22, 1930, at the Marnes Le Coquette chateau, 7 miles east of Paris, France, where he lived with his sisters; he was 76 years old. An obituary from October 19, 1930 (*The Salt Lake Tribune* 1930b) summarized his life:

Not only one of Utah's pioneer mining operators, but one of the most extraordinary personalities that the West has ever seen, passed with the death near Paris several weeks ago of Samuel Newhouse. Most of the thousands who knew the man when he was at the height of his spectacular career here and in Europe knew vaguely that he had lost a large part of his once immense fortune. But few realized that this forerunner of America's great fortune builders, worth at one time at least \$20,000,000, possessed only a small and uncertain income in his last years and ended life as guest in the home of his sister's – a home that he had given them in the days of his affluence. Samuel Newhouse was the most generous man that ever made and lost a dozen fortunes. Undoubtedly, he gave hugely. His financial downfall was an outcome of an attempt on his part, as he said at the time, to 'give back to Utah what it had given him.' Firmly convinced of the future of Salt Lake, he built structures twenty years ahead of the times and saw his financial doom written upon their parapets.

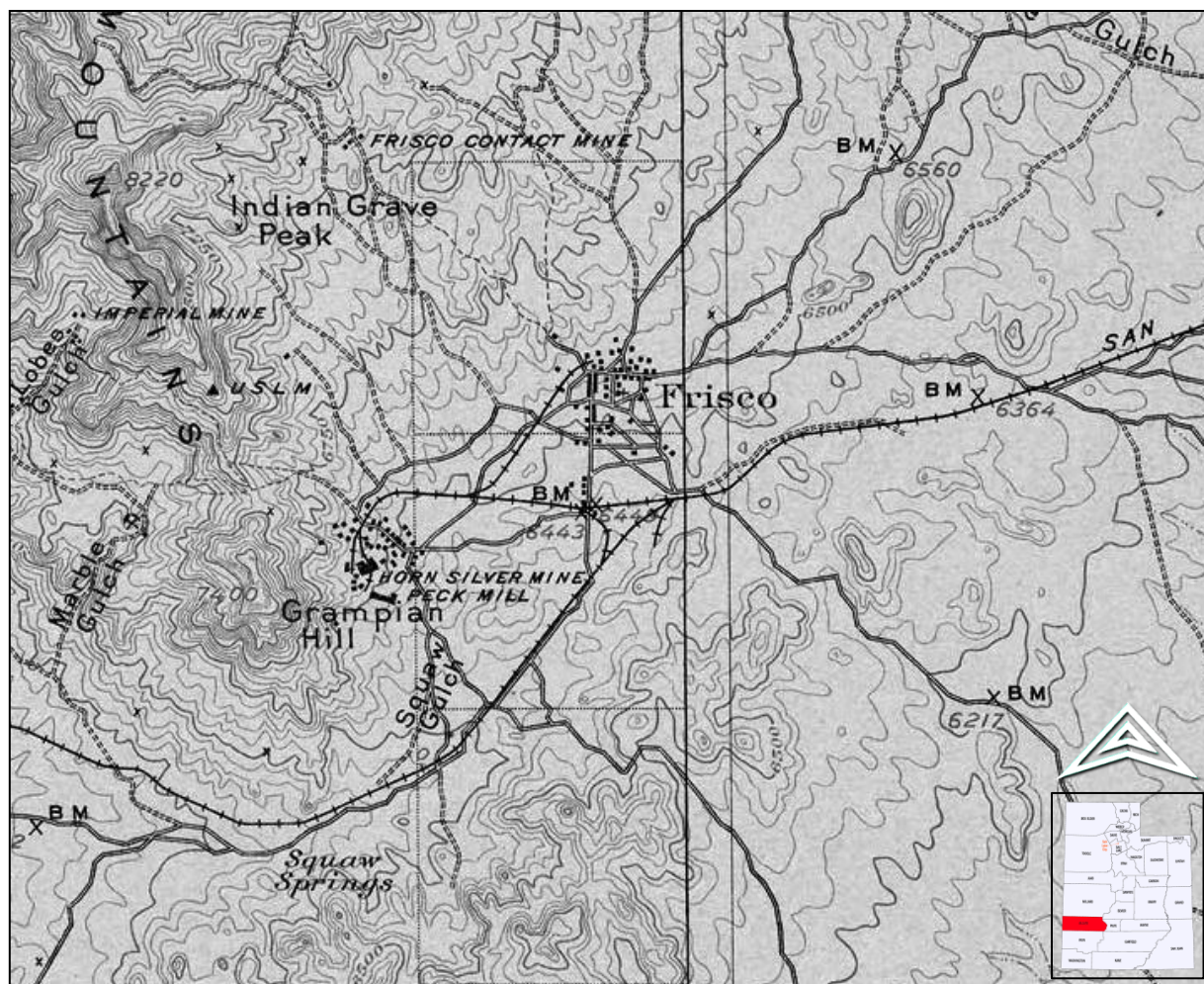
Historical records reveal that at the peak of their success, Samuel and Ida Newhouse enjoyed an extravagant lifestyle, traveled extensively, and were favorites among the Royal families of England and France. The couple was a member of high society in the United States, owned four automobiles, with a famous racecar driver as their chauffeur; property in several countries; a stable full of racehorses; a major portion of the Lakewood and Golden Railroad; and an opulent set of train cars (*The Salt Lake Tribune* 1899b; *The Salt Lake Tribune* 1899c; *The Deseret News* 1906b-c). Biographies of Samuel Newhouse (Rudd 1979; Powell 1994), as well as his obituaries from the 1930s (*The Salt Lake Herald* 1930a: 1; *The New York Times* 1930; *The Salt Lake Tribune* 1930b) indicate that his financial collapse was precipitated by the American Panic of 1907, the mishandling of his shares of Boston Consolidated stock, over-extension during the construction of the numerous buildings in Salt Lake City, and both his extravagant lifestyle and great generosity.

### 3.3 CASE STUDY TWO: FRISCO, UTAH

The second case study site, Frisco, Utah, is situated approximately 7.5 miles east of Newhouse, along the eastern flank of the San Francisco Mountains (Figure 3-33; see also Figures 1-1 and 3-11) and within the San Francisco Mining District. The environment at Frisco is similar to Newhouse; however, it is about 1,000 feet higher in elevation (6,500 feet above sea level) and in the rain shadow of the San Francisco Mountains, which increases the number of juniper and pine trees in the landscape. Water is virtually non-existent. Historically the town used wells for industrial purposes, but had to import potable water from Milford (approximately 25 miles to the east) by wagon or train (*Salt Lake Herald* 1920b: 25).

We were all very happy when it would begin to cloud up and maybe see a little lightening coming and thunder, hear the thunder, because we knew then we were going to have some water. All the tubs went out and the barrels. Course, we nearly always had a rain barrel right by the eaves of our house. ...we always looked forward to this because other than that we had to pay five cents a bucket for all the water that we used (Osborn and Callahan 1968: 8).

With the exceptions that it is also a mining town (silver) and its active years overlapped with Newhouse, Frisco was different from Newhouse in almost every way.



**Figure 3-33. Frisco, Utah 1906**  
15 Minute Topographic Map – Frisco Special Quadrangle, Survey of 1904-1905.  
(U. S. Geological Survey 1906)

Frisco was a “rough” western boom town. While the Horn Silver Mines owners constructed a few company-owned facilities, including a boarding house and stores, the town was not organized or planned as a company town and bore more resemblance to the tent/shack town area described for Newhouse.

### 3.3.1 Physical and Social Environment

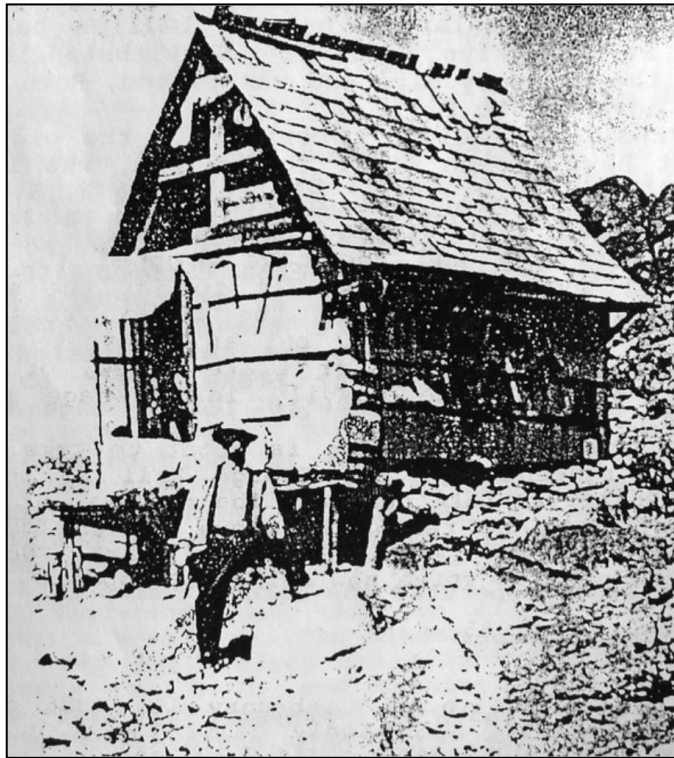
Frisco had two smelters; a stamp mill; five stone “beehive” charcoal kilns; a bank; a post office and newspaper building (*The Frisco Times*); a “little red schoolhouse” that also served as a church (Daughters of Utah Pioneers of Beaver County 1948: 266); various commercial buildings; scattered residential areas described as “shanties”<sup>12</sup> (Figure 3-34); several hotels, including the Sackett Hotel, which had a basement that was used as a dance hall, community meeting room, and entertainment area; several boarding houses and brothels; restaurants/ cookhouses; a train depot (established in June 1880); and a cemetery (Daughters of Utah Pioneers of Beaver County 1948: 263-264; Bradley 1999: 118-125; Bon et al. 2006: 311-317). Until the railroad extension from Frisco to Newhouse was completed in 1904, Frisco was also the western terminus of the Utah Southern Railroad from Milford (Strack 2007). Upon seeing Frisco for the first time, the S. N. Slaughter family described it thusly:

The first view of Frisco, to the young people of the family was very discouraging. There were no trees or vegetation of any kind. There were a few cedar trees [junipers] in the northeast part of town. The buildings, with the exception of two brick houses, were built of lumber. There were a few wells, the water being unfit for culinary or laundry purposes, as it was of a mineral content. Water was brought into the town in tanks by the railroad and delivered to the families at 5 cents per bucket and placed in barrels in the home by Henry Osborn, water man. The people made good use of this especially soft water for the hair, making it glisteningly soft and lovely. The first storm of the season, after a dry spell, would wash the soot and dirt from the roofs of the buildings, making the water unfit for use until the containers were again cleaned and the water fit for its various uses (Daughters of Utah Pioneers of Beaver County 1948: 264-265) (Figure 3-35).

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<sup>12</sup> A *shanty* is a roughly built, often ramshackle cabin; a shack.





**Figure 3-34. Frisco – Miner's Shanty**  
(As reprinted in Brown 1996: 16)



**Figure 3-35. Water Wagon on Frisco Main Street**  
Horse drawn cart carrying a barrel of water potable at Frisco. The wagon is on Main Street in front of one of the Horn Silver Mines Store and the Frisco Bank.  
(*The Salt Lake Herald*, March 1902b: 26)



Unlike Newhouse and Silver Reef, Frisco did not have its own hospital and only briefly had a doctor. Between 1874 and 1900, the medical care was handled by a midwife and afterwards (as with Newhouse in later years) doctors came from Milford as needed. In January 1885, an influenza epidemic struck the town which killed several of Frisco's children (Puckett 2006: 2). Four of the children (ages 3, 8, 10, and 14) were from the Rehnstrom family (State of Utah 2008), the graves of whom are still visible in the Frisco cemetery (Figure 3-36). A fifth Rehnstrom child died in 1888 at age 4 (see Appendix D).



**Figure 3-36. Frisco, Utah, Cemetery, Graves of the Four Rehnstrom Children**  
The graves of the four children were outlined in red rock by descendents in 2008.  
(Photograph by Author, June 2009)

**Cemetery.** Frisco has a well-established cemetery situated 0.9 mile southwest of town and burials are still conducted there in 2012. There are 67 verified burials and additional persons may have been buried there based on unverified historical records (*Southern Utonian* 1912c) and the physical appearance of the cemetery landscape (e.g. unmarked depressions). Of the recorded graves, 37 of the 67 (55 percent) are under the age of 17 years; many of the ages at death are measured in days or months (see Appendix D). Records from the Milford and Minersville cemeteries indicate that Frisco residents are also buried there.

Given the peak population of Frisco during its active years (800) (Graham 1883), the size and condition of the cemetery in 2012, and the skewed data from the existing gravestones and records (i.e., 55 percent children), there is a high probability that many more graves are present. Some of these are easily discernible as unmarked depressions within and outside the current fence line, which is not believed to encompass the entire original cemetery.

There are no known narratives or maps that describe the location of the graves of Frisco's large Chinese population; however, some accounts indicate that it was often the custom to disinter Chinese bodies and return them to China (Daughters of Utah Pioneers of Beaver County 1948: 263; Nelson 1993: 70-76). The purpose for the removal could be similar to the circumstances described for Silver Reef, involving customs of the local Piute (regional spelling of Paiute) Indian population and/or the preference on the part of Chinese community leaders to have remains returned to their place of birth after the towns were abandoned. According to the 1900 census, approximately 20 Piute Indians were living in the Frisco area (U.S. Census 1900).

In 2012, the Frisco cemetery appears heavily disturbed by vandalism and looting, but does retain 28 headstones, ninety percent of which are broken and/or displaced. The cemetery has been recorded by the State of Utah; a partial list of the graves is in the Utah Cemeteries and Burials Database, but it has been substantially expanded as a result of this research.

***Recreation.*** For recreation, Frisco had its own baseball team, which played against teams from Milford, Beaver, and Newhouse. Beaver County's first horse race track was also constructed east of the town (exact location unverified) (Daughters of Utah Pioneers of Beaver County 1948: 264), which was reported to be "one of the biggest paying race tracks in the western United States, right there at the old [Frisco] mine, right there at the old town" (Osborn and Callahan 1968: 1). Horse racing became so popular in Beaver County that in 1938 (well after both Newhouse and Frisco were abandoned) a large race track was constructed in Beaver City (Bradley 1999: 266-267; Beaver Utah 2009).

We had ball teams on each shift, I tell you. We had three or four ball teams, and we played bare-handed (Osborn and Callahan 1968: 4).

### 3.3.2 Social Issues

As noted, the histories of the three case studies have only been chronicled minimally by professional historians and the history of Frisco currently being undertaken by Puckett (2010) is not yet complete. Most of the historical studies describing the social environment of the town are, therefore, gleaned from popular accounts, historical newspapers, and biographical materials (diaries, letters, etc.). Although these materials are colorful and appear stereotypically “Hollywood,” they are consistent from record to record and paint a socially stressed image of Frisco, particularly in its first two decades. Business directories from these early years indicate that Frisco supported between 15 and 28 saloons (Culmer 1880; Stenhouse & Col. Publishers 1893) and newspaper and other reliable accounts describe the town as one of the wildest camps in Utah (*Deseret News* 1882, 1903b; *The Salt Lake Herald* 1902b; Daughters of Utah Pioneers of Beaver County 1948: 263; Notarianni 1982; Christensen 1984; Hickman 2006). For the first decade of Frisco’s history, murders (typically gambling- or alcohol-related) occurred on a weekly, sometimes daily, basis. Crime was so rampant that a man was hired as a local ‘body mover,’ to drive through town in a wagon and pick up the previous night’s victims (Christiansen 1984: 45). Frisco was likened to “Dodge City, Tombstone, Sodom, and Gomorrah all rolled into one. There was nothing else like it, anywhere” (Thompson 2006: 128).

Along with miners came the boom town followers, the gunmen, gamblers, saloon keepers, dancehall girls and “soiled doves.” Street brawls, shootings, and lynchings became common practice. Every one of the saloons in the town boasted of killings. One saloon owner told of the time that two of his customers killed each other over a 50 cent bet in a faro game” (Christiansen 1984: 45).

Frisco became so notorious for its criminal element, that in the early 1880s a sheriff (Sheriff Jim Pearson from Pioche, Nevada) (Cropper and Taylor 2007: 7) was hired to restore law and order. According to multiple accounts, upon arrival, the town offered to build a jail for Sheriff Pearson (a stone cellar in one of the buildings was used as a holding cell), but he declined the offer indicating that he would not need a jail...either the “gunslingers” would leave town, stop their criminal activities, or be killed. On his first night in town, Sheriff Pearson killed six men; one or two were killed

nightly thereafter. Within months, the crime level was significantly reduced and the sheriff was gone. The fate of the sheriff is unclear and he simply disappeared – some think at the hands of a gunslinger, others at the hands of someone in the town because he had become overzealous in his duties (Brown 1996: 64; Bradley 1999: 119; Thompson 2006: 128).

At some point after Sheriff Pearson's disappearance (ca. 1890s) a jail was constructed at the south end of Main Street (Figure 3-37) to hold thieves and drunkards, but by that time "the town had calmed down" (Hickman 2006). Whether or not the criminal element was buried within the currently fenced portion of the Frisco cemetery or on the ridge just above it, is not confirmed, but various histories are clear that the cemetery ridge contains those graves (both individual and mass burials) and represents a true western boot hill.<sup>13</sup>



**Figure 3-37. Frisco Jail ca. 1920s**

The man in the doorway is Dr. Harold Hickman's uncle.  
Dr. Harold "Hal" Hickman Collection

### 3.3.3 Frisco Mine Collapse

Just prior to midnight on February 12, 1885, the area of the hoisting works at the Horn Silver mine began to sink. Within minutes, "mammoth timbers were crushed into toothpicks and a chunk of the earth's crust more than 700 feet thick slid down between the walls of the mine toward to 800 foot level with a concuss so that it drove everything before it. Men, timber, poles, powder kegs, candles, etc. were blown into out of the way places almost like a shot out of a gun" (*The Salt Lake Tribune* 1885b).

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<sup>13</sup> The term *boot hill* is a 19<sup>th</sup> century *Americanism* for a frontier cemetery where criminals (e.g. gunfighters) died violently and were buried with their boots on (Random House 2006).

The collapse was so violent that windows were reported shattered in Milford 21 miles to the east. The exact cause of the collapse was never confirmed, but it was believed to have resulted from excessive weight on the mine from heavy rain and snowfall (collapsing the shoring). Thirty of the 117 miners working at Frisco on the day of the collapse left the following day (*The Salt Lake Tribune* 1885a) and the mine was shut down for more than a year (Bassett 2008: 11). Luckily, there were no injuries or deaths.

By February 12, 1885, the rain soaked the ground above the mine and it was covered with 2-3 feet of snow. For days before the cave-in, the men reported the mine creaking and shifting. Disaster struck about 11 at night on February 12, 1885. Some say the damage would not have been so extensive had it not been for the greed of the owners and operators. The great riches of ore had been stoped<sup>14</sup> from the mine so quickly that the crews could not keep up adequately with the support timbering (Brown 1996: 12).

While the miners were standing around, the whole mine caved in with a crash that broke windows in Milford, 21 miles away. A new shaft, 910 feet deep was sunk through Rhyolite at a cost of \$26 a foot. Meantime, most of the miners moved out, taking their houses with them, and leaving residential Grasshopper Street a pile of ruins (Whelan and Hintze 1973: 92).

### **3.3.4 Frisco Rise and Decline**

During its short active life span (1874-1940), the Horn Silver Mine produced more than 19 million ounces of silver ore (Bon et al. 2006: 286) worth more than \$50 million dollars (Bradley: 1999: 124). The height of prosperity at Frisco was between 1876 and 1885, with the population of the town peaking at 800 (Graham, J. C. & Company 1883: 248), just prior to the catastrophic mine collapse, although because the town population peaked between censuses, the exact number of residents over its lifetime is not known (Bon et al. 2006: 311).

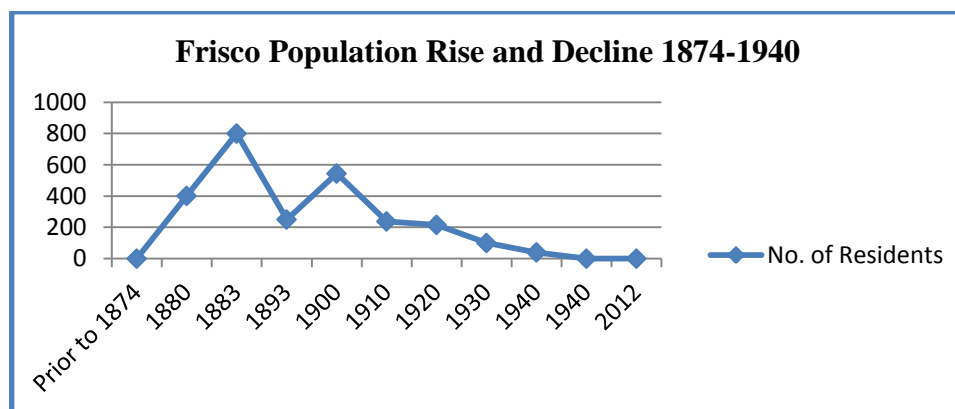
In 1892 there were only 250 residents (Stenhouse & Company 1893: 73), which was partially due to the 1885 mine collapse and a period of unrestrained crime. Once

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<sup>14</sup> A *stope* is a chamber from which mineable ores are broken and removed. Stopes can remain empty, if adequately supported, or can be filled with material, usually waste rock brought from the surface to ensure the safety of mining operations in adjacent areas.

the mine was again operational and the crime was quelled by Sheriff Pearson, the population rebounded to 544 in 1900 (U.S. Census 1900). In 1904 the mine burned (insufficient water to extinguish it) and the population began a slow decline from which it never recovered. U.S. Census records show that by 1910, the population had dropped to 238 and by 1930 it was down to 100 residents. Railroad passenger service ended in 1928 and freight service ended in 1931. A large portion of the track was destroyed by flooding in 1934 and the remaining track was removed by 1937 (Strack 2012). By 1940 Frisco was essentially deserted (Notarianni 1982) and remains abandoned in 2012. At that time (1940) there were no businesses remaining and only 11 mining families and three single miners (about 40 total residents) in residence (U.S. Census 1940). Goods and services during the waning years would have been acquired from Milford, just like the Wintch family does in 2012. Sporadic mining has taken place at the Horn Silver mine since the town was abandoned, but there have been no permanent residents for more than 70 years.

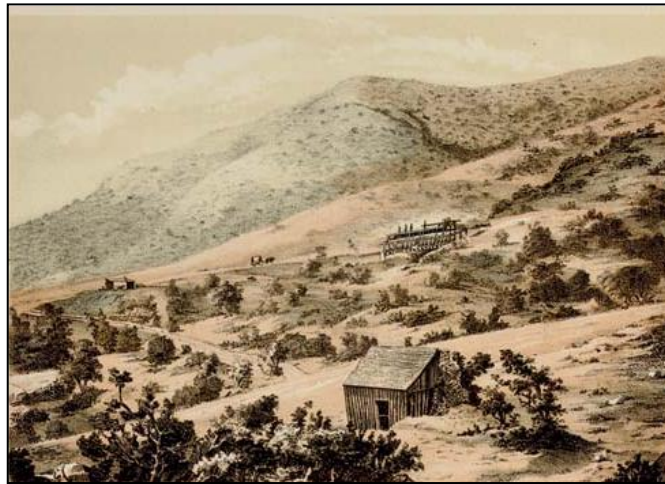
Although there are very few known maps and photographs of Frisco, there are U.S. Census records and Utah directories and gazetteers that reflect how the population changed over time. Figure 3-38 plots the available data illustrating Frisco's rise and decline and Figures 3-39 through 3-44 are comparison photographs that show various changes in the landscape between 1879 and 2012. Appendix E has been extracted from the Utah directories and gazetteers and describes the types of Frisco businesses operating between 1879 and 1928.



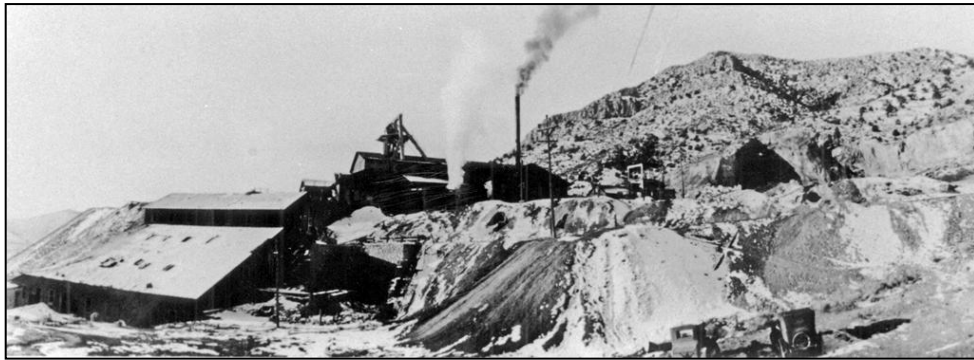
**Figure 3-38. Frisco Population**

(Cullmer 1880: 327-329; Graham 1883: 248; Stenhouse & Co. Publishers 1893: 73; R. L Polk & Co. 1904: 136-137); U.S. Census 1880b, 1900, 1910a, 1920a, 1930a, 1940)





**Figure 3-39. Illustration Based on a Photograph of the Frisco Landscape in 1879**  
View to southwest with the San Francisco Mountains in the background.  
(Hooker 1879: 3)

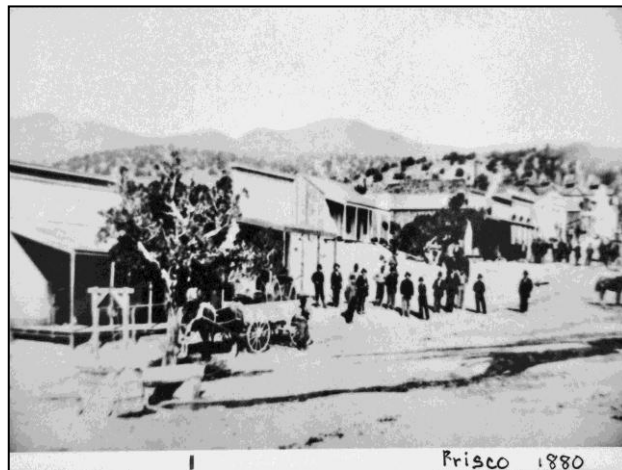


**Figure 3-40. Mid-Range Image of the Frisco Landscape ca 1910**  
View to southwest showing the Horn Silver Mine operations with the San Francisco Mountains in the background.  
(Wray 2006: 363)



**Figure 3-41. Frisco Landscape in 2010**  
Nearly identical view as Figure 3-39.  
(Photograph by Author, June 2010)





**Figure 3-42. Frisco Main Street 1880**  
(Courtesy, Dr. Harold Hickman)



**Figure 3-43. Frisco Main Street 1921**  
(Courtesy, Dr. Harold Hickman)



**Figure 3-44. Frisco Main Street 2006**  
(Photograph by Author, June 2006)

Views to northwest. All three of these images are from a nearly identical vantage point.

### **3.4 CASE STUDY THREE: SILVER REEF, UTAH**

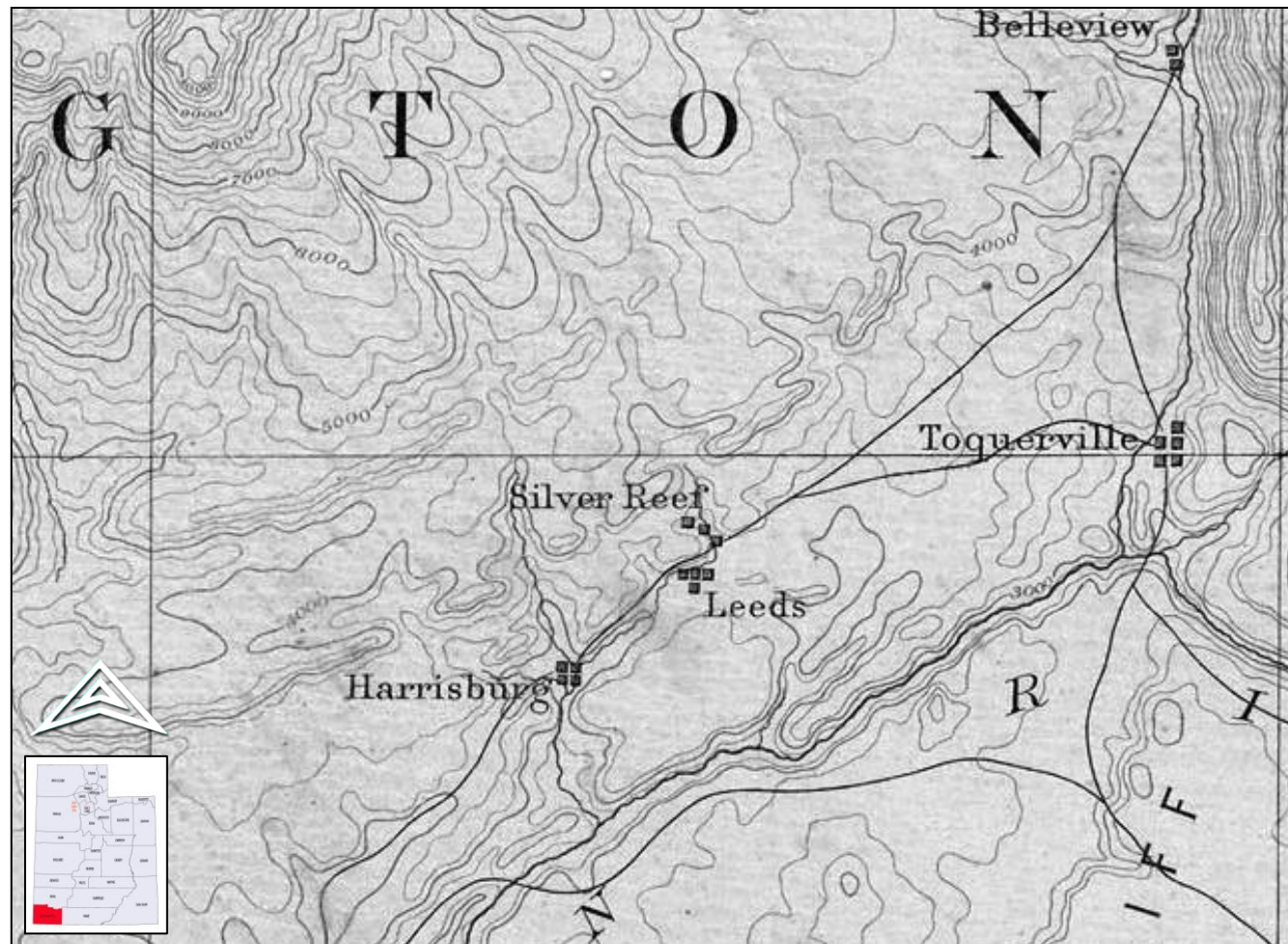
The third case study is Silver Reef. Silver Reef was a non-company constructed settlement, situated in Washington County, Utah, approximately 18 miles north of St. George and 100 miles south of Newhouse and Frisco (Figure 3-45). At an elevation of 4,000 feet above sea level, the environment of Silver Reef is semi-arid, with mild winters (lows in the 30s) and hot summers (temperatures above 100 degrees (F)); precipitation averages 12 inches per year (Utah Valley State College 2009). Unlike Frisco and Newhouse where the climate and lack of water is inhospitable to agriculture, the mild climate and abundant water in the form of springs and creeks near Silver Reef, are well suited to the cultivation of various crops, including figs, pomegranates, almonds, and pecans (Stucki 1966: 5).

The land forms surrounding Silver Reef contain the only known occurrence of commercial-grade silver-bearing sandstone in North America (Proctor 1953: ix). Discovered in 1866, but not officially claimed until 1871, the deposits of high grade ore in the nearby Pine Valley Mountain reefs (ridges) spurred a stampede of immigrant workers and miners from across the United States. The result of this migration ultimately helped to establish the Harrisburg Mining District (Northern Utah Prospectors Association: 4-5). In 1876, Charles Westover, a Silver Reef ore hauler, described the unusual mining town (Westover as quoted in Mariger n.d.: 88):

This sandstone country beats all the boys and it is amusing to see how excited they get when they go around and see the sheets of silver which are exposed all over the different reefs [ridges]. This is the most unfavorable looking country for mines that I have ever seen in all of my varied mining experiences.

#### **3.4.1 Physical and Social Environment**

The active life span of Silver Reef was only 15 years; the peak years occurred between 1878 and 1882, when the population reached between 1,500 and 2,000 people. At its zenith, Silver Reef was supported by 640 mining claims, 37 patented mines, and three stamp mills (two five-stamp and one 10-stamp) (Figure 3-46) (Mariger n.d.: 38; Culmer 1880: 385-386).



**Figure 3-45. Location of Silver Reef, Utah 1891**  
15 Minute Topographic Map – St. George Quadrangle,  
(United States Geological Survey 1891)



**Figure 3-46. Stamp Mill at Silver Reef 1875**  
(Sherratt Library, Southern Utah University)

Following Gillenwater's typology (see Figure 2-2), the settlement was laid out in a block form, but with linear features (primarily dwellings) that followed the adjacent deep ravine and creeks (see Figure 2-4). During its most active years, residents, commercial entrepreneurs, and the mining companies built five restaurants, including the "Cosmopolitan;" 15 saloons (Figure 3-47); two dance halls; a billiard hall; nine grocery stores; a bakery; eight dry goods stores; two drugstores (one of which was Chinese); and two meat markets. The town also had two breweries; an undertaker; a community hall; a jail, but no full-time sheriff; a Wells, Fargo and Company Express building (Figure 3-48); two newspapers (*The Silver Reef Miner* and the *Silver Reef Echo*); a bank; a telegraph office; and a barber shop that also served as a doctor's office (Figure 3-49). Typical of most mining camps of the period, the miner's cabins and family cottages were scattered across the landscape along the steep sides of the ridges and as near as possible to Quail Creek (Mariger n.d.: 37-39, 93) (Figure 3-50):

Dwellings were everywhere, but the finest of them followed the course of the Harrisburg water ditch, and had fine shade trees, lawn, and flower gardens. Miner's cabins and cottages extended clear up to where the water for the town was taken out of the original Quail Creek Channel. This was the picturesque part of the camp, cottages being just built among clumps of Cottonwood and Cedar trees, near ditches when they could get there, distant if necessary (ibid., 97).



**Figure 3-47. George Miller's Elk Horn Saloon and Louder's Store, Silver Reef 1890**

The Elk Horn Saloon was one of the subjects of Dr. Robert Schuyler's research in the 1980s.  
(Sherratt Library, Southern Utah University)



**Figure 3-48. Wells Fargo and Company Express Building ca. late 1940s**

The Wells Fargo building was used as a residence by Alex and Mayme Colbath between 1916 and 1948.  
(Utah State Historical Society n.d.)

Ira S. McMullin did mason work on stone buildings, mostly stores and on mill furnaces or retorts, at which he was especially good. Mr. Colbath tells me that George Brooks cut the stone for the beautiful work in the front of the Wells Fargo Co. Building, and that Ira McMullin laid the stones, having quite a reputation for his round arch work (ibid.).



Wrought Spanish Bits & Spurs, W. L. Pickard, Salt Lake

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Washington County Business Directory.

WASHINGTON COUNTY

Located in the extreme south-western corner of the territory, is bounded on the east by Kane County, on the west by the State of Nevada, on the north by Iron County, and on the south by Arizona. Has an area of about 2,000 square miles. In the river bottoms of the Virgin & Santa Clara Rivers there are tracts of very productive farming lands, which from the warmth of the climate, yield fruits of a semi-tropical nature. These include tobacco, rice, cotton, grapes, bananas, oranges, figs, &c. The county contains but little timber land, the climate being too warm for pineries, excepting in the highest mountains.

ST. GEORGE

Is the county seat of Washington County, 340 miles south-west of Salt Lake City. It contains some fine buildings, notably the temple. There is also a fine Tabernacle with a clock tower and bell. Population about 2,300.

Booth Jas, photographer  
Brooks Geo, stone cutter  
Canaan Stock Co, butchers  
Carpenter J W, job printer  
Croft Wm C, blacksmith  
Dodge W E, wine merchant  
Hardy A P, hotel  
Hardy & Sons, wood turners  
Higgins S G, physician  
Ivins Israel, physician  
Judd Samuel, blacksmith  
McFarlane Jno M, surveyor & attorney-at-law  
McQuarrie H, blacksmith  
McQuarrie & Morris, furniture  
Milne & Son, painters

Morris R, shoe maker  
Nelson Wm, shoe maker  
Orton Joseph, shoemaker  
Pickett, Riding & Woodbury  
Platt H J, harness & saddle mfr's  
Pyrum Jno, postmaster, books & gen'l mdse & hotel  
Riding C S, tinsmith  
Riding E T, boot & shoe maker  
Snow Erastus, hotel  
St George Co-op Store, H Ewring, supt, gen'l mdse  
Ferry C A, cooper  
Whitehead A R, music dealer  
Wooley, Lund & Judd, gen'l mdse

SILVER REEF.

This is the famous mining camp of Southern Utah, with a population of about 1,400. Its suburbs are rich agricultural districts which find a ready market at this point. A number of quartz and stamp mills are constantly running.

Burne R, boots & shoes  
Barbee & Walker, quartz mill  
Brick Dan'l, boots & shoes  
Boggs & McMillan, blacksmiths  
Christensen J, boots & shoes  
Cassidy Jno, saloon  
Clark Bros, saloon & billiards  
Christy & Co, quartz mill  
Fortman Jno, saloon & billiards  
Gibbspie, Lund & Co, gen'l mdse

Krause Herman, postmaster  
Levy J, saloon & billiards  
Mantor C. M D  
Miller Geo, saloon  
Marshall & Brown, butchers  
McDonald A, drugs & liquors  
Ormund C, livery  
Pendray Jno, saloon & billiards  
Pierson & Lund, butchers  
Quirk M, saloon & billiards

Hardy Bros. & Burton carry a full line of General Merchandise

California Lasso Saddles, W.L. Pickard, Salt Lake City.

Washington County Business Directory.

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Grambs Martha, restaurant  
Habbisch J, barber  
Hayes Caroline, lodging house  
Harrison P, hotel, furniture, paints, etc  
Huxton H, livery  
Huston & West  
Johnson N, restaurant  
Jordan J, notions & notary public  
Keller Martin, barber  
Kenney Dr, drugs

Sager W B, gen'l mdse  
Silver Reef Miner, S Wixon mang'r  
Stormont & Co, quartz mill  
Stevens & Harrison, gen'l mdse  
Tyrell J A, gen'l mdse  
Thompson E, saloon & billiards  
Wette Peter, saloon & billiards & brewery  
Wells, Fargo & Co, bankers J H Rice, manager  
Woolf Moss, clothing & liquors

MIDDLETON.

A small settlement engaged in fruit growing.  
McDonald A F & Son, vineyard

MOUNTAIN MEADOW.

A farming settlement of limited habitation. Post office at Hamblin.  
Hamblin Co-op Store, gen'l mdse

PINE VALLEY.

About 200 population; mostly engaged in lumber trade.  
Baker Thos, grist mill  
Burgess Bros, saw mill  
Hancock Cyrus, gen'l mdse  
Whipple E, saw mill

PINTO.

Inhabitants mostly engaged in farming; population 150.  
Eldridge Jas, carpenter & bullder  
Pinto Co-op Store, gen'l mdse

WASHINGTON.

McGuire P H, supt Co-op Store  
Nelised & Co, gen'l mdse  
Whitehead A R, supt Washington Woolen Mills

LEEDS.

Crosley Geo, supt Co-op Store  
Millan J & Co, blacksmiths

SANTA CLARA.

Huffin Jno, gen'l mdse

BELLEVUE.

Anderson A, gen'l mdse

You can save 10 per cent by buying Clothing at L. Goldberg's

PEIRCE'S BOOK STORE—ARTISTS & SURVEYOR'S SUPPLIES.

For LADIES FINE SHOES and SLIPPERS go to Geo. Dunford's, Salt Lake City.

Figure 3-49. Silver Reef Business Directory 1883-1884  
(Graham 1884: 276-277)

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**Figure 3-50. Silver Reef Dwellings 1880s**

The more affluent residents lived along Quail Creek and the Harrisburg Ditch.  
(Utah State Historical Society)

Like Newhouse, Silver Reef also had a building constructed specifically as a hospital. The building was of frame construction and funded by contributions of \$1 a month from the miners (Oates 1995: 41). Five Catholic nuns staffed the hospital and lived in the basement; a full-time doctor had his office in the barber shop (Proctor and Shirts 1991: 91). During the peak years at Silver Reef, the hospital cared for about 37 patients each year but by 1883, the number of patients had fallen to the point that it was closed. The lumber for the hospital and most of the frame buildings at Silver Reef was purchased from Lorenzo Dow Watson “a pioneer to Parowan, Utah, [located near Frisco and Newhouse] who operated a large saw mill and established a lumber yard in Silver Reef” (Mariger n.d. 89). After the town was abandoned, the wood from the hospital was salvaged and used to build a residence in St. George.

Silver Reef had a large Catholic church (St. John’s) (Figure 3-51) that was also used by the Presbyterians. Other non-Mormons met at various locations in town, including private homes, the school, the Rice Bank Building, and some of the





**Figure 3-51. St. John's Catholic Church, Silver Reef in 1880**  
(Utah State Historical Society)

“boweries” (ibid., 8). The Mormons did not organize religious services or facilities at Silver Reef, but did build a temple in the nearby Mormon settlement of Leeds, which had been established as a mill and farming town (5-stamp) for the Silver Reef mines. Mormon men officiated at funerals in Silver Reef occasionally and attempted to have services there, but because of strong anti-Mormon sentiment in the town” they eventually stopped trying because no one attended” (Proctor and Shirts 1991: 93). Similar to the hospital, when the town was abandoned, the Catholic Church was moved to Leeds for use as a dance hall and theater (Mariger n.d. 28).

I received a card from Brother Joseph Orton [Mormon faith] stating that he and fellow missionaries would be at Silver Reef to hold meetings on Thursday, 26th and I write to say that, in my opinion, I would not send any more at present, as Brother Wixom gave out general notice, had the houses lighted, etc. and not one soul came, except the brethren from Toquerville. Brother Wixom states this has been the case for two or more meetings and I think it labor thrown away. But I will do my part, if you think best to try again. It cost something to get the house lighted, etc., and I feel that we have done enough for them [the Silver Reef residents] when not one soul will come out (Jenson 1879: 6).

An 8-mile-long, man-made ditch (the Harrisburg Ditch) harnessed the water from Quail Creek to supply Silver Reef, adjacent towns, the mills, and the surrounding farmland, but it was not piped into the town. Because of the hasty construction of most buildings and a general lack of fire suppressing equipment, fires were a constant threat to most western towns (Jackson 1963: 139). In Utah, this was aggravated by low humidity levels and strong spring and summer winds. Between 1877 and 1888, Silver Reef had 12 accidental fires (e.g., careless use of candles or lanterns). Most involved a single, or just a few buildings, but several were devastating to the community. The “Great Fire” of May 1879 destroyed the entire west side of Main Street, the Barbee and Walker Mill was destroyed a month later, and the entire south end of the commercial district was destroyed in July 1888 (Stucki 1966: 42-43) (Figure 3-52). A “Committee on Public Safety” was set up by the residents to help minimize the number of fires and provide useful fire prevention guidance, but the fires continued to plague the town right up to the time it was abandoned (Proctor and Shirts 1991: 121-131).

This is the famous mining camp of Southern Utah. It is in the heart of the wonderful sandstone region whose richness in silver has puzzled the best of students in mineralogy. The town is considered a model mining camp. It is well located and watered and although it has suffered from recent conflagrations is being rebuilt in an energetic and substantial manner that speaks well for the faith of its citizens in the permanency of the mines. The population is about 1,000 nearly all miners, who offer a good market for the surrounding agricultural towns. The hotel owned by Mr. P. Harrison is one of the best in Southern Utah (Culmer 1880: 385-386).

Silver Reef was roaring with life. Bisecting the town was a mile-long boardwalk, flanked by stores of nearly every type and a marvelous collection of saloons, gambling dives and dance halls. A weekly newspaper was being issued with regularity. A brewery, volunteer fire department and brass band were functioning – each in its own fashion. A school had been built by public subscription; there were three cemeteries, a race track, a miner’s union with 300 members, and branches of the Oddfellows and Masonic orders (Murbarger 1956: 164).



**Figure 3-52. Silver Creek's Main Street in the 1880s**

View from the south end of the street looking north. Note the rocks and potholes in the street and the striped barber's pole on the right.  
(Utah State Historical Society)

U.S. Census records reveal that in 1880 approximately 40 percent of the Silver Reef population was from outside the United States; the majority of these were from China, Ireland, and England (U.S. Census 1880a; Proctor and Shirts 1991: 116). At its peak, the Chinatown area of Silver Reef was about 250, most of whom were cooks, laundry workers, or druggists (U.S. Census 1880a).

The Nicholls family, father, mother, a daughter, and four sons, came here from England and lived here throughout Silver Reef history, father and sons working in mines and mills. After the death of the old camp the families, excepting Wm., moved to Wyoming (Mariger n.d. 94).

The crime rate in Silver Reef was reputedly higher than Newhouse, but less than Frisco and consisted mostly of claim jumping, theft, and a few murders. Criminals were held in an insecure, wood-plank jail temporarily, but the sheriff was in St. George, so they were quickly transferred there for additional security (Stucki 1966: 58-59;

Northern Utah Prospectors Association 2006:5; Proctor and Shirts 1991: 134). As recorded in historic accounts of early Silver Reef:

The population of the town was made up of practically all nationalities, including quite a number of Negroes [not enumerated on the censuses] and Chinamen. It seemed a very rough place to those Mormon pioneers, but really, as mining camp history goes, it was not a wild camp, though there were some murders, duels, and even one lynching (Mariger n.d.: 98).

On Thursday evening a man named Herbert Steel, without any previous provocation shot and killed a saloon keeper of that place named Wm. Rafferty. Deceased was a quiet, law-abiding man and was well thought of by his fellow citizens. Steel was a printer and until about ten days ago was a partner in the firm of Louder & Steel, publishers of the *Silver Reef Miner*. He however was addicted to an inordinate appetite for whisky and was said to have been intoxicated at the time of the shooting. Indignation among the citizens is very high and threats of lynching are freely indulged in. Steel is under arrest (*Southern Utonian* 1882a).

***The Murder of Michael Carbis.*** Perhaps the most notorious crime at Silver Reef was the murder of the Cornish miner Michael Carbis (Figure 3-53 and 3-54) and the subsequent hanging of the Irishman Tom Forrest. As recounted in various historical records (Mariger n.d. 100-101; *Pioche Record* 1880a and b), Michael Carbis was a shift boss in the Buckeye Mine, one of the Stormont mining properties. Johnson Vivian was superintendent of the Silver Reef Stormont mines, including the Buckeye Mine. Cornishmen from England had entered the camp, and Col. Allen, Superintendent of all the Stormont mines much preferred them as miners, and whenever he could replace one of the Irish Catholics with a Cornishman he did so. Based on that policy, he instructed Vivian to have Carbis fire Tom Forrest, whom he labeled a troublemaker.

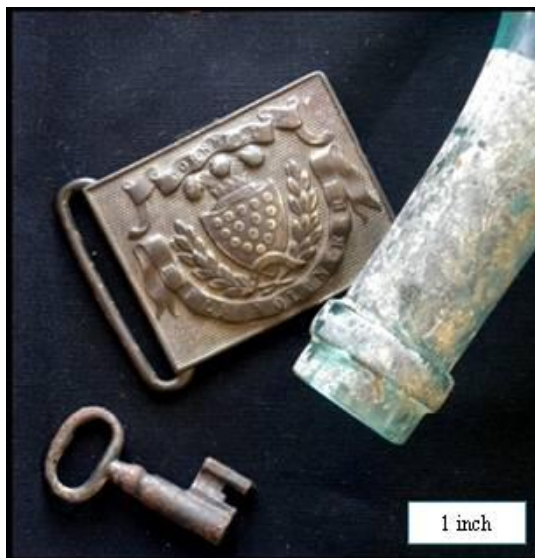
The day after Forrest was fired (October 3, 1880) he accosted Carbis on his way to work and invited him “at the muzzle of a six shooter” into a cabin to settle the score. Carbis indicated that there was no settling to be done and that he wanted nothing to do with Forrest. Forrest placed the pistol in his pocket, drew a long dagger, rushed upon Carbis and stabbed him in the right side. Forrest then hid in the Tecumseh mine tunnel



**Figure 3-53. Michael Carbis at the Cosmopolitan Restaurant in 1880**

Left to right: Michael Carbis; Mrs. Martha Grambs, proprietor of the Cosmopolitan Restaurant; Mr. Crockwell and Mr. Ottinger, photographers from Salt Lake City; and Charles Case, owner of Silver Reef's Case Drugstore. Carbis, a Cornish miner, was murdered by the Irishman Tom Forrest on October 3, 1880.

See Figure 3-49 and Appendix D.  
(Utah State Historical Society)



**Figure 3-54. Silver Reef Museum Collection Belt Buckle**

The belt buckle in this photograph is believed to have belonged to Michael Carbis, the Cornish miner who was murdered at Silver Reef by an Irish miner. The emblem on the buckle is of the Cornwall Rifle Volunteers, an infantry regiment of the British Army that was established in 1881.

(Photograph by Author, June 2009)

where he was tracked down with the aid of Indians [Paiute], arrested by Deputy Sheriff Hoag, and placed in the Silver Reef jail (Stucki 1966: 61-63).

Carbis died at five o'clock the same evening and was buried on October 5 (see Appendix D). According to the *Pioche Record* (1880a and b), Carbis was buried with considerable fanfare. The mines and mills were closed for the day and "more than 500 people followed the body to the grave. The Masonic burial service was read in an impressive manner by Jr. Edward Cutts" (ibid.). On the same day as the burial, Forrest was arrested by Sheriff Hardy and taken to the county jail in St. George, Utah. Early the following morning, Sheriff Hardy was surrounded by about 50 "masked and armed men" who took the keys to Forrest's cell, disarmed the deputy guarding Forrest, and hung Forrest from a telephone pole near the jail. Unfortunately, the hanging was unsuccessful, so they took Forrest down from the telephone pole and transported him to a nearby Cottonwood tree to finish the job. "Justice, swift and sure, was meted out to him, although without the sanction of the law" (*Pioche Record* 1880b). The body of Forrest was "given a decent burial in the cemetery in St. George, but the Mormons of St. George and Silver Reef were "horrificed by the incident" (Stucki 1966: 63).

There are also references to several suicides at Silver Reef in the *Pioche Record* [newspaper] (six over six years). One, the death of Tom Stevens, was attributed to an overdose of morphine, which could have been accidental (*Pioche Record* 1877). Suicide is often reported at mining towns from this era; however, there is never a clear reason given for it. Excessive consumption of alcohol, which was far cheaper to purchase than potable water, is occasionally noted and the loneliness of remote communities, predominantly populated by single men, was also a factor.

Recreational activities at Silver Reef included horse racing (there was a race track near the cemeteries); shooting matches (rifles and handguns); cock fighting; drama (plays and vaudeville shows); and dances. There are no historical indications of organized team sports (baseball or tennis) at Silver Reef as were favored by Frisco and Newhouse (Stucki 1966: 56-58).

### **3.4.2 Cemeteries**

Silver Reef had three cemeteries – one each Protestant, Catholic, and Chinese. The Protestant and Catholic cemeteries are fenced and visible and a few of the

gravestones remain. The Chinese cemetery is no longer visible, but the location is believed to be adjacent to the Catholic Cemetery (Appendix D). Similar to the circumstances described for Frisco and other pioneer communities (Nelson 1993: 70-76), some years after the active mining era at Silver Reef ended, the graves were disinterred and the remains returned to China (Groberg 1995; Nelson 1993).

[The Silver Reef] Chinatown also had its own cemetery. As part of the Chinese burial rites, containers of food were left at the grave site to aid the departed in their journey to heaven. This comforting gesture was observed by Piute Indians living in the general area. Finding the cemetery offering a very convenient source of food, they camped nearby in the gap to assist the recently departed dispose of the overly generous contributions. This and other factors so concerned the Chinese that Sam Gee, a former Chinatown resident, years later came from San Francisco to exhume every single Chinese grave. The remains were packed in tea leaves and sent back to China for permanent burial (Proctor and Shirts 1991: 137) (Figure 3-55).



**Figure 3-55. Rendering of Paiute Indians observing a Chinese Burial at Silver Reef**

The Indians found the food offerings a convenient source of food.  
(Groberg 1995)



### 3.4.3 Silver Reef's Silver Forest

According to an article in the *Pioche Weekly Record* (1881), a history of Utah from 1916 (Whitney 1916: 564), and a film made about the history of mining in Utah in 1995 (Groberg 1995), an unusual mineral find occurred at Silver Reef in 1875. The find was made by two miners, Henry Friedenthol and Louie Hassell as they were blasting in an area of the White Reef for new silver veins. When the face of the drift gave way, a cave containing a forest of huge petrified trees was revealed about 200 feet below. William Barbee, owner of the Walker Barbee mine, later stated that one of the many trees held 17,000 ounces of silver. Because of the high silver value of each tree, they were all removed and processed, thereby destroying perhaps one of the most unique precious metals discoveries ever found (Stucki 1966: 68; Groberg 1995; Birnell 2007) (Figure 3-56).

Frisco in Beaver County has the famous Horn Silver Mine, and at Silver Reef, Washington County, rich silver ores are found in petrified trees, the remains of an ancient forest imbedded in the sandstone; a unique geological feature unparalleled, so far as known, in any other mining region (Whitney 1916: 564).

Giving additional credence to this remarkable story, both of the miners who discovered the silver forest are found listed in the 1880 U.S. Census records for Silver Reef. Large pieces of petrified wood are located in front of the Wells Fargo and Company Express Building in 2012 and petrified wood is known to occur in various locations of Washington County. Other petrified materials containing a high silver content have also been reported from the Silver Reef area and there is a newspaper account of a silver infused plant found at Calico, California, in 1886 (*Sacramento Daily Union* 1886). The geological phenomenon occurs when wood, or other organic material, becomes buried under sediment and is preserved due to a lack of oxygen. The mineral-rich water (copper, iron, manganese, silver, carbon, and other metals) is absorbed into the cells of the organic item and eventually hardens into stone (Gems and Minerals, Inc. 2007).

The exact location of the Silver Reef silver forest is not known.



**Figure 3-56. Depiction of the Discovery of Silver Reef's Silver Forest**  
(Groberg 1995)

#### **3.4.4 Historic Silver Reef 's Waning Years**

By about 1881, most of the silver ore near the surface had been recovered and deeper shafts were required. This, along with a dropping price in silver and constant trouble with water seeping into the tunnels increased operating costs. To offset the increased costs, the mine owners dropped the prevailing wage from \$4.00 a day to \$2.00 a day. Disgruntled, the miners went on strike and many ultimately left Silver Reef for other mines. Without the miners' wages, the commercial enterprises could not stay open and they began to leave as well. The last mill run was in 1908 and, by 1910, the town was abandoned (U.S. Department of the Interior, Historic American Buildings Survey 1968: 3). Most of the wooden buildings were razed and the materials salvaged and removed by the owners; however, a few were moved, including the church and a recreation building that were relocated to the adjacent settlement of Leeds and used as a schoolhouse. In 2012, the building is the Leeds Town Hall (Town of Leeds 2004: 11).

Silver Reef remained abandoned until 1916, when the Silver Reef Consolidated Mining Company was formed under the direction of Alex Colbath, the town's only resident. Colbath bought the entire town and mining interests and utilized the old Wells Fargo building as his residence (see Figure 3-48). Unsuccessful at stimulating growth

in Silver Reef, Colbath sold 51 percent of his stock to the American Smelting and Refining Company in 1928. Given the economic circumstances of the late 1920s and early 1930s (the American Great Depression), efforts to re-open operations were not successful and the limited operations closed down for the second time.

Colbath and his wife, Mayme, owned Silver Reef until 1948 (a span of 32 years), when they sold it to Western Gold and Uranium Inc. Although the region was known to have traces of uranium and gold, the new owners found such small amounts that it was not economically effective to continue operations and they declared bankruptcy and reorganized as a land/home development company (Tech-Sym Corporation) in the 1960s. Unable to cost effectively construct sufficient roads because of the terrain and rocky soils, Tech-Sym Corporation negotiated with Washington County to exchange road construction and maintenance for a deed to the Silver Reef business district. This was completed by 1977 and Washington County continues to own that portion of the property in 2012.

Silver Reef was annexed to the town of Leeds in 2003, which survived Silver Reef because of its non-mining, agricultural orientation. In 2012, Silver Reef and Leeds, along with the more modern community of El Dorado that was also annexed to Leeds in 2001, have a combined population of about 750 (Town of Leeds 2004: 12). Over its life, the mines of Silver Reef produced more than \$25 million in silver ore (Washington County, Utah 2009).

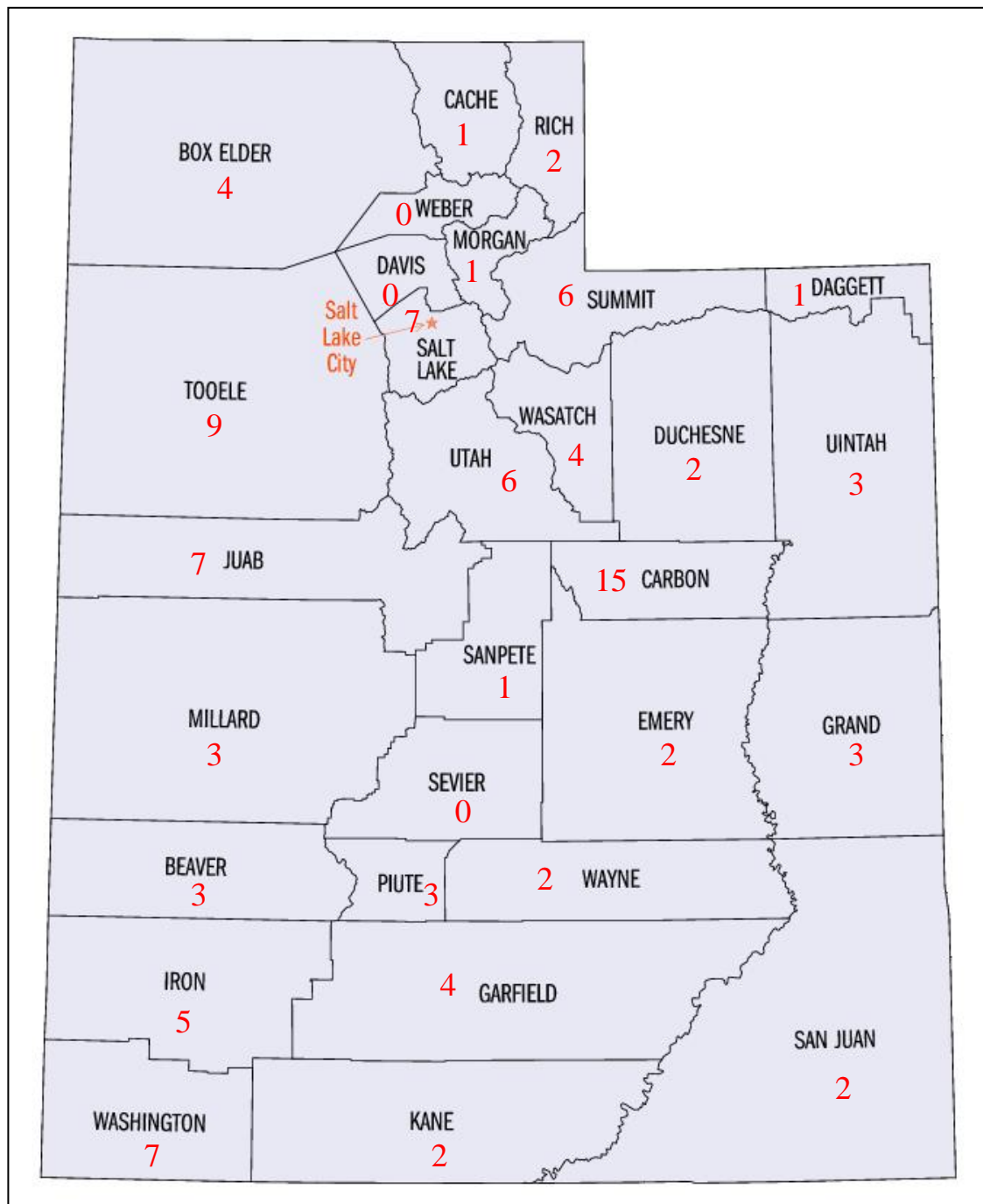
The history of Silver Reef is concurrent with Frisco and Newhouse and the artifacts curated at the Silver Reef museum are similar, and in some cases identical, to those recorded from the other two sites. Given the shattered condition of the remains at Frisco and Newhouse, the whole items found at the museum in Silver Reef were extremely useful for identification and interpretative purposes. Some of the artifacts photographed at the Silver Reef Museum and used for comparison are provided in Chapter Five, Section 5.3.3.

## CHAPTER FOUR. UTAH DATABASE

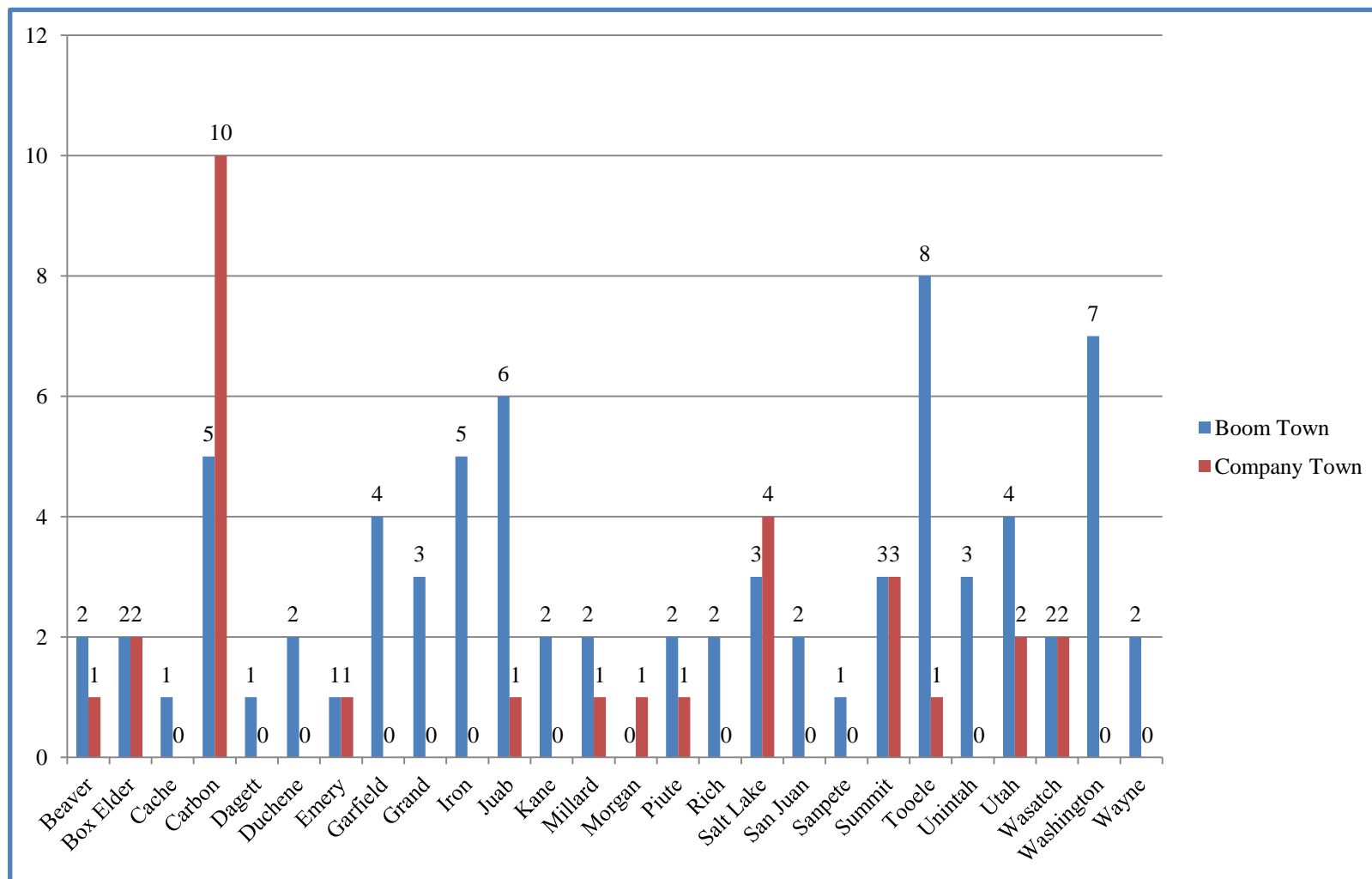
This chapter presents and discusses data gleaned from a sample of 105 Utah ghost towns. The raw data for the calculations is provided in Appendix C. The data were collected to establish general contextual information regarding a large body of such sites and, as noted in Chapter Two, is the only known effort to systematically organize and analyze information about Utah's ghost towns. Construction of the database proved useful for better understanding the historical and physical environments of individual communities and provided an objective means to quantify various aspects of the dataset as a whole (e.g. various trends and patterns).

Utah is the 13<sup>th</sup> largest state in the United States. The state encompasses 84,890 square miles and, as of the 2010 U.S. Census, has a population of approximately 2.7 million. Eighty percent of the population lives along the Wasatch Front (the Salt Lake City area), with the remainder of the population scattered across a vast, often environmentally inhospitable landscape (State of Utah 2009). Historical documents indicate a varying number of ghost towns in Utah and an exact number will probably never be known. Utah State records show approximately 125 ghost towns scattered across 29 counties (Figures 4-1 and 4-2) and the state has recorded limited information for each, but there has been no comprehensive database compiled (Bagley 2002). The two best known books on the subject, prepared by local historians, mention 150 towns and 400 deserted places, most of which are not towns, rather homesteads, forts, and other types of features (Carr 1972; Thompson 2006). There is a popular ghost town Internet site (Underwood et al. 2009) that provides sketchy information on 141. Dozens of additional books, community-specific publications, pamphlets, and articles describe a single or small subset of the Utah ghost town environment, but the level of data varies dramatically or is contradictory; in many cases, there is little more than a name and location.

The current database was compiled using all available resources. Towns for which there was insufficient historical information for statistical calculations were



**Figure 4-1. Number of Ghost Towns by Utah County**  
(Base Map Census Finder 2010 [adapted])



**Figure 4-2. Utah Ghost Town Database: Number of Towns by County and Type**

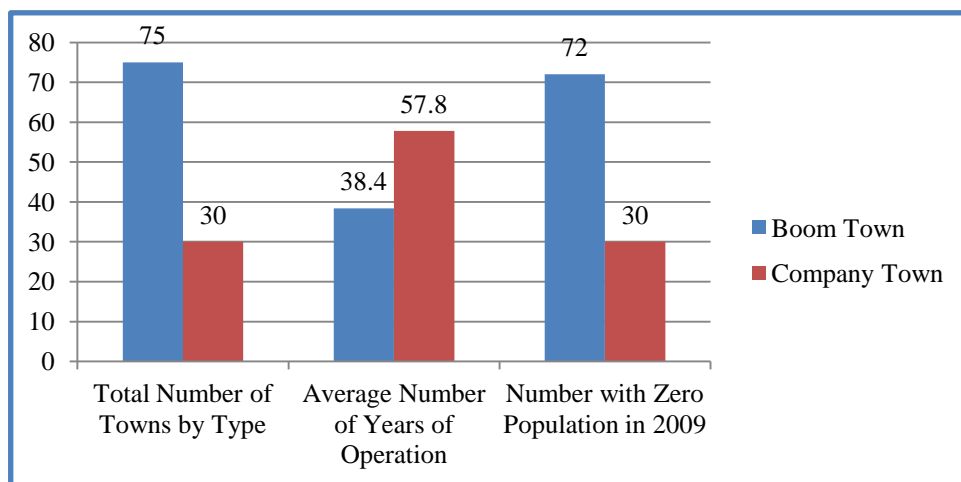
eliminated from the list, as were towns with large, active populations in 2009 (i.e., never completely abandoned), and those with conflicting data from source to source that could not be resolved (e.g. discrepancies in function, name, size). With these considerations and exclusions applied, the total number of Utah ghost towns represented in the database is 105 and there are 22 categories of information that provide a very basic characterization of each settlement. Among these are climate and elevation (for consideration of environmental effects on abandonment); active years of operation (as a means to compare life spans between company and non-company constructed towns); primary industry (e.g. mining, farming), which might affect both artifact type as well as the spatial arrangement of features and artifacts); and both the reasons recorded for their abandonment and the actual reasons based on careful scrutiny of the historical records.

Of the 29 counties in Utah, 26 have one or more identified ghost towns. The remaining three counties (Weber, Davis, and Sevier) have deserted places (e.g. isolated buildings), but no towns, or none with sufficient data that could be analyzed. Of the counties, Carbon County has the largest number of ghost towns (15), the highest number of company towns (10), and, because of the vast coal-bearing areas for which it is named, the highest percentage of coal mining towns (12 of 15 or 80 percent).

Tooele and Washington counties have the highest number of non-company towns (8 and 7 respectively). Seventy-five percent of Tooele County's ghost towns are associated with precious metals mining (gold, silver, or copper), reflecting early settlement of the county by non-Mormons. At the time Tooele County was settled, the mining of precious metals was in opposition to Mormon leadership, particularly Brigham Young, who feared that precious metals mining would distract Mormons from farming and ranching (more worthy endeavors) and encourage non-Mormons to settle in the state (Nelson 1963). The climate in Tooele County is also not as conducive to agricultural activities as the warmer Washington County to the south, where 57 percent of the ghost towns are associated with farming and ranching. The rest of the identified ghost towns in Utah (a total of 74) are scattered across the remaining 23 counties. Of these 74 percent (55 towns) are non-company towns and 26 percent (19) are company towns.

Of the total number of 105 ghost towns in the database, 71 percent were non-company towns and 29 percent were company towns (Figure 4-3). In the non-company





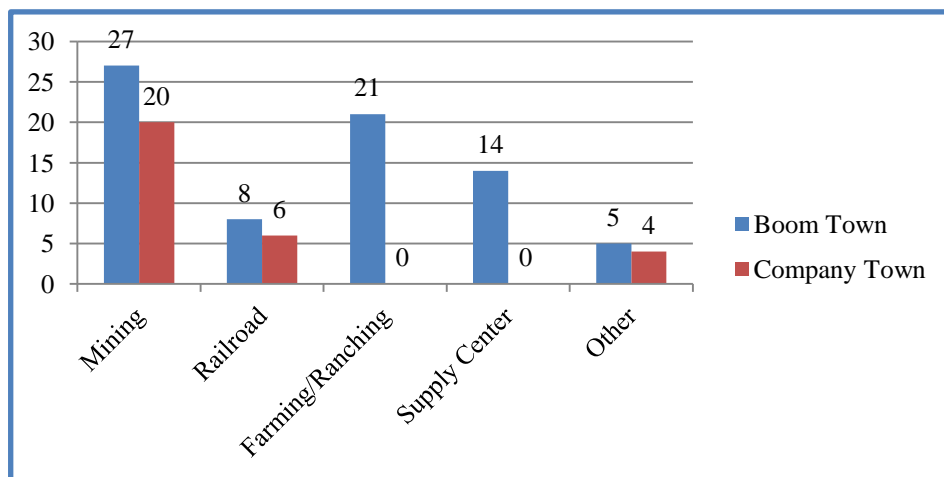
**Figure 4-3. Utah Ghost Town Database: Town Type, Years of Operation, Population in 2009**

towns most of the workforce consisted of unmarried, immigrant miners whose primary interest was making their fortune and returning home instead of settling permanently in the West (i.e., a get rich quick mindset). In addition, the nature of precious metals mining was capricious; there was a lack of investment in most non-company towns by the occupants – miners tended to drift from mine to mine – and there was often unrestrained crime, in part due to commercial districts rife with various vices (saloons, gambling, bordellos) and a general lack of law enforcement. There was also a lack of community planning and organization, with rule by committee more prevalent than any form of centralized government; access to goods and services was often unreliable. Non-company towns also developed quickly and haphazardly with little concern for, or interest in, sustainability.

Twenty-nine percent of the 105 Utah ghost towns were company towns with an average life span of 57.8 years – approximately 1.5 times that of the non-company towns. The greater stability and longevity generally reflects the converse of the non-company town. There was far more preplanning for these communities and a greater investment by the company owners in order to attract and encourage a stable workforce. Goods and services were readily available in company-owned stores and infrastructure was both provided by the company and more reliable. With a few exceptions, there was less crime and vices were either not tolerated or strongly discouraged. Families were encouraged and organized entertainment (theaters, sports) was offered. Of the 105 Utah towns, and given the magnitude of company investment and their intensive involvement

in daily life, company towns were statistically more stable and had longer life spans than non-company towns.

Figure 4-4 depicts the various core industries of the 105 ghost towns. Mining towns make up the largest percentage of both non-company and company towns (45 percent of the total number of towns) and that statistics partially explains the popular myth that all western ghost towns are mining towns. Given the push to complete the Intercontinental railroad across the West during the late 1800s, railroad-associated towns make up 13 percent of the total and non-company towns and company towns are roughly equal in numbers. Although most of the farming and ranching-related towns were established by Mormon colonies (i.e., a primary focus of Mormon settlement), they were neither owned by the Mormon church nor developed in the same planned, organized manner as the mining and railroad towns (i.e., owned and operated by a corporation), therefore none were company towns as defined in this thesis. This town genre makes up 20 percent of the total and encompasses a variety of agricultural and livestock endeavors (farms, orchards, vineyards, cattle, sheep, horses).



**Figure 4-4. Utah Ghost Town Database: Town Industry**

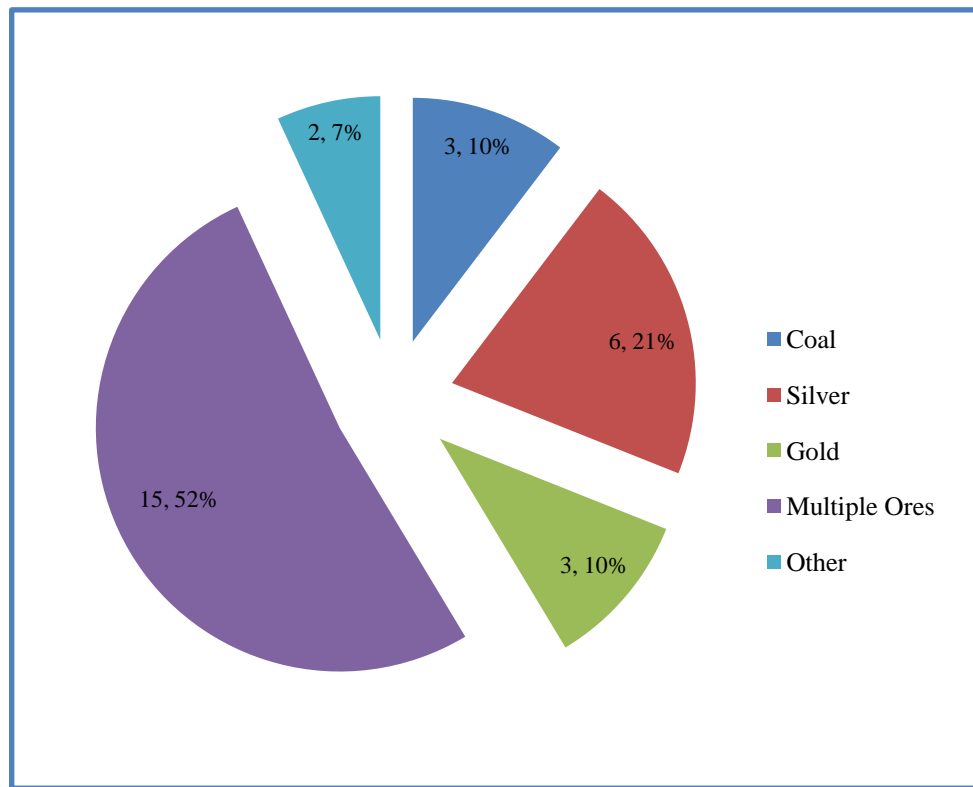
Supply centers include towns that developed along both interstate and intrastate roads and trails to assist travelers with their various needs, including goods, services, and lodging (e.g. the settlements of Brown's Park, Castle Rock, and Emmaville). This group makes up an additional 13 percent of the total and, as with the agricultural centers, there are no company-developed towns. The final group (Other) makes up 9 percent of the total and is made up of unusual or one-of-a-kind community types that

fall outside the other categories. Among these are military outposts (e.g. Ophir, Cove Fort), quarries (e.g. Rockport, Devil's Slide), logging camps (e.g. Black's Fork, Clear Creek), stagecoach stations (e.g. Harper, Castle Rock), an explosives manufacturing plant (Bacchus), a World War II Japanese internment camp (Keetley), and a Polynesian religious settlement (Iosepa).

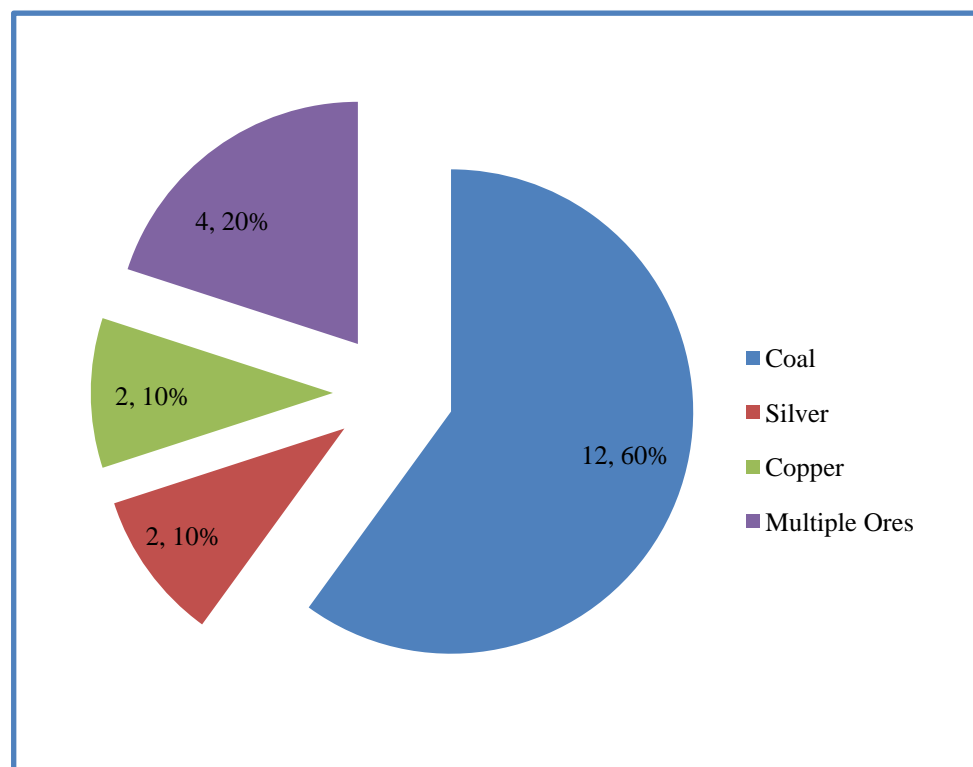
Among the mining towns, the database reveals a range of mineral types. Figures 4-5 and 4-6 reflect the numbers and percentages of various ore types among the mining non-company and company towns. The figures reveal that mining for multiple types of precious metals simultaneously (typically silver, gold, and copper) constitute the largest percentage among the non-company towns (52 percent). Coal mining represents the largest number of company towns, likely due the increase in the demand for this economical fuel during the early part of the 20<sup>th</sup> century and the expense required to mine and move the fuel by railroad.

Within the non-company town group, 7 percent comprise "Other" and includes such endeavors as the mining of aragonite (calcium carbonate) at a settlement named for the mineral (Aragonite) and one settlement established solely as a smelter town to process a variety of ores from surrounding mines (Irontown). Although it is often assumed that the largest number of mining towns in the American west are associated with the extraction of a single ore – usually gold or silver – the dataset from Utah reveals that single-ore extraction efforts make up only 9 percent of the non-company towns and a little more than 10 percent of the company towns.

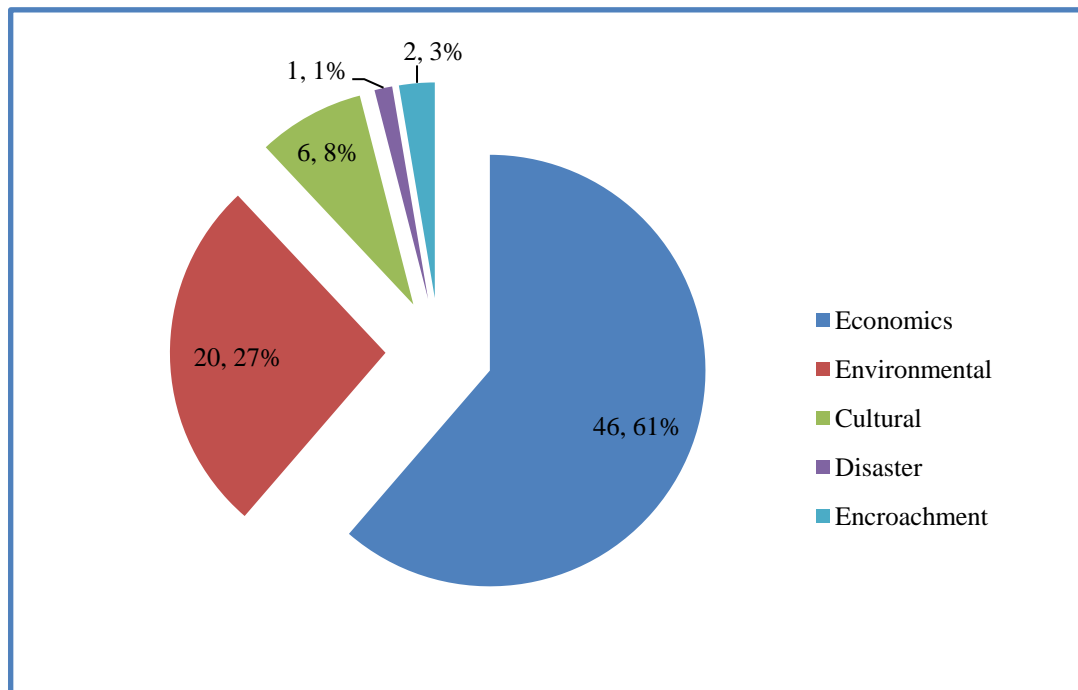
Figures 4-7 and 4-8 represent the reasons found in the various histories and reports for abandonment of each community. By far, the predominant reason given for both non-company (61 percent) and company towns (83 percent) is one or more factors related to economics – e.g. fluctuating prices, ore depletion, escalating production costs. Similar to Figure 4-9, which statistically refutes the perception that *all* ghost towns are mining towns, the data from Figures 4-10 and 4-11 statistically counter the notion that *all* ghost towns were abandoned for economic reasons. When compared to Figures 4-12 and 4-13, the discrepancy in the numbers between the commonly perceived causes for abandonment and the actual cause for abandonment becomes even greater. In the latter set of figures, the more factual causes for abandonment are presented. These are the factors that are rarely advanced in the histories, but under careful scrutiny of the



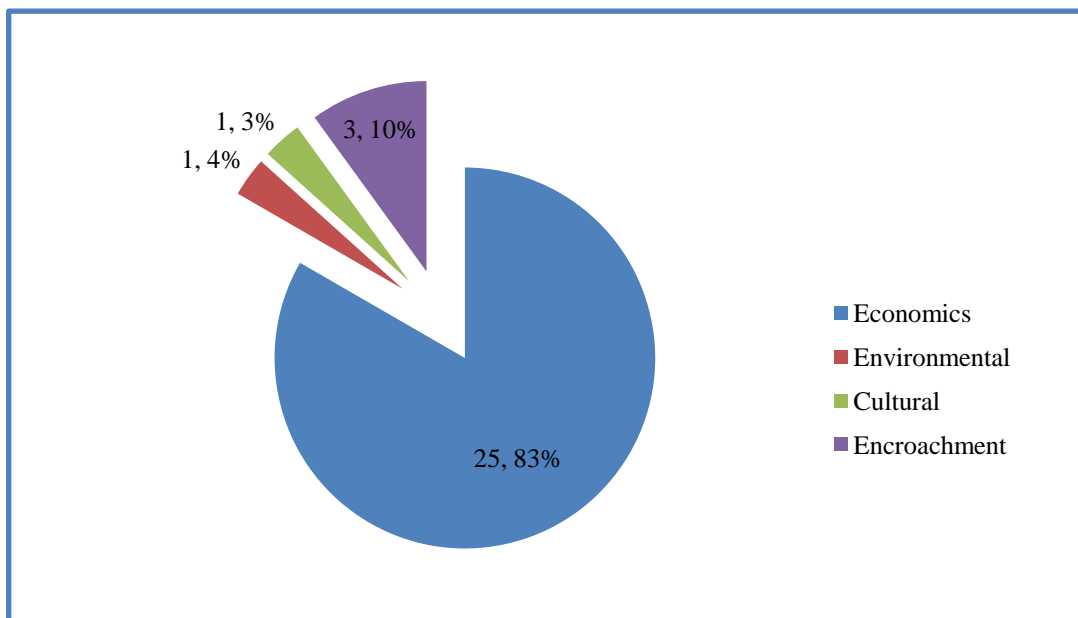
**Figure 4-5. Utah Ghost Town Database: Non-Company Town Mine Types**



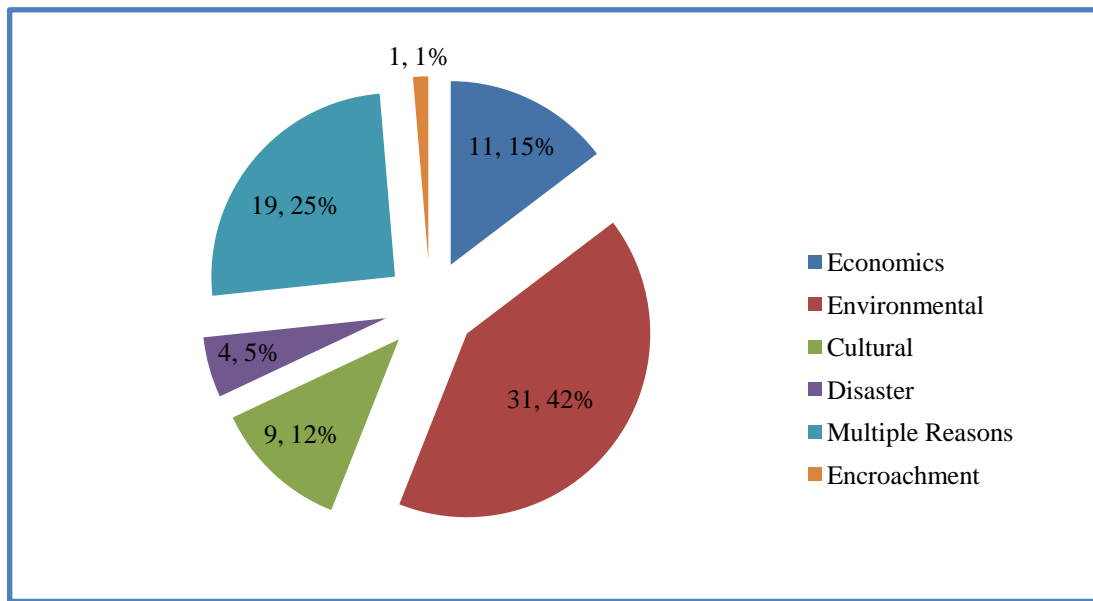
**Figure 4-6. Utah Ghost Town Database: Company Town Mine Types**



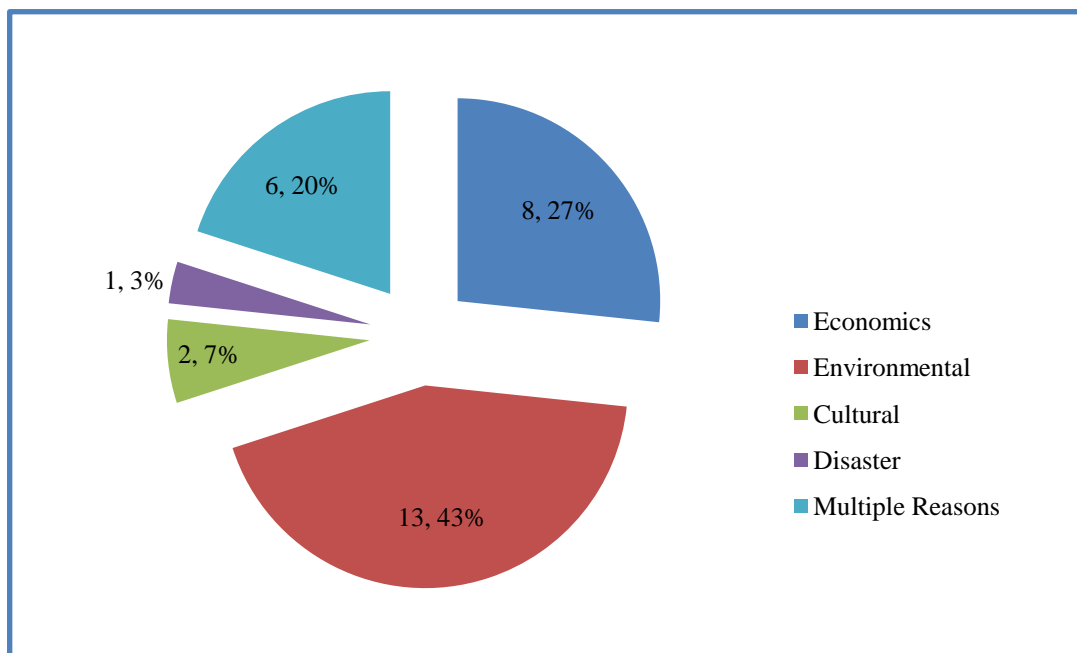
**Figure 4-7. Utah Ghost Town Database: Reasons Noted in the Histories for Non-Company Town Abandonment**



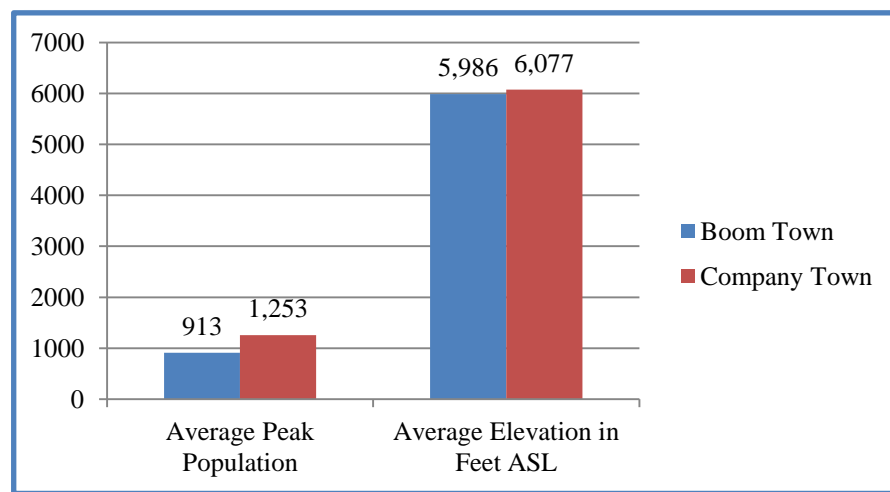
**Figure 4-8. Utah Ghost Town Database: Reasons Noted in the Histories for Company Town Abandonment**



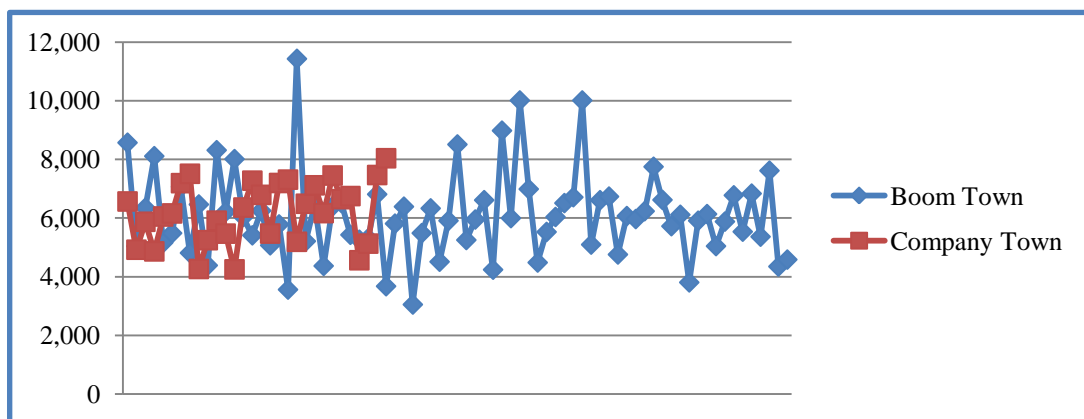
**Figure 4-9. Utah Ghost Town Database: Reasons for Non-Company Town Abandonment as Revealed through this Research**



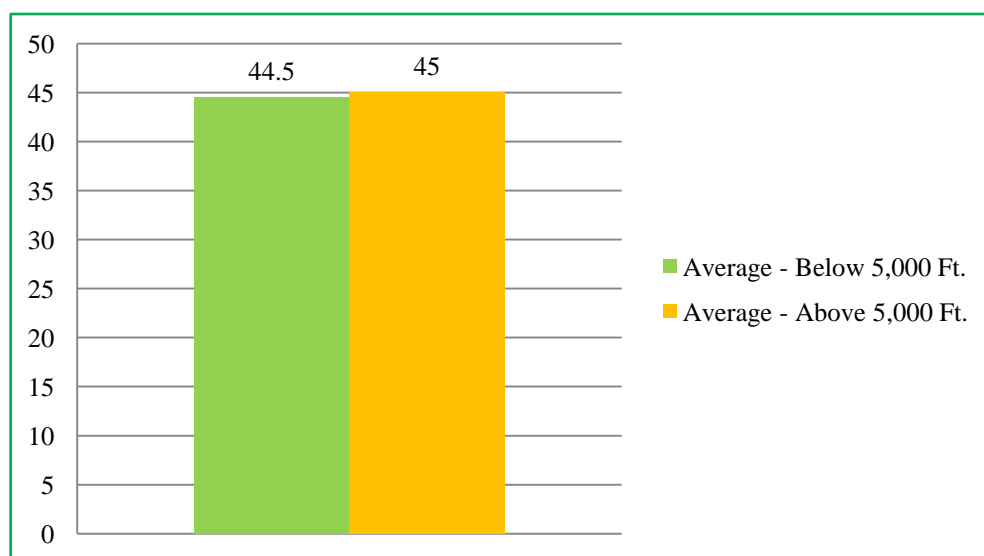
**Figure 4-10. Utah Ghost Town Database: Reasons for Company Town Abandonment as Revealed through this Research**



**Figure 4-11. Utah Ghost Town Database: Average Peak Population and Elevation Above Sea Level (in Feet)**



**Figure 4-12. Utah Ghost Town Database: Elevation of 105 Ghost Towns Above Sea Level (in Feet)**



**Figure 4-13. Utah Ghost Town Database: Average Lifespan in Years by Elevation**



complex community histories emerge as having had a significant effect on a town's decline. With this fresh look, environmental conditions surface as a prominent cause (42 percent for the non-company towns and 43 percent for the company towns), with other critical factors also playing a role. Among these are mine explosions and cave-ins (5 percent for non-company towns, 3 percent for company towns); encroachment (mine expansion), which makes up 1 percent of the directly contributing factors; and cultural issues such as crime, which affected 12 percent of non-company towns and 7 percent of the company towns. It is also clear from analysis of the data that there were often multiple reasons that contributed to abandonment. Some combination of factors contributed to the desertion of 25 percent of the non-company towns and 27 percent of the company towns.

Figures 4-11 through 4-13 reveal interesting results in two additional categories. The first category shows that on average company towns had larger populations than non-company towns (approximately 27 percent higher). This is likely due to the more stable environment of company towns vs. the frenetic environment typically characterizing non-company towns. This may also reflect the percentage of coal mining company towns in Utah, which is an industry that usually requires larger workforces. Even with the associated curbing of personal freedoms, mine workers with families were probably more attracted to company-operated communities where goods, services, and housing were provided.

The second category provides useful and somewhat unexpected information on the relationship between lifespan and elevation – i.e., the question of whether settlements at higher elevations (i.e., those above 5,000 feet – the snow line) – and with much harsher environments) would survive fewer years. Surprisingly, the difficult environmental conditions at the higher elevations (severe cold, wind, deep snow, limited access to goods and services during winter months) had no measurable effect on the longevity of the 105 ghost towns – either as a group or by town type (non-company vs. company) (see Figure 4-13).

As suggested in Research Question Four, compilation of this database proved to be a useful tool. The dataset provided a good opportunity to assess and compare physical, cultural, and environmental characteristics that might not have been recognized through other research methods and offered some interesting and

unanticipated results. Given the thousands of under-investigated ghost towns located across the West, the value of the exercise for assessing larger ghost town datasets cannot be over stated.

## **CHAPTER FIVE: ARTIFACT DESCRIPTION AND ANALYSIS**

This chapter discusses the artifactual record from the case study sites and assesses their ability to contribute to our understanding of them. The artifacts are examined in a number of ways, including as markers of social status or wealth; the various occupations of the residents; and any indicators of individual habits and preferences. This chapter also points out differences and commonalities among the three assemblages and what the artifacts do, or do not, reveal about the abandonment process (Research Question One). Following Stevenson's research at gold rush towns in the Yukon (1982: 237-265), the integrity and spatial relationship of the artifacts are also discussed so as to assess differences in discard behavior (to the extent possible), as well as how the condition of the remains in the modern landscape can affect site interpretation (Research Question Two).

In a broader sense, describing and illustrating the artifacts and their relationship to the various loci and features offers a way to better visualize aspects related to the lifeways of late 19<sup>th</sup>- century – early 20<sup>th</sup>-century western mining towns. To complement the text, historic photographs of features within the various loci are provided as available.

### **5.1 ARTIFACT CATALOGUE**

The artifact catalogue was created in Microsoft Access; a sample catalogue page from each of the case study site collections is provided in Appendix F. Input of the data was accomplished using a format established by the Society for Historical Archaeology and Sonoma State University, known as the Sonoma Historic Artifact Research Database (SHARD), which is generally based on Stanley South's form and functional classifications first proposed in 1960 and later refined (South 1977: 92-96). The format has been employed successfully by many western archaeologists (Gibson 2010; Praetzellis and Praetzellis 1997 and 2004; Hamilton 2004). Although there are invariably artifacts that do not fit neatly into a specific form or function, SHARD

provides a reasonably consistent system for cataloguing artifacts from mid-19<sup>th</sup>- to early 20<sup>th</sup>-century archaeological sites in the western United States. Using the SHARD format, artifacts from the three case studies have been classified as shown in Table 5-1.

To keep charts and tables in this chapter manageable and because total artifact counts would be misleading in this context, the Minimum Number of Individuals (MNI) and Minimum Number of Vessels (MNV)] is used. For the MNV, counts were made using the guidance offered by Voss and Allen (2010). For example, the MNV for ceramics and bottles involved counting the different maker's marks and/or characteristic vessel body parts (e.g. rim sherds, bottle shoulders, bases). Although extensive effort was expended in this regard, it should be noted that, with rare exception, bottle fragments and ceramic sherds were usually too small or had insufficient marks to confirm specific patterns or makers (Brauner 2000: 406).

## **5.2 WHAT THEY TOOK – WHAT THEY LEFT**

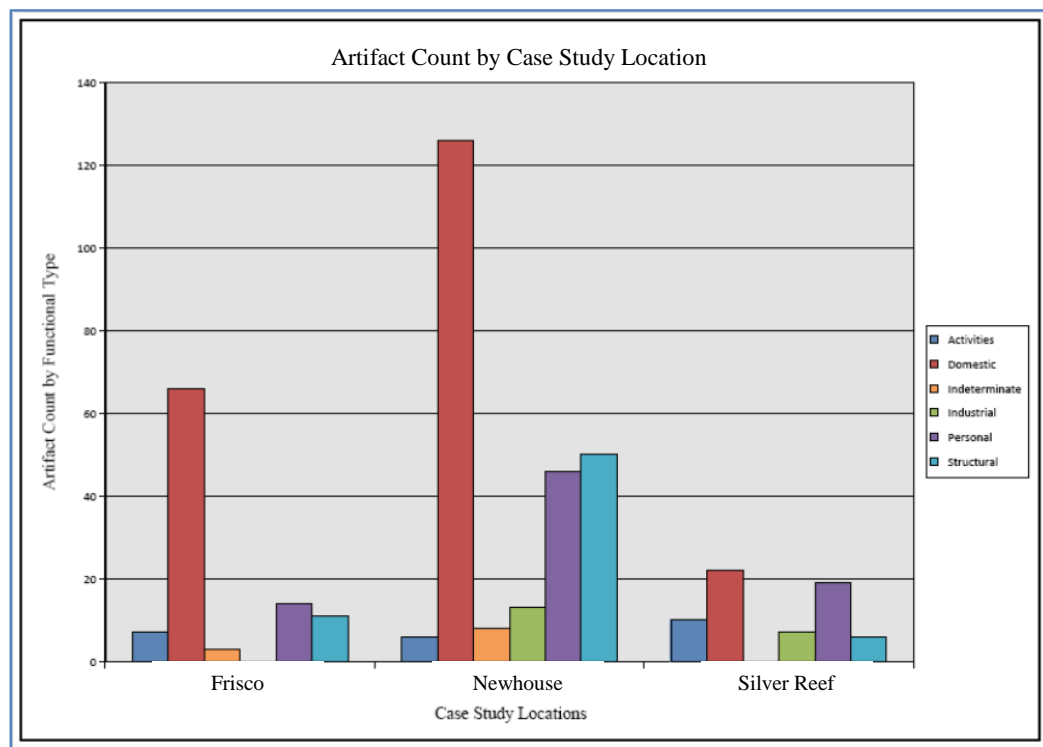
Figure 5-1 shows that the functional classes, and in turn the artifact category and type, at all three sites are dominated by domestic items – primarily food preparation/food consumption/food storage. Even with the skewing at Silver Reef (i.e., a museum collection vs. in situ artifacts), there is a preponderance of this artifact class. Domestic items, or remnants thereof, illustrate the focus, size, and characteristics of the three populations and are representative of what is described in the historical records. Within the mining ghost town context, high numbers of this functional type remain in the landscape for several reasons. Among these are that empty metal containers (e.g. tin food cans, which make up a large percentage of the artifacts) are simply refuse and degrade slowly in the dry Utah environment. These items have no reuse value and, in a pre-recycling era, there would be no rationale for transporting them to a new location. Tableware (plates, cups, glasses) is fragile and less likely to survive either the rugged environment and conditions or a move. If broken, an item was usually discarded nearby – sometimes in a privy – or within a communal refuse area, such as Tin Can Alley at Newhouse (see Figure 5-7) or the Grampian refuse deposit at Frisco. During this period in the West, modern concepts of sanitation were poorly understood and refuse was not often buried, contained, or burned; rather it was simply discarded at the most convenient location.

**Table 5-1. Case Study Artifacts by Functional Classification**

<b>Functional Group</b>	<b>General Category</b>	<b>Artifact Types</b>
activity	ammunition and firearms	cartridges and casings, hand guns and rifles
	decorative items	bottle caps used as decoration on fencing and rails, leather strap (possibly part of saddle), metal boot spur
	hardware	padlocks, keys, rasps (horse hoof files)
	writing	metal pencil socket
domestic	clothing maintenance	cast iron clothing fluter, clothespins, flat irons, laundry wash tubs
	food	cut bone (cow/sheep), oyster shells
	food/food storage	barrels and hoops; bottles, bottle stoppers, and caps (e.g. ketchup, Tabasco); buckets and pails (food and water); cans and can lids (e.g. sardine, oyster, milk, fruits and vegetables); jars, lids, and porcelain liners (ball/mason-type), water pitchers (glass and ceramic)
	food prep/consumption	tea kettles and coffee pots, drinking glasses, porcelain and ironstone tableware (cups, plates, saucers, bowls, serving dishes), pots and pans (sauce pans, iron skillets, cake pans)
	furnishings	bed frames, springs, mattresses, clockworks, decorative items (vases, bowls, flower pots), drawer and/or cabinet pulls, stove and heater parts
	hardware	buggy grips; lamp and lantern parts, chimneys, and light bulbs; metal drains and sink stoppers; telephone/telegraph insulators
	fasteners	railroad spikes
industrial	hardware	carbide lamp parts, fly spray can, fuel can (kerosene), oil can, machinery gears
	materials	woven cotton machinery belts with iron fasteners, sheep shearing combs and brushes
	miscellaneous	assay crucibles; blasting cap container; metal gauge; retorting mold, pot, and ladle; strong box
	transportation	railroad ties

**Table 5-1. Case Study Artifacts by Functional Classification**

<b>Functional Group</b>	<b>General Category</b>	<b>Artifact Types</b>
personal	clothing	bolo tie and slide, cameo and pearl brooch, footwear (men's and women's leather soles and uppers)
	Fasteners	Buttons, buckles, and clasps; Safety pins
	grooming	hair combs, perfume bottles, shaving mugs, talcum powder cans, wash basins (metal and ceramic), mouth and tooth care products
	health	medicine bottles (patent/proprietary, bitters)
	miscellaneous	coins, including Chinese scrip
	social drugs/alcohol	ceramic and glass bottles, crocks, flask, jars, jugs
	social drugs/tobacco	pipe parts, tobacco tins and tags
	toys and games	bone dice, porcelain dolls, doll parts, miniature tea sets and gardening tools
structural	construction	[possible] concrete baptismal font; door lock boxes, latches, and knobs; fencing, barbed wire and attachments; hinges; milled lumber; metal springs; nails and bolts; window frames, glass, and screen; tie-downs; brick; stucco and wire mesh; stone
	pipe	clay, metal, and concrete water pipe
indeterminate	miscellaneous	amorphous glass (melted), broken machinery parts, sheet metal of unconfirmed purpose, metal discs of undetermined origin used decoratively on fencing



**Figure 5-1. Artifact Count by Function at the Three Case Study Locations**

Activity and personal items (grooming, toys, games, equestrian items, clothing) are the types of artifacts that validate home, health, and lifeways. This artifact type usually follows the owner even if broken or damaged and comprises largely items that would have sentimental value or be costly to replace (e.g., jewelry, hair combs, decorative glassware, keepsakes). The small number of these types of artifacts found at the case study sites are believed to be lost items, rather than purposeful discard.

Of the functional categories shown in Figure 5-1, industrial items include hand tools, small equipment (e.g. sheep shearing combs/brushes, portable generator parts and woven belts), and other items that facilitate individual crafts, hobbies, and professions. Items of this type are rarely found within this context and when they are, they are broken or damaged beyond use. Usable trade tools would be both costly to replace and essential to an individual's livelihood at the new location.

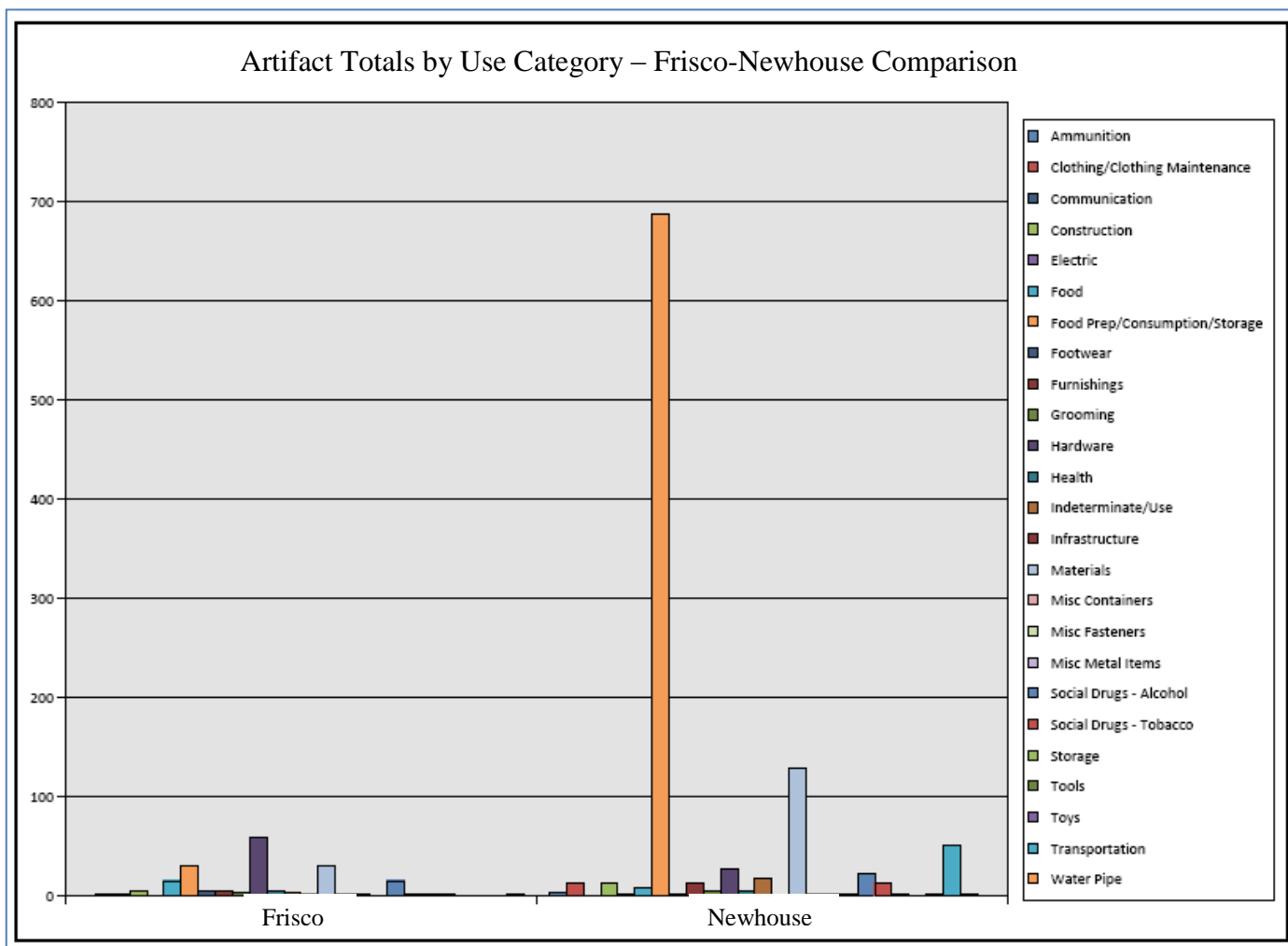
The structural items reflected in Figure 5-1 consist primarily of various types of construction debris (brick, stucco, stone, sheet metal, wood). All three sites had buildings made of these materials. There was, however, a greater number of permanent-type buildings completed at Newhouse compared to Frisco and Silver Reef because of the company town component. The rubble remains from those Newhouse



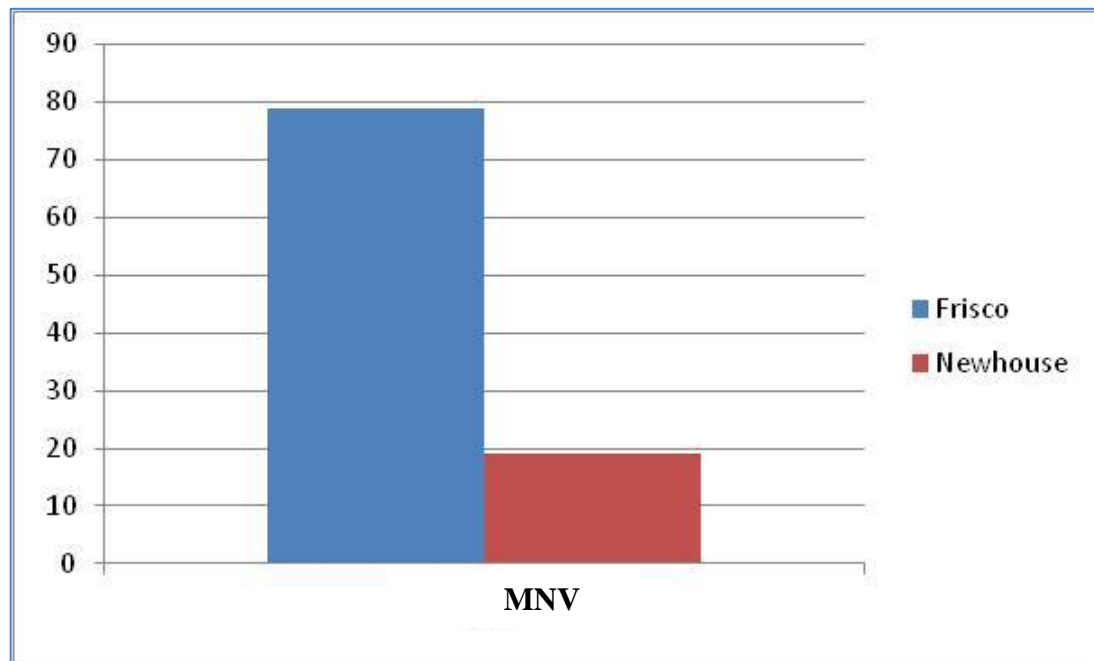
buildings is what is reflected in Figure 5-1. As noted in Chapter Three, most of the structures at all three case study sites were salvaged either by deconstruction and reconstruction at another location; by salvage of the materials for reuse in new construction elsewhere; or by wholly moving the property via horse and wagon (e.g. the Newhouse depot, which is now the Wintch Ranch headquarters) (see Figures 3-18 and 3-25). That, and the devastating fires at both Frisco and Silver Reef, affected the quantity and integrity of structural remains at all three sites.

In comparing Frisco and Newhouse at the category level, domestic items representing food preparation, consumption, and storage overwhelmingly dominate the Newhouse assemblage, largely in the form of tableware sherds (decorated and undecorated ceramics) and glass fragments (bottles, drinking glasses, jars) (Figure 5-2). At Frisco, this class of artifact is secondary to personal items, however, and a direct result of higher numbers of alcohol and medicine bottle fragments and tobacco tins (Puckett 2010). Tobacco tins are common at Newhouse as well, but, as shown by the histories and noted previously, alcohol was strongly discouraged by the town's owner [Samuel Newhouse], and company enforcement of that rule is reflected in the artifact assemblages (Figure 5-3). Frisco's preponderance of hardware items is a reflection of dense deposits of fencing material (posts, fencing wire, and barbed wire), remnants of mining equipment, and hand-wrought nails. Nails remain in sites long after the wood buildings that they once held together and, unless in pristine condition, are not an item of desire for looters. Except for the circular Newhouse park and the sheep shearing pens, there was no fencing noted.

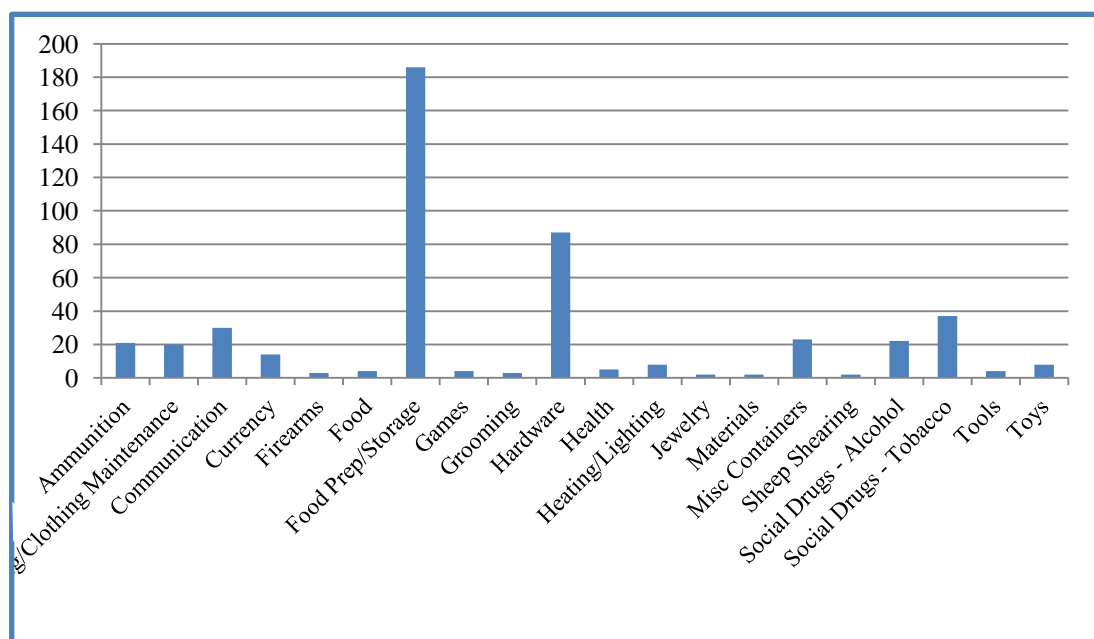
Figure 5-4 illustrates the character of the artifacts recorded at the Silver Reef Museum. Although these items were not recorded within the Silver Reef landscape their nature and numbers are very similar to that of Frisco and Newhouse and the value of the collection – much of which consists of complete items – for artifact identification and comparison cannot be overstated. The collection supports the Silver Reef history and chronology and there is overlap with Frisco and Newhouse at the artifact type level (e.g. miniatures, hand wrought nails, ceramic patterns, medicine bottles). There are also several artifact types found within the Silver Reef collection that were not found at either of the two other case study sites. Most notably this includes jewelry (Figure 5-5) bullion molds, retorting equipment; currency Chinese scrip (Figure 5-6); firearms; and



**Figure 5-2. Artifact Total Count by Use Category – Frisco-Newhouse Comparison**



**Figure 5-3. Comparison of Alcohol-Related Artifacts at Frisco and Newhouse**



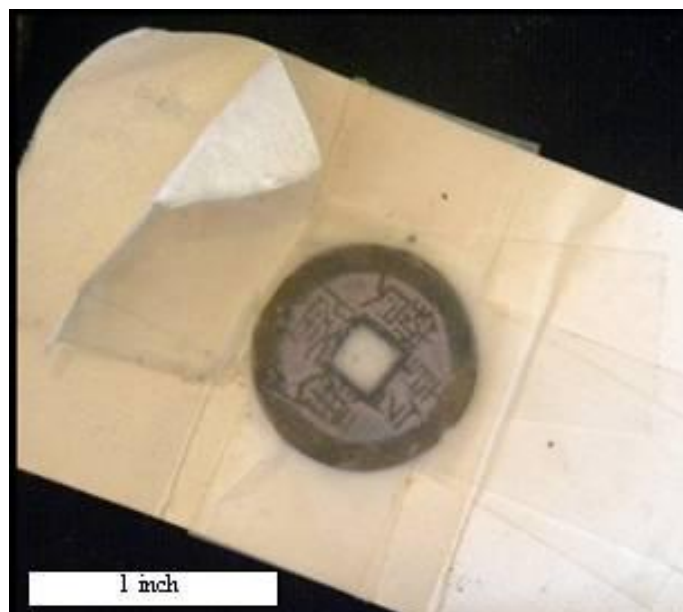
**Figure 5-4. Artifact Count by Use Category – Silver Reef**



**Figure 5-5. Cameo Lapel Pin – Silver Reef Museum Collection**

There were no jewelry items found at either Frisco or Newhouse. The cameo in this collection indicates that its owner was probably an individual of some prominence in the community – perhaps the owner of the Cosmopolitan Restaurant (Margaret Grambs), or the Silver Reef school teacher.

(Photograph by Author, June 2009)



**Figure 5-6. Chinese Scrip – Silver Reef Museum Collection**

The die cut center differentiates normal Chinese coins from Chinese scrip. Silver Reef had a large Chinese population that operated drug stores, laundries, and pig farms.

(Photograph by Author, June 2009)

tobacco tags. Except for the retorting items (retorting was conducted only at Silver Reef), these item types were most certainly present at Frisco and Newhouse, but were either taken at the time of abandonment or, as prized collectibles, removed during the intervening decades of unauthorized artifact collection. For example, unconfirmed information indicates that an intact, functional Colt 45-caliber handgun was removed from Newhouse by a private collector in the 1980s.

### **5.3 ARTIFACT ANALYSIS BY CASE STUDY**

This section discusses the artifacts and features found at Newhouse (ten surveyed loci), Frisco (four surveyed loci), and within the holdings of the Silver Reef Museum. Given the strongly historical nature of the research, the content, style, and format of the section is similar to that used by Berge 1980 and Dixon 2002. Field sketches from the Newhouse and Frisco field work and additional photographs of the artifacts are provided in Appendix G. A listing of artifacts found during the research is found in Appendix F along with the sample artifact catalog pages.

#### **5.3.1 Newhouse**

Locations of the key features as they exist on the Newhouse landscape in 2012 and the 10 loci described in this section are shown on Figure 5-7.

#### **Previous Studies**

There have been two professional archaeological investigations in the Newhouse area. The first was a survey of the town site conducted in 1980 for the siting of a U.S. military defensive system. A Utah Antiquities Site Form (HDR, Inc. 1980) (Appendix H) was completed for the survey that includes a rough site sketch, a brief list of artifacts (not collected) noted on the site (nails, broken glass and ceramics, railroad spikes), and several low resolution photographs. The whereabouts of the full survey report is unknown, but there are third generation black and white photographs and a description of the surveyed area in the site record.

The second investigation was conducted in April 2010 as part of the Carbonate Gulch Abandoned Mine Reclamation Project (Bassett 2010). The survey focused on the Cactus Mine adit area, which is approximately 1.5 miles west of the Newhouse town center; the town site itself was not investigated. Features and artifacts noted during the





**Figure 5-7. Newhouse, Utah, Ten Surveyed Loci**  
Base Image Source Google Earth, USDA Farm Service Agency 2011

survey included the open adit, a machine mount, part of the Newhouse water line, remnants of the narrow gauge railroad that carried ore cars to and from the adit, and the rubble of what was interpreted to be a “salvaged residence” (Bassett 2010: Part A). Artifacts that were noted, but not collected, are representative of what is typical within this industrial context and include railroad spikes, rail, and ties; barrel hoops, steel pipe, wire nails, and various types of broken glass.

### **Site and Locus Descriptions**

Although it was a thriving mining town between 1900 and 1914, all that remains of Newhouse in 2012 are the shells of a few residential and commercial buildings, the ruins of several large industrial and commercial features, a network of interconnecting dirt roads that crisscrosses the site, and a gently sloping desert landscape scattered with historical artifacts. Prominent among these are tin cans of various types (tobacco, food, industrial), thousands of broken glass shards and ceramic sherds and hundreds of metal barrel hoops (Figure 5-8). Evidence of looting is noted across the entire town site. Because it is located approximately 2 miles north of Highway 21 and very difficult to see within the terrain, Newhouse has been spared the severe looting damage perpetrated on Frisco. Unauthorized artifact collection is still significant, however, and, with the exception of a slightly damaged bronze padlock and an intact Lea and Perrin’s glass bottle stopper, there were no whole artifacts noted during the field work.

Given the nature of the terrain and soils at Newhouse (shallow slope along a dry lakebed margin) and the small number of years it was active, artifacts are found on, or within 1-2 inches of the surface. The only exception would be privies and builders trenches around the few remaining foundations, all of which have been heavily disturbed by unauthorized artifact collectors.

Adjacent to the mill and town site are the ruins of the sheep shearing operation (Figure 5-9) that coexisted with Newhouse between 1898 and 1928 (Daughters of Utah Pioneers of Beaver County 1948: 302; Tripp 2000), and remains of the Cactus Mine glory hole, tunnel, and charcoal kiln (Figures 5-10 and 5-11).





**Figure 5-8. Metal Barrel Hoops**

North Newhouse north of Locus 10. View to East. These metal barrel hoops are found scattered across North Newhouse; very few are found in the company town area. The remains of the rock house (Locus 9) are seen in the image distance.

(Photograph by Author, April 2008)



**Figure 5-9. Remains of the Sheep Shearing Pens**

View to east. The partial letter “N” for Newhouse remains on a portion of the corrugated metal sign that once indicated the location of the sheep shearing operation. Artifacts associated with this location include sheep shearing combs, baling and barbed wire, and structural remains of the shearing pens.

(Photograph by Author, April 2008)





**Figure 5-10. The Cactus Mine Tunnel (west entrance)**

This photograph shows remnants of the narrow gauge track that supported the electric cars that hauled the copper ore. The tunnel was flooded at the time of the field work and no artifacts were visible.

(Photograph by Author, April 2008)



**Figure 5-11. Cactus Mine Charcoal (Beehive) Kiln**

View to northwest. This kiln was used to make charcoal for the small smelter built for the Cactus mine around 1898. After taking over the Cactus mine in 1900, Samuel Newhouse opted to send ore concentrates to a smelter in Salt Lake City. The random rubble stone construction of this kiln is representative of charcoal kilns constructed at mining sites across Utah between the 1870s and 1920s. (Egleston 1880; Reno 1996; Wray 2006).

(Photograph by Author, April 2008)

**Newhouse Locus 1 (NH1): Bank.** The Newhouse bank was financially and physically a central feature of the Newhouse landscape. It was situated at the intersection of several crisscrossing dirt roads near the town center and across the “street” from the park and train depot (see Figure 5-7). The most noteworthy feature at NH1 is the bank vault. It is one of the very few above ground features remaining at Newhouse and probably only remains because of the effort that would have been required to demolish or remove it (Figure 5-12). Had the vault not survived, identifying this locus as the bank would have been very difficult. Its south façade is shown in one historic photograph (Figure 5-13), but it is not otherwise described in the historical records and, unfortunately, the artifact assemblage is not indicative of its function. A crumbling foundation and partial wall that supported the attached bank offices, post office, company store, and a dining room used by residents of the adjacent Cactus Inn also remains. Atypical of either Frisco or Newhouse, this building also has a below ground chamber at the northeast corner – perhaps storage for bank or post office valuables or food storage for the dining room (see field sketches, Appendix G).



**Figure 5-12. Locus NH1 Bank Building**

View to North. The multipurpose bank building also housed a post office and dining facility for the adjacent Cactus Inn. The vault in the photograph center is approximately 5 feet square with approximately 14 inch thick walls. The dimensions of the entire building are 120 feet north/south and 52 feet east/west.

(Photograph by Author, June 2009)



**Figure 5-13. Locus NH1 Bank Building 1908**

View to northeast. The bank building is on the far side of the circular Newhouse park (large plate glass windows) and just southwest of the Cactus Inn. The large concentrator building and its tall power plant stack are seen in the image background. The low wing on the west side of the bank building was the Newhouse Post Office. (Utah State Archives)

The artifacts at NH1 are both sparse and limited in type: 75 percent of the artifacts are construction materials – brick, stucco, and wire mesh lattice, which was the stucco binding subsurface. The assemblage also contains broken window glass (approximately 200 shards), hand cut and wire nails (47), three ceramic sherds (Figure 5-14) (three different patterns each too small to identify), and a light scatter of tin food cans (35), most of which are more indicative of the building's ancillary functions rather than a bank. Artifacts diagnostic of a bank were likely removed during abandonment and any recyclable elements (e.g. windows and frames, steel vault doors, furnishings, roofing materials) would have been either transported for reuse or sold at auction in the 1910s. In addition, the location of the bank is both easily accessible by road within the site (see Figures 2-32 and 5-7) and, considering the obvious purpose of the vault, enticing to collectors – particularly those using metal detectors to locate coins (none of which were found during the current survey). Given the degree of disturbance across Newhouse, the artifacts found within this locus may also represent transfer from adjacent properties (e.g. the Cactus Inn).





**Figure 5-14. Locus NH1 Bank Building Blue Floral Porcelain Sherd**

This ceramic fragment is one of three different patterns found at NH1. The tableware was likely used in the Cactus Inn diner (ca. early 1900s), which was an ancillary function of the Newhouse bank building.

(Photographs by Author, June 2009)

A useful comparison between the banks at Newhouse and the other two case study locations could not be made. The bank at Frisco was situated somewhere within the first block of Main Street, south of Cedar Avenue; however, the extensive disturbance to this area from disassembly during abandonment and decades of looting precluded determining its exact location and reconnaissance-level survey did not reveal either a bank vault or any other bank-associated artifacts. Two historic photographs of the Frisco bank (one exterior, one interior) reveal that its design was completely dissimilar to the bank at either Newhouse or the two banks at Silver Reef; however, even in such a remote location, the interior image is reflective of the extraordinary wealth that the Horn Silver Mine produced.

As noted in Chapter Three, there were two banks at Silver Reef – the Rice Bank and the Wells Fargo and Company Express Building. The two banks are still standing as of 2012 and the only two remaining buildings from Silver Reef's historic period (Smith 1968). Both buildings have suffered interior modifications. The Rice Bank was converted to a home and the Wells Fargo building houses the Silver Reef Museum and gift shop (see Figures 3-48, 5-15, and 5-87). The vault of the Wells Fargo



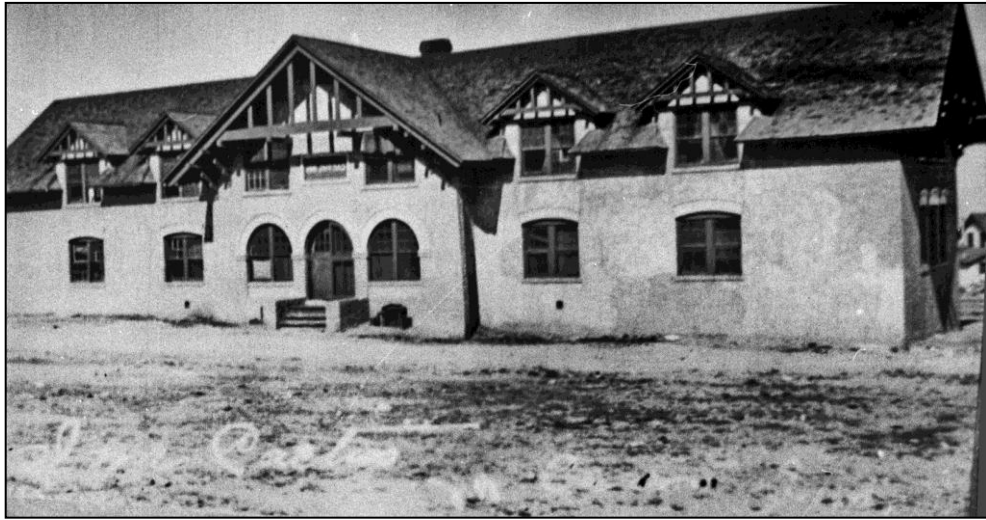
**Figure 5-15. Silver Reef Bank Buildings**

Former John H. Rice Bank (left), Former Wells Fargo and Express Company (right)  
(Photographs by Author, June 2009)

building has been preserved within one of the interior rooms, although there are no other bank-related materials among the collection from either bank.

**Newhouse Locus 2 (NH2). Cactus Inn.** NH2, a boarding house for single miners, is adjacent to, and northwest of, the bank (see Figure 5-7). Historic photographs of the building reveal the same construction and architectural style seen in the other commercial buildings and dwellings within the Newhouse company town area (Figures 5-16 and 5-17).

This locus encompasses a large depression containing, and surrounded by, scattered construction rubble where the large building once stood. While there is no indication in the historical record that this building was wholly relocated, the condition of the locus is similar to several other former building sites where the structures were moved, but no footings or standing foundation walls remain in the modern landscape (e.g. the dwellings and the train depot). Construction remains at the Cactus Inn are very similar to the bank locus and consist primarily of broken bricks from the former foundation, hand wrought and wire nails, stucco siding and wire mesh (the substrate for stucco), milled lumber, and broken window glass. Domestic and personal artifacts include 49 food and tobacco tins, milk bottle glass (1 MNV), six small ceramic sherds (three different patterns), one small galvanized water bucket, one large galvanized washtub, the leather upper of a man's work boot, one man's shirt collar stud, and a 38-caliber Smith & Wesson bullet casing. There is also a light scatter of small oyster shells (4 fragments) (Figure 5-18).



**Figure 5-16: Cactus Inn 1908**  
View to Southwest – Primary Façade.  
(Utah State Archives)



**Figure 5-17. Locus NH2 Cactus Inn**  
View to northwest. Southeast corner survey marker in image center.  
(Photograph by Author, June 2009)





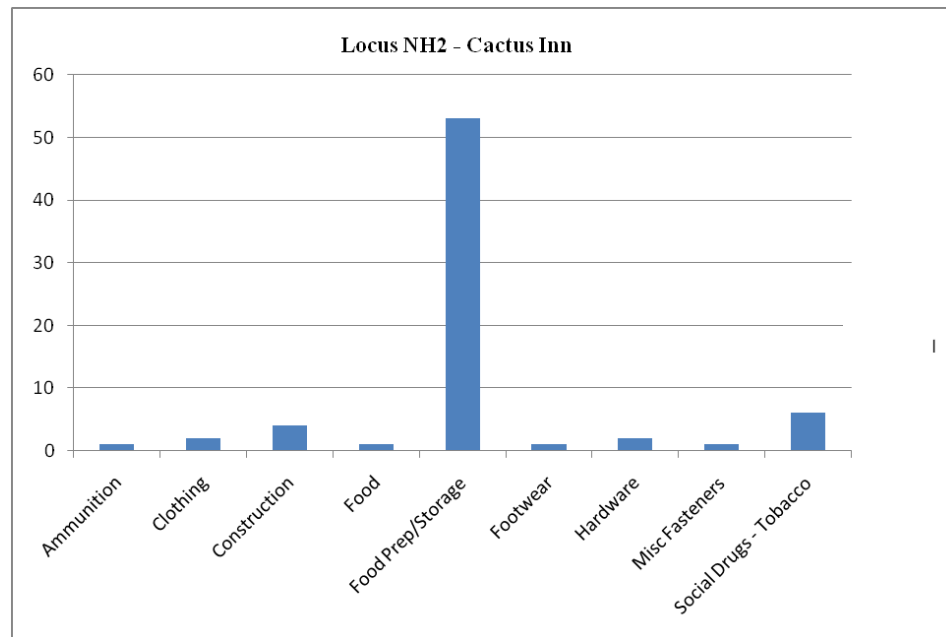
**Figure 5-18. Locus NH2 Cactus Inn Oyster Shell**

Atlantic oyster shells, which are smaller than Pacific oyster shells, would have been a delicacy at Newhouse. They are undoubtedly found in the assemblage (in several loci) as a the result of Samuel Newhouse's extraordinary wealth in the early years of the town and his penchant for entertainment and extravagance. The oysters were transported from the East Coast to Newhouse by rail – the last few miles in Newhouse's personal train cars.

(Photographs by Author, June 2009)

The artifacts are generally consistent with single-miner boarding houses (tobacco tins, bullet casings, man's work boot), but the decorated ceramics and food cans may also represent transfer from bank building's dining room or the family housing area nearby. Alcohol bottles or bottle fragments, which are usually found in the mining town context (Toulouse 1970: 60) were not present at this locus.

Figure 5-19 reveals the functional categories for the artifact assemblage at NH2. The high number of food preparation and storage items is a result of the numerous tin cans, ceramic sherds, and non-alcohol bottle glass fragments. There were no single-miner boarding houses similar to the Cactus Inn identified at either Frisco or Silver Reef, although there is a high probability that they existed. Given its mundane purpose, it is not uncharacteristic to find the histories silent on the subject. Remains of a similar nature were identified in North Newhouse and are described as NH8. A multi-level building consistent with a boarding house is also seen in North Newhouse Figure 3-13 (far right center); however, the relationship between the NH8 remains and the photograph are tenuous.



**Figure 5-19. Locus NH2 Cactus Inn Artifact Count by Use Category (MNI/MNV)**

**Newhouse Locus 3 (NH3). Train Depot.** The train depot was a key feature at Newhouse. Because of the community's extreme isolation, it was the primary point of ingress and egress for visitors and residents, including American and European dignitaries and financial backers of the mine. It was also the location for the on- and off-loading of supplies and industrial equipment.

The depot was situated near the town center and was an element of the company-constructed area of Newhouse, which included the railroad line that was extended from Frisco (see Figures 3-12 and 3-33). The building itself was situated on an elevated platform that also included a separate restroom (privy pit type) adjacent to the south. A historic view of the depot taken in 1908 is shown in Figure 3-18 and also shows the restroom. This locus was located by using the historic photographs that show a set of stone steps leading from the rear of the depot to the various community facilities (e.g. the Cactus Café, the Opera House, circular town park). Remnants of the stone steps are still in place and shown on Figure 5-20 and in Appendix G. Similar to the Cactus Inn, the building was removed from its foundation leaving a large depression; there are no footings or rigid foundation walls remaining, although there are two large cylindrical poles (18-inch diameter) embedded near the steps that may have been wall supports.



**Figure 5-20. NH3, Newhouse Train Depot**

View to Southeast. The photograph shows the elevated platform for the depot and restroom/privy area, the dense can scatter downslope from the depot, and remnants of the stone steps leading to the town center (arrow). The dirt road that leads to Highway 21 is in the foreground.

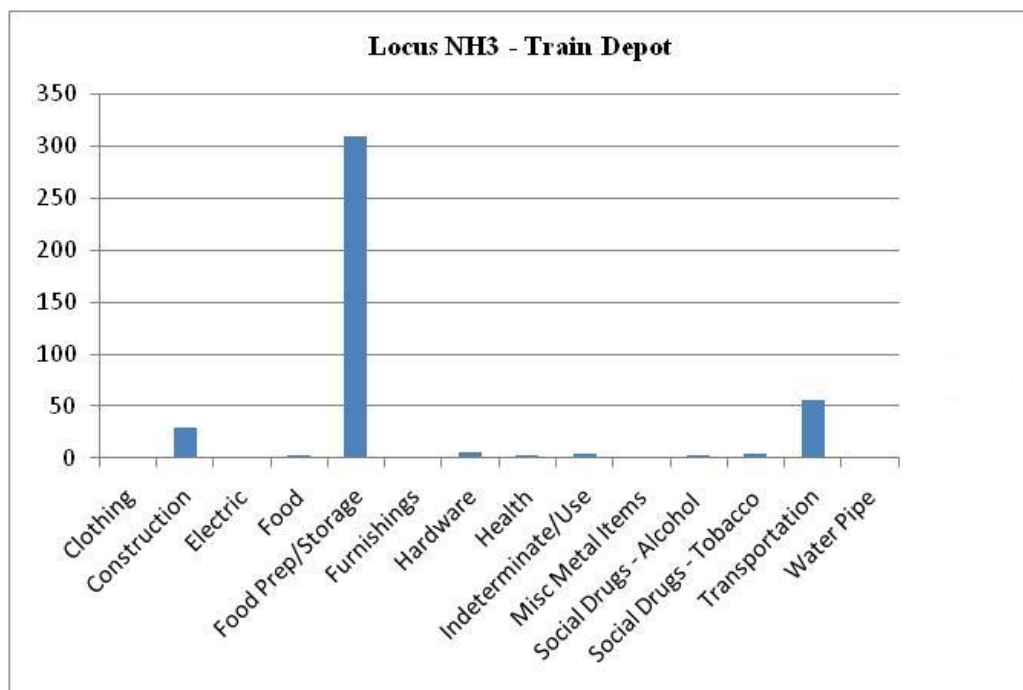
(Photograph by Author, June 2009)

The restroom, which was of wood frame construction, was removed as well and the materials probably salvaged; it is not likely that this small building was relocated, but the wood and plumbing elements would have been valuable materials. Unlike the Cactus Inn, the histories clearly confirm that the depot was relocated in 1931 and not torn down for salvage (see Chapter Three). The railroad track and most of the railroad bed's ties were removed by the Union Pacific Railroad Company in 1921 for use in constructing other trackage. The depot was the last building to be removed from the Newhouse landscape. Why this one building remained and was not either moved earlier or salvaged for its materials when the track was removed is not clear.

Specific artifacts associated with the Newhouse train depot are listed in Table 5-2 and the MNI/MNV by use category is reflected in Figure 5-21. Prominent features include a remnant of the railroad bed adjacent to the platform; the deep depressions where the depot and separate restroom once stood; the rock stairs; and a large and dense scatter of tin containers (mostly food, tobacco, and fuel), and other industrial and household items down slope from the platform.

**Table 5-2. Locus NH3, Depot Artifacts**

<b>Artifact Description</b>	<b>MNI/MNV</b>
Bottle glass (alcohol, condiment, medicine)	10
Ceramic and metal water pipes	2
Ceramic tableware fragments (unidentifiable patterns and purposes)	7
Electrical switches and gauges	2
Enamelware kitchen-type sink or stove top	1
Food and tobacco tins	300
Foundation brick (70 fragments)	30
Heavy iron grate and latch (probably train-related)	1
Gauge (liquid petroleum gas gauge)	1
Lamp globe (opaque glass)	1
Metal barrel hoops	3
Metal clasp used to secure the strap on a train engineer's overalls	1
Metal container for fly spray	1
Oyster shell	2
Porcelain doorknob	1
Railroad spikes	6
Railroad ties	50
Windows/glass shards (50 shards)	6

**Figure 5-21. Locus NH3 Newhouse Train Depot Artifact Count by Use Category (MNI/MNV)**

Many of the artifacts found at NH3 are domestic in nature. The Newhouse depot and platform was also a place for social gatherings and celebratory events (e.g. welcoming parties for newlyweds and visiting dignitaries) and that is reflected by the condiment and alcohol bottle fragments, the large number of tin cans, the ceramic tableware sherds (both decorated and plain), the oyster shells, and the enamelware sink/stove top that was likely installed in the Station Master's living quarters (Figures 5-22 and 5-23).

Fragments of 10-inch diameter red clay pipe, ceramic switches, and glass shards from a lamp globe indicate that the station and the associated bathroom had piped water and electric lights. Similar artifacts, including the remnants of early Edison-type light bulbs, are found at other loci within the company-constructed areas and are reflective of both the level of wealth and social status associated with this part of Newhouse. With no logical reuse for the discards found at NH3, and a clear economic need for the railroad company (or others) to retrieve any railroad-associated materials, the assemblage appears slightly skewed in relationship to the locus function. There is, however, sufficient depot-related material (e.g. railroad spikes and ties, the clasp from bib-type overalls, heavy iron grate) and historical information to confirm the purpose of NH3 and its activities.

There was no railroad access or train depot at Silver Reef to use for comparison. The exact location of the depot locus at Frisco could not be confirmed, although a scattering of coal likely used to fire the steam engines was noted near the south end of Frisco's Main Street, which correlates roughly with a 1904 town plat. No other railroad-related materials such as spikes, ties, or rails were noted at this location; therefore, no direct comparison between the three case studies could be made for this particular locus type.





**Figure 5-22. Locus NH3 Train Depot Pocket Tobacco Tins**

Although all markings have disappeared, the tins are probably of Prince Albert make, which was a popular brand in the American West from about 1907 to the 1950s. Small window glass and ceramic sherds are also visible.

(Photograph by Author, June 2009)



**Figure 5-23. Locus NH3 Train Depot Small Clear Glass Bottle Neck**

This small machine-made bottle has a continuous external thread – ca. 1905-1920s. Bottles of this design were often used for bitters and tonics (Fike 1987).

(Photographs by Author, June 2009)

***Newhouse Locus 4 (NH4). Reservoir and Pump Station.*** The two-chamber, below ground reservoir and its associated pump station are located above the town site, northeast of the concentrator building (Figures 5-24 and 5-25). The complex is the eastern terminus of the 9-mile-long water distribution system originating at Wah Wah Springs and constructed by Samuel Newhouse specifically for mill and community use. In an otherwise completely dry environment, the elaborate water system was critical for both survival of the town and the operation of the mine. The histories indicate that there were plans to extend the water line from the reservoir over the San Francisco Mountains to provide water for Frisco, but those plans were never accomplished.



**Figure 5-24. Locus NH4 Reservoir**

View to northwest. The arrows point to the two U.S.G.S. benchmarks. The dimensions of the two chamber reservoir are 120 feet north/south by 36 feet east/west.

(Photograph by Author, June 2009)





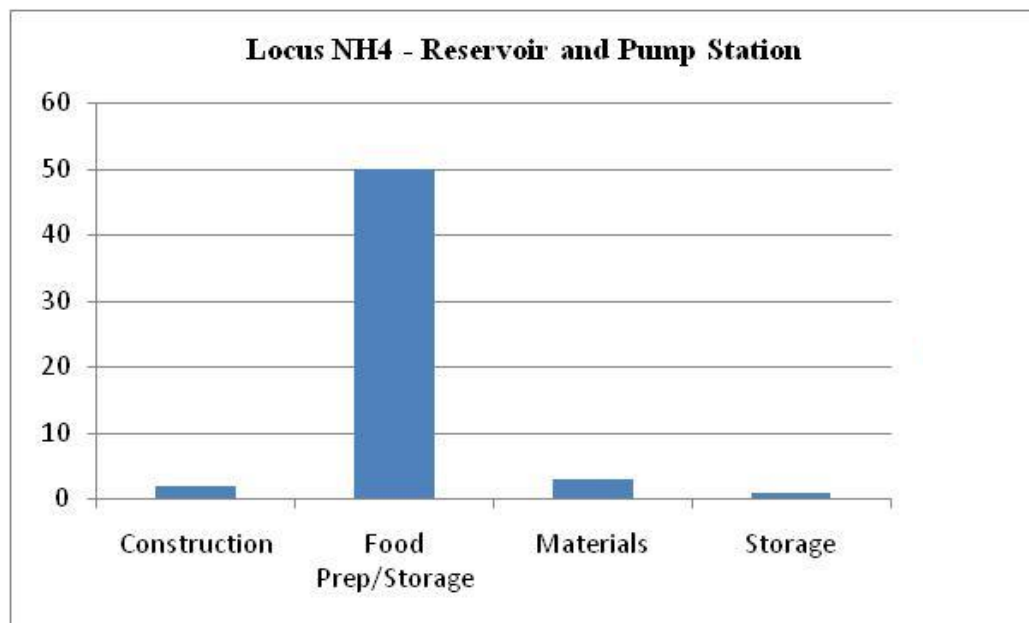
**Figure 5-25. Locus NH4 Pump Station**

View to southwest. The concrete pads with large bolts for mounting the pumps are in the left foreground. The remains of a stone structure, probably the pump station office or operator's residence is adjacent to the west.

(Photograph by Author, June 2009)

Similar to NH1 (Bank), artifacts at this locus are scant and limited in type (Figure 5-26). In the area immediately surrounding the reservoir, the remains consist of small pieces of milled lumber (10), remnants of 8-inch diameter concrete water pipe (20 fragments representing one length of pipe), large iron bolts, some of which are affixed to the foundation, and less than 20 hand wrought nails. When active, the reservoir had a wood shelter mounted to the foundation with the iron bolts; however, the wood would have been salvaged during the abandonment process and there were only a few remnants in 2012.

In the vicinity of the pump station there is a small diameter but moderately dense domestic scatter approximately 30 feet to the southeast (50 food and tobacco tins and bottle glass shards) likely discarded by the pump station operator(s). Additional fragments of milled lumber (37) and concrete water pipe (12/one MNV) are also present along with several fragments of brick (26). There is also what may be a former privy area associated with the pump station that shows evidence of recent looting, but the associated artifacts are of the same general nature as the remainder of the site.



**Figure 5-26. Locus NH4 Reservoir and Pump Station Artifact Count by Use Category (MNI/MNV)**

The pumps and equipment were removed from the site between 1914 and 1923 along with the building roofs and all other structural and industrial materials. There are no known historic photographs of these features; however, given the function of the two buildings there is little likelihood that there was anything more than equipment and construction materials to salvage.

Exclusive to this locus are two U.S.G.S. benchmarks. One benchmark is embedded in the southeast corner of the reservoir foundation and is dated 1936 (thus post-abandonment). The second, undated and situated 22 feet to the northeast of the first, is mounted to a stand-alone iron pipe (see Figure 5-24). The rationale for two closely placed markers is unclear, but likely represents a resurvey of the area, perhaps during or subsequent to the transfer of the property to the Wintch family in the early 1930s.

There were no similar reservoirs or pump stations at either Frisco or Silver Reef. As noted in Chapter Three, water for the Frisco mill came from a single well that provided non-potable water. Potable water was brought in by wagon or train in barrels or collected from rain and snowfall in barrels or small catchments. Silver Reef had an abundant supply of natural water from regional streams, but never constructed a water

pipe system. Similar to other mining communities of the period, water was transported to the town from the various sources in barrels or wood tank wagons.

***Newhouse Locus 5 (NH5). Company Town Dwelling.*** Adjacent to and west of the Newhouse commercial area (depot, Cactus Club, Opera House, bank) was a cluster of about forty 3-, 4-, and 6-room stucco bungalows (see Figure 5-7 and Figure 5-27). The buildings were not constructed on stone foundations and there were no cellars noted within the housing area during the field work. Faint outlines of the dwellings (with slight depressions) are found across the landscape surrounding NH5 and household refuse is associated with each. All of the dwellings were moved to Milford during the abandonment of Newhouse and are still in use in 2012.

Artifacts associated with the dwelling at NH5 include construction materials and domestic items, with the majority in the food preparation and storage category (Figures 5-28 and 5-29). Among the building remains are small bits of stucco, milled lumber, hand wrought nails, window glass, and remnants of the underground water pipe system. With the exception of the nails, there are no whole items. MNI/MNV counts are shown in Figure 5-30 and include fragments of undecorated and decorated ceramics (earthenware, porcelain, stoneware – three patterns); one kitchen sink strainer; a brass clockwork (partial); one Towles Maple Syrup can; one cast iron stove door fragment; the broken top to an undecorated white sugar bowl; one mason jar rim fragment (see Figure 5-28); one small fragment of yellow, frosted pressed glass; one partial bed frame, with wire mesh springs and decorative metal florets; eight barrel hoops (representing two barrels) and one wood barrel top; one each galvanized washtub and bucket; tobacco and food tins (5); and small shards of bottle (medicine, soda) and drinking glass. Given the quality of the artifacts at this locus, particularly the decorated tableware, clockwork, and pressed glass, and as inferred by Hardesty's work at Gold Bar, Nevada (Hardesty 2010: 168), the dwelling was probably inhabited by a family of economic stature in the community – perhaps a mill supervisor or the town physician.



**Figure 5-27. Locus NH5 Town Center Dwelling**

View to south. A faint rectangular outline of the building's former location is seen surrounding the construction and domestic artifact scatter.

(Photograph by Author, June 2009)



**Figure 5-28. Locus NH5 Town Center Dwelling Mason Jar Threaded Rim**

Ball or Mason jars were wide-mouthed glass containers used to store a variety of food items. The jar was first patented in 1858, but the aqua color of the glass, the interrupted threads on the lip, and a zinc cap and glass liner found nearby indicate that it dates to between 1900 and 1923 (Birmingham 1980).

(Photographs by Author, June 2009)

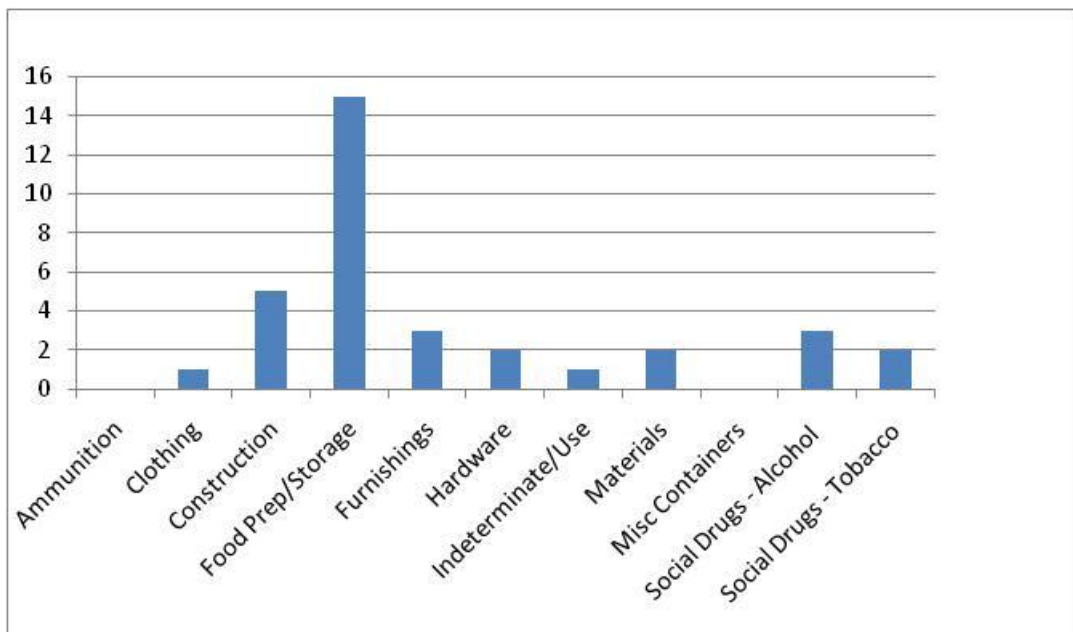




**Figure 5-29. Locus NH5 Town Center Dwelling Scalloped Bowl Rim Sherd**

This sherd is porcelain with a gold filigree rim design and yellow and green secondary floral pattern; the pattern name and manufacturer could not be identified. The artifact shows evidence of fire damage. Small fragments of charcoal from the building's framework litter the locus. A fire that destroyed the nearby Cactus Café in 1921, likely spread to this building.

(Photograph by Author, June 2009)



**Figure 5-30. Locus NH5 Town Center Dwelling Artifact Count by Use Category (MNI/MNV)**

Although generally not found within the company-constructed portion of Newhouse, two fragments of brown bottle glass (one beer bottle – Figure 5-31) and two fragments of an aqua-colored glass alcohol bottle base (Toulouse 1971) were also found at NH5. Very few alcohol-related artifacts are found at Newhouse in general and in the company-constructed portion of the community in particular. Because of the degree of disturbance common to the entire town site, the alcohol bottle fragments at NH5 may be a result of either illicit usage or transfer from NH7 (Newhouse park), which was used for community gatherings and entertainment. NH7 is near NH5 and has the highest density of liquor bottle fragments among the 10 loci (see NH7 discussion).

Inasmuch as neither Frisco nor Silver Reef were company-constructed settlements, there were no similar elements or organized enclaves that could be used for comparison. Historical records indicate that the dwellings at both Frisco and Silver Reef were wood shanty-type constructions, dugouts, or wood-frame tents, but there are very few known photographs of the dwellings at these locations. While large industrial and commercial features are noted on maps and discussed in the histories, the dwellings are not, rather they were scattered randomly across the surrounding terrain and along Quail Creek and the Harrisburg Ditch at Silver Reef. As a result, the locations of the dwellings at Frisco and Silver Reef are not readily differentiated in the landscape.

***Newhouse Locus 6 (NH6). Cactus Café and Boarding House.*** The Cactus Café was situated in the commercial district along with the Opera House (adjacent to the east), Cactus Club (adjacent to the west), park, bank, and depot (see Figure 5-7). Compared to other loci at Newhouse, this locus has a higher density of artifacts and is very similar in size and function to Frisco Locus FR2 – the E. N. Smyth Residence, Restaurant, and Boarding House (Figures 5-32 and 5-33).

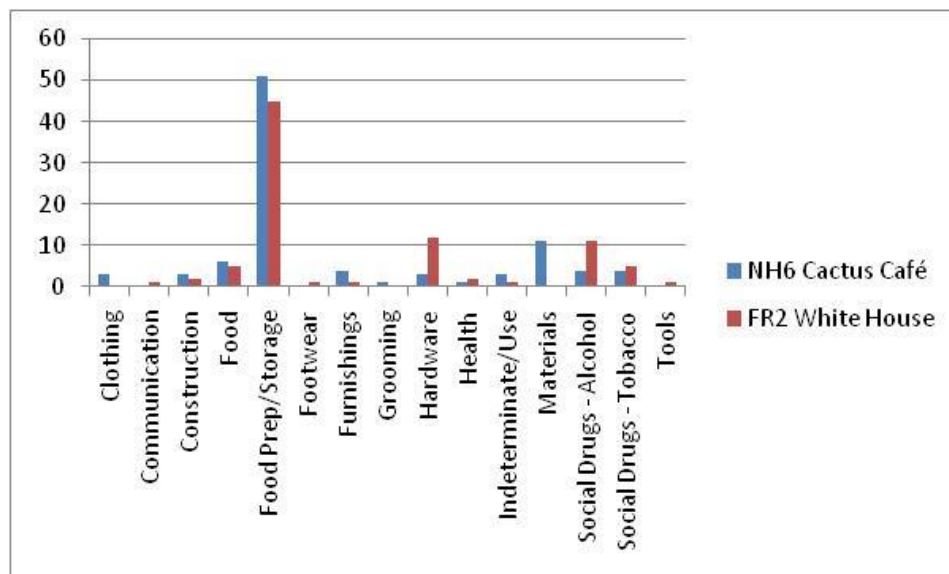
The foundation of NH6 was rammed earth construction, a form of adobe that is often found in desert environments. This form of building utilizes mud and rubble reinforced with concrete and miscellaneous refuse items (e.g. nails, broken glass, pottery sherds) and then pressed into a wood mold and allowed to harden in the sun. Similar construction is seen in desert regions worldwide and was noted during this research at several other ghost town locations in the Mojave Desert. Like most of the buildings within the company-constructed area of the town, the exterior walls of the Newhouse Cactus Café were brick and frame covered in stucco. A cellar with a



**Figure 5-31. Locus NH5 Town Center Dwelling Bottle Glass Neck and Base**

These bottle fragments are from the same bottle. The thickness of the glass, the lip style (Crown), and the partial maker's mark on the base confirm that it is a ca. 1905-1916 beer bottle. Crown closures were first patented in 1892 and this specific maker's mark was embossed on alcohol bottles made by the American Bottle Company, Chicago, Illinois, between 1905 and 1916 (Toulouse 1971: 30).

(Photographs by Author, June 2009)



**Figure 5-32. Comparison of Locus NH6 and FR2 Artifact Counts by Use Category**

The characteristics of the artifacts found at FR2 (Frisco's E.N. Smythe residence [White House]) and NH6 (Newhouse Cactus Café and Boarding House) are very similar. The architecture and construction materials were different, but both were large, 2-level multipurpose dwelling and dining facilities with the owner/operator living on the premises.





**Figure 5-33. Locus NH6 Cactus Café and Boarding House**  
View to northeast. Remains of the Newhouse bank are in the background.  
Looter's pits surround the feature.  
(Photograph by Author, June 2009)

fireplace was beneath the northeast corner of the building and may have been either the residence of the operator or a food storage area.

Historical records and photographs (Figure 5-34) reveal that the first level of the building was for dining/kitchen activities and had a parlor for visiting; there were 10 guest rooms and a bathroom on the second level (Lundell 1973). Construction debris is found within the foundation perimeter and surrounding the building, and include remnant walls, window screen and window glass. Evidence of charred framing from the 1921 fire is visible along the east foundation wall and, similar to NH5, there are bits of charcoal and fire-affected items (discolored, melted glass and ceramics) scattered across the locus.

In addition to the construction materials, artifacts at this locus are indicative of the building's multiple functions and activities (Table 5-3 and Figure 5-35). Among these are domestic, personal, and hardware items such as butchered bone (cow upper leg and rib) and oyster shells, a tiny sun-affected perfume bottle body (Figure 5-36), small sherds from approximately 10 ceramic types and patterns (no pattern duplication) (Figure 5-37), an intact olive green Lea & Perrin's Worcestershire Sauce glass bottle stopper (Figure 5-38), and a small diameter milk glass bottle rim fragment (probably



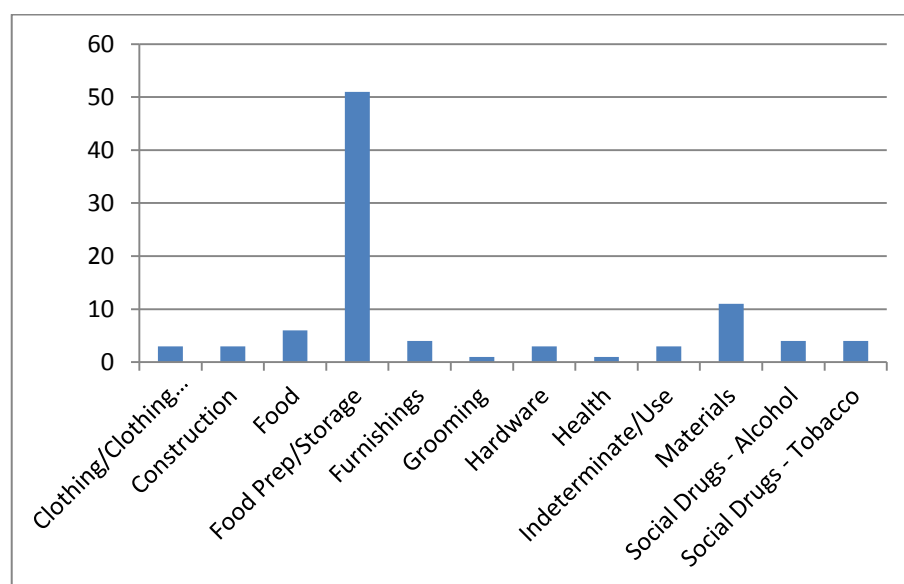
**Figure 5-34. Cactus Café and Boarding House 1908**

View to southwest. Left to right, Margaret Erickson [Lundell], manager of the Cactus Café; either Edith or Meredith Erickson (one of two twin daughters approximately 10 years old); and Inez Erickson, eldest daughter (approximately 16 years old) (see Appendix A).

(Courtesy Dr. Harold "Hal" Hickman, St. George, Utah)

**Table 5-3. Locus NH6 Cactus Café and Boarding House Artifacts**

<b>Artifact Description</b>	<b>MNI/ MNV</b>
Animal bone (cow upper leg and rib) - butchered	2
Bed frames, mattress bed springs, and wire mesh mattresses (single and double size)	2
Bottle glass (medicine, condiment, perfume, beer, wine, and soda) – brown, clear, amethyst, green, blue and cobalt, white (50 shards)	12
Bottle cap – metal center pressure-type – jug or small food jar	1
Ceramics (tableware - porcelain and hotelware, decorated and undecorated [sherds too small to identify the patterns])	10
Clothespin spring	1
Clothing buttons (two- and four-hole)	2
Construction materials (brick, stucco, wire mesh, nails – 800 fragments)	1
Drinking glass bases and rims	1
Electrical switches and light bulbs	3
Food and tobacco tins	32
Furnishings (hot water heater parts/cabinet or drawer pulls)	2
Large diameter ceramic water pipe/small diameter metal water pipe	2
Lea & Perrin's green glass bottle stopper	1
Mason jars and zinc jar caps and liners	3
Milled Lumber (40 fragments)	1
Oyster shell	4
Padlock and chain	1
Stoneware jugs and crocks	3
Stove or heater parts	1
Windows/glass (200 shards)	6
Wood barrel lid	1

**Figure 5-35. Locus NH6 Cactus Café and Boarding House Artifact Count by Use Category (MNI/MNV)**



**Figure 5-36. Locus NH6 Cactus Café and Boarding House Bottle Body**

For approximately 6 years during Newhouse's peak operations, the operator of this property was a widow and her three daughters (the Erickson family). The perfume bottle may have belonged to one of them, or perhaps a visitor to Newhouse. Located near the depot and Opera House, the Cactus Café and Boarding House was one of the most prominent businesses and convenient places for visitors to stay.

(Photographs by Author, June 2009)



**Figure 5-37. Locus NH6 Cactus Café and Boarding House Ceramic Types and Patterns**

(Photographs by Author, June 2009)





**Figure 5-38. Locus NH6 Cactus Café and Boarding House Bottle Stopper**  
Lea & Perrin's Worcestershire Sauce Green Glass Bottle Stopper. This bottle stopper was in use between 1849 and the 1940s.  
(Photographs by Author, June 2009)

cosmetic). The bottle stopper was one of only a very few complete artifacts found at either Newhouse or Frisco.

Similar to Newhouse loci NH3, NH5, and NH7, which are all in proximity, there were also alcohol-related container fragments found at NH6 (four MNV – three glass bottles, one stoneware jug). As noted, the number of alcohol-related artifacts and the estimated number of individual items that have been identified at Newhouse is extremely low compared to most late 19<sup>th</sup>-century/early 20<sup>th</sup>-century western mining towns. As discussed by West (1979: 143), “the society of mining towns in the Rocky Mountain West featured a high degree of alcohol consumption.”

Given consistent accounts in the historical records regarding the prohibition of alcohol at Newhouse and the lack of a saloon within the town's boundaries, the limited presence of this artifact type at Newhouse could indicate illicit alcohol consumption within this confined commercial area. It could also represent remains from one or more social events or other celebrations in the town center area that would have been approved by Samuel Newhouse (see Frisco/Newhouse comparison in Figure 5-32).

One artifact – a slightly damaged, heavy-duty bronze padlock and attached 10-inch chain was also found at this locus. Given its intended purpose, the artifact is believed to be displaced from its original locus (either the bank or depot), as this particular type of lock was designed specifically for railroad and Wells Fargo Express Company use (Barlow 1992: 269). With the possible exception of the padlock, which is of a size easy to transport and would have reuse value (assuming there was a key), all of the artifacts at this locus are in keeping with the other loci – broken and unusable discarded items, or items damaged by the 1921 fire.

The food types, particularly the fresh oyster shells, and the variety of decorated ceramics and other household goods from NH6 support the recollections of Edith Erickson Lundell's years as the property's operator. As Mrs. Lundell noted (1973) "we got the chance to move over on the other side of the mill to the better part of town where mother was to run the café [Cactus Café] where the clientele was a higher class: the bosses, superintendents, and all traveling visitors and theatrical companies."

There is a strong similarity between the artifact assemblages at NH6 and FR2 (see Figure 5-32); however, there are also striking differences that reveal the social and economic disparity between the two communities and businesses and their clientele and dietary preferences. As noted, the construction of the two boarding houses was different (wood vs. stucco) as well and that is evident in the remains. The rough dimensions of the two buildings are comparable, however – NH6 was 42 feet long north/south and 32 feet long east/west, FR2 was 50 feet long north/south and 40 feet long east/west – and both had two stories. Both assemblages contain butchered animal bone, but only cow at Newhouse and both cow and sheep at Frisco. Multiple ceramic patterns were present at each locus (about 10 different patterns each), but the number of alcohol-related artifacts at Frisco was higher (4 MNV at NH6, 11 MNV at FR2). Additional similarities and differences are discussed later in this chapter in the FR2 discussion.

***Newhouse Locus 7 (NH7). Park.*** The Newhouse park was a circular feature bounded by the commercial and residential buildings near the town center. The park was approximately 80 feet in diameter, raised above the surrounding landscape, fenced, and irrigated. The park also had electric lights. Trees and shrubs were planted in the park (see Figure 5-13 and Figures 5-39 and 5-40) and there were benches, picnic areas,





**Figure 5-39. Locus NH7 Park 1908**

View to west. The Cactus Café (large building) and several residences are in the background. The trees and shrubs in the photograph are not native to this area of Utah and were likely planted at the direction of Samuel Newhouse to not only improve the quality of community life, but also to impress visiting dignitaries and backers with the wealth and sophistication of his “model” operation.

(Utah State Historical Society)



**Figure 5-40. Locus NH7 Park**

View to north taken from the ruins of the Opera House. The remains of the bank vault are in the background. The curved rim of the park crosses the photograph center.

(Photograph by Author, June 2009)

and grass tennis courts just south of the park. Historical records are not specific on the subject, but from the historic photographs, the vegetation appears to represent species more appropriate for the Salt Lake City area (the permanent residence of Samuel Newhouse) (i.e., exotic to western Beaver County) and likely would not have survived for long in Utah's harsh desert environment – with or without water. The park and the imported vegetation was undoubtedly part of Samuel Newhouse's efforts to improve the quality of life in a town carved from the barren surroundings, as well as to impress his backers and other visitors to the town. Although there were repeated attempts to locate and identify remnants of the vegetation, there is no longer any evidence of it.

As a place of recreation, the artifacts within NH7 are fewer in numbers, but more focused in function. The assemblage consists primarily of wood and smooth wire fencing material, tobacco and food cans, and bottle fragments – primarily necks and bases. One bottle fragment was a clear glass milk bottle rim, but the glass type at NH7 is primarily liquor. Two of the containers are stoneware (1 jug, 1 bottle) and there is a metal canteen or flask with a *Kork-N-Wire* closure; the remainder are various colors and styles of bottle glass (Figure 5-41). There is also a small brown glass bottle stopper, likely medicinal. Although still quite low for a mining community context, NH7 has the highest density of alcohol bottles at Newhouse (nine MNV). This may represent an attempt on the part of the residents to abide by the regulations within their dwelling and work areas, but not necessarily in a communal place of relaxation, celebration, and recreation – approved or otherwise.

Other artifacts recorded within the Newhouse park include tobacco and food tins; a metal buggy grip; a metal buckle that could be from a man's belt or a narrow harness; light bulb fragments (Figure 5-42); and remnants of the smooth wire fencing, such as wire nails, milled lumber with red paint commonly used on industrial properties of the early 1900s for weatherproofing (see Figure 5-41, lower left frame). There are also three metal posts and a gate spring. Part of a sheep shearing comb that undoubtedly migrated from the shearing pens approximately 100 yards to the east was also found. Given the nature of the assemblage at this locus (Figure 5-43) there would have been very little to salvage other than the fencing materials and perhaps the trees and shrubs, if they survived that long.





**Figure 5-41. Locus NH7 Park Alcohol Container Fragments**

Brown stoneware bottle (top left); Sun-affected glass wine bottle neck (top center); Metal flask with *Kork-N-Seal* wire closure (top right); Clear glass wine bottle neck with metal band (bottom left); Clear glass pictorial flask (unidentified face) (bottom center); Partial brown bottle glass base (bottom right).

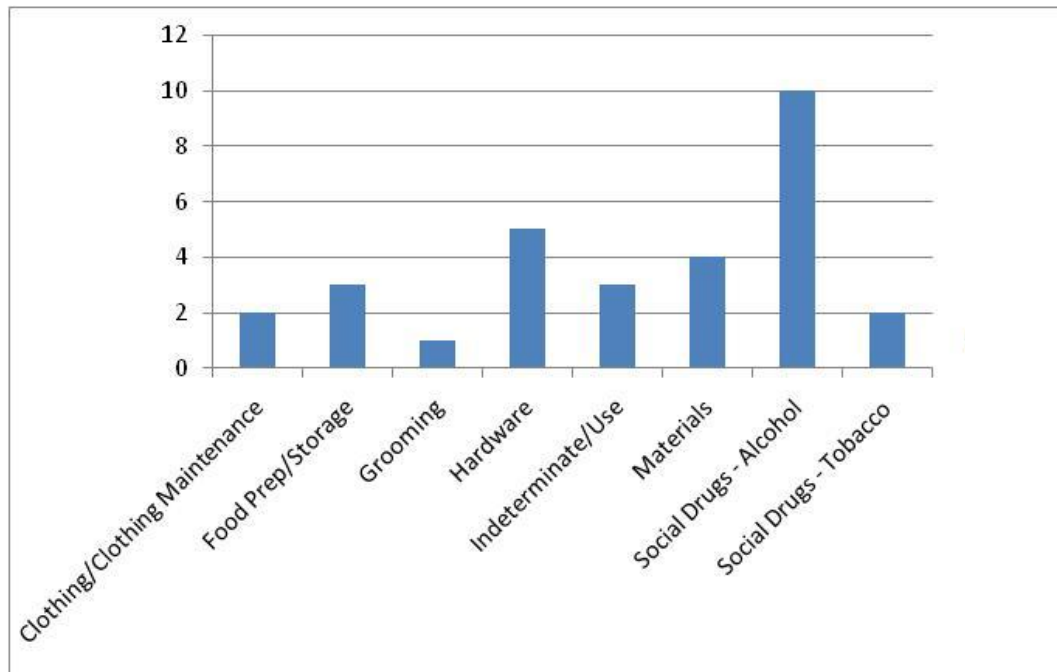
(Photographs by Author, June 2008 and June 2009)



**Figure 5-42. Locus NH7 Park Light Bulb Base and Bulb**

Figure 5-42 shows part of an Edison carbon filament lightbulb. This type of bulb was manufactured between 1879 and the early 1900s. Along with the rest of the company-constructed area of Newhouse, the park had electric lights.

(Photographs by Author, June 2009)



**Figure 5-43. Locus NH7 Park Artifact Count by Use Category (MNI/MNV)**

Although there are references to horse racing tracks and sports fields at both Frisco and Silver Reef, their histories, maps, and photographs show no indication of a park-type recreation area that could be used for comparison with NH7. There would have been insufficient water at Frisco for such an elaborate common space and water from the local streams was never piped into Silver Reef to support this type of green feature. Given the harsh dry environment of Newhouse, the ice house and “bathing pools” noted in Chapter Three and this landscaped, irrigated community park are extravagant extensions of the water system that Samuel Newhouse built to improve the quality of life and demonstrate to his investors the prosperity of the community.

***Newhouse Locus 8 (NH8). North Newhouse Miner’s Cabins.*** NH8 is the location of one or more miner’s cabins. The locus is situated in North Newhouse adjacent to the segment of the railroad line leading to the Cactus mine. NH8 is similar to Frisco locus FR1, a single miner’s cabin, but is larger and the artifact density much higher. With the degree of disturbance at this locus from salvage, abandonment, and looting, it is difficult to determine whether the foundation represents a single cabin with three separate rooms (e.g. a miner’s barracks), a closely spaced set of three separate cabins, or even possibly two cabins and a small cookhouse (Figure 5-44). Irrespective of the locus layout, the artifact assemblage surrounding the central feature(s) is





**Figure 5-44. Locus NH8 North Newhouse Miner's Cabins.**

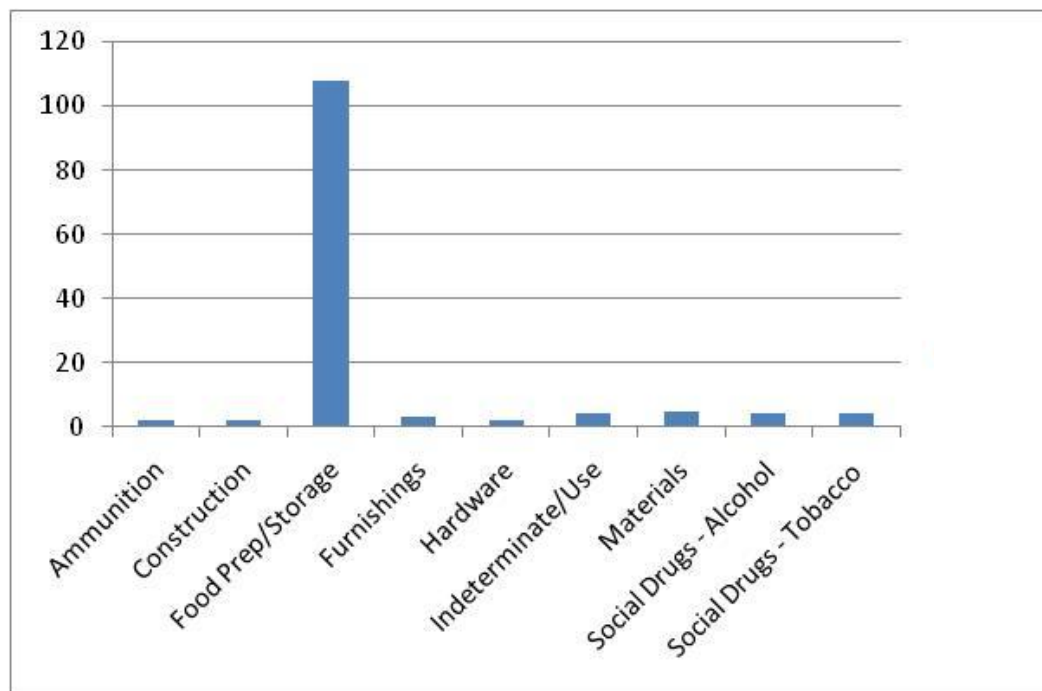
View to east. The San Francisco Mountains are in the background and the raised bed of the railroad line leading to the Cactus Mine crosses the photograph center.

(Photograph by Author, June 2009)

indicative of male-oriented, miner's dwellings (e.g. tobacco tins, expended ammunition, single wire mesh bed frames). No decorated ceramics, toys, cosmetic bottles, or other items commonly associated with women or children were noted at this locus (Table 5-4 and Figures 5-45 through 5-47). As with the rest of Newhouse, there were also very few alcohol container fragments (total of four MNV). Given the physical and social environment at North Newhouse, a higher number of alcohol-related items were anticipated compared to the company-constructed portion of the town, but that premise was not confirmed by the artifacts. This may be due to Samuel Newhouse's influence; proximity to the frequently traveled railroad line, which would have made activities in and about the locus highly visible; illicit use elsewhere (e.g. outside the town limits) (see caption Figure 5-46), or perhaps an alternate discard behavior.

**Table 5-4. Locus NH8 North Newhouse Miner's Cabins Artifacts**

<b>Artifact Description</b>	<b>MNI/MNV</b>
Ammunition - bullet and cartridge casings (rifle and shotgun)	2
Barrel hoops and lids	4
Bottle glass – aqua, amethyst, clear, brown (beer)	6
Door key and lock box	1
Food and household tins (kerosene, sardine/fish, meat, fruits, log cabin syrup, coffee)	102
Furnishings (metal bed frames/mattresses – single size)	2
Graniteware coffee pot	1
Graniteware, galvanized, blue enamelware pails, buckets, and washtubs and handles	3
Metal door hinge	1
Milled lumber (some with crown bottle caps affixed – 50) and nails	1
Stoneware tableware (undecorated, utilitarian white cups, bowls, plates)	1
Stove and/or heater parts	1
Tobacco tins, cigarette and pipe	4
Window glass and window screen	1

**Figure 5-45. Locus NH8 Miner's Cabins Artifact Count by Use Category (MNI/MNV)**





**Figure 5-46. Locus NH8 Miner's Cabins Lumber with Crown Bottle Caps**

There are approximately 50 crown bottle caps affixed to the lumber remnants at this locus. The low number of alcohol bottle fragments at the site (4 MNV) indicate that the caps may have been collected from other locations (e.g. Frisco saloons) or the consumption and bottles disposition conducted elsewhere. The bottle caps could also be from soda bottles or simply used as a form of decoration (see FR2 discussion and Figure 5-75).

(Photographs by Author, June 2009)



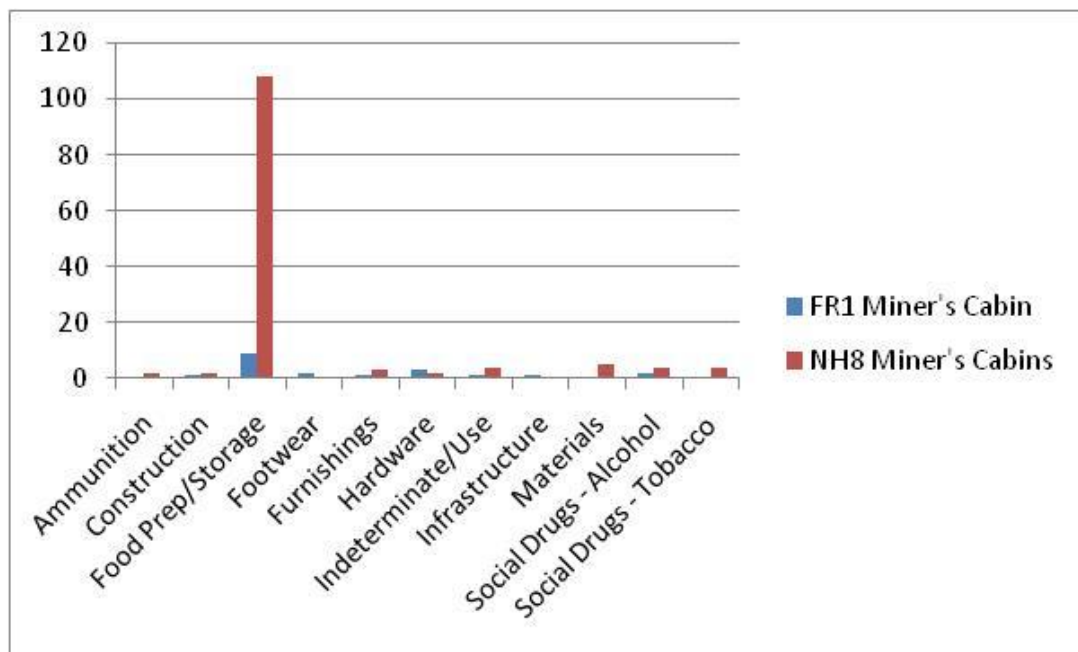
**Figure 5-47. Locus NH8 Miner's Cabins Undecorated White Ceramic Bowl**

This utilitarian whiteware (the type often used in hotels and restaurants) soup-sized bowl was glazed on the interior and exterior and approximately 8mm thick. Without maker's marks or decoration, the exact origin of the tableware could not be confirmed.

(Photograph by Author, June 2009)

The general complexion of the artifacts at this locus reflects a much lower socio-economic environment. There is no evidence of piped water or electricity and there was indication of privies at several locations within the general area, which are not seen within the company-constructed areas. There was also no decorated ceramics or remains from fresh food items (cut animal bone or fresh oyster shells). Rather, the entire food-related assemblage consists of canned items.

A comparison of the miner's cabins at NH8 and FR1 is shown in Figure 5-48. Although the densities are different, the assemblages have the same general character. One noteworthy difference between the two loci is the presence of one leather woman's shoe sole and two small sherds of undecorated porcelain at FR1, indicating that the locus may have been inhabited either communally or at different times by both a man and a woman.



**Figure 5-48. Locus FR1 and NH8 Artifact Comparison – Artifact Count by Use Category (MNI/MNV)**

**Newhouse Locus 9 (NH9). North Newhouse Rock House.** NH9 is one of only a few features at Newhouse with remnant walls. The building is located in North Newhouse, approximately 265 feet west of NH8 (Miner's Cabins) and is constructed of rock and brick faced with stucco. As is the case with the other buildings and structures in North Newhouse, neither the existence nor function of, the building are noted in the

historical records. The design and features of the building infer that it was a public building and likely a church or chapel that was also used for other purposes (e.g. meetings). The building shows no evidence of interior walls and there is very little “wall space.” Rather, the walls are punctuated by large, framed window and door spaces (Figures 5-49 and 5-50). The roofline is arched (east and west facades) and there are remnants of long pieces of milled lumber that were probably from the roof. The most interesting element of the building is a solid concrete basin-like feature mounted beneath the northeast window that is interpreted as a baptismal font (Figure 5-51). With no piped water to this area of Newhouse, there is no plumbing associated with this feature.

Adjacent to the northwest corner of the building are the remains of a 10-foot-square stone foundation. The small building was likely used for storage, or perhaps a generator shed, as there were no artifacts noted either within, or immediately adjacent to the feature. There is also what was likely a privy about 15 feet northwest of the building, which shows evidence of looting and the remains of a brick paved area adjacent to the southwest corner. The exact purpose of the remnant paving is unclear (see Appendix G).

Artifacts are scant within this locus, although higher in number and more interesting than might be expected for its presumed function. The artifacts may be a result of transfer from the adjacent dwellings and a larger commercial building to the south, although items of varying character can be found in a rural church setting. Except for construction rubble that has fallen from deterioration of the roof, walls, and windows there are no artifacts on the interior of the building. The windows appear to have been salvaged successfully; there are only a few window glass shards.





**Figure 5-49. Locus NH9 North Newhouse Rock House**  
View to southeast. The dimensions of the rock house are 28 feet east/west by 20 feet north/south.  
(Photograph by Author, June 2009)



**Figure 5-50. Locus NH9 North Newhouse Rock House**  
View from interior to southeast.  
(Photograph by Author, June 2009)



**Figure 5-51. Locus NH9 North Newhouse Rock House**

Northwest interior corner. Given the architecture and presumed function of this building, this feature has been interpreted as a simple baptismal font.

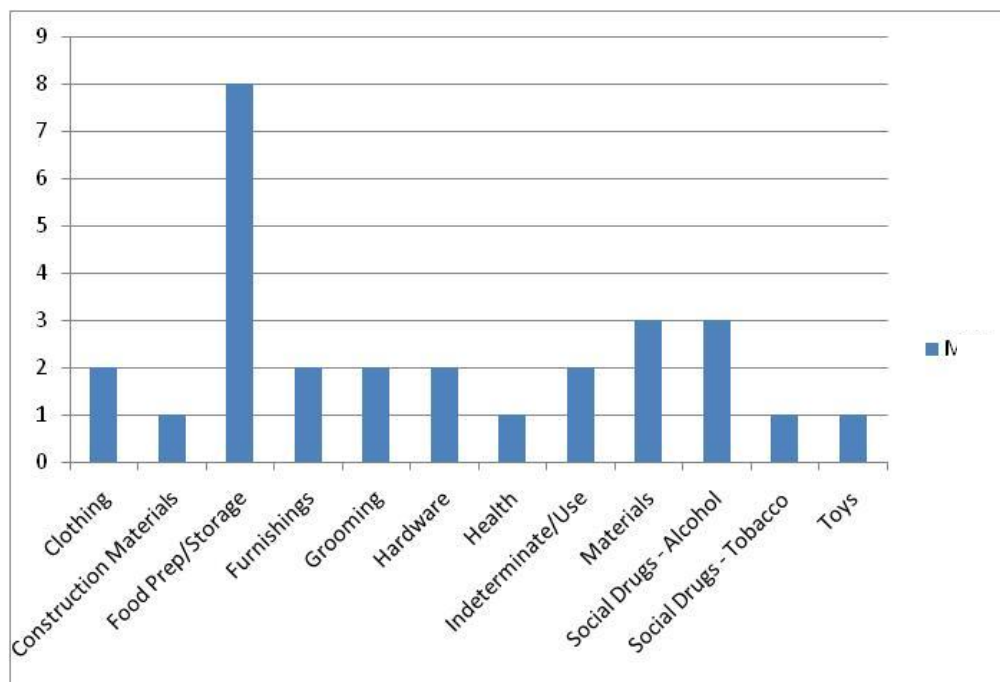
(Photograph by Author, June 2009)

Table 5-5 and Figures 5-52 through 5-54 show the types and numbers of artifacts at NH9. While the majority of the items seem somewhat uncharacteristic for a church, careful examination provides reasonable explanations. Since North Newhouse did not have running water, the barrel hoops would be needed to store drinking water for the parishioners and to fill the baptismal font. Given the harsh winters at Newhouse, a cast iron heater would have been necessary for warmth. The talcum powder, miniature toy, and evaporated milk could have been used for the comfort and entertainment of a restless child during services, and food-related items and containers are common at church gatherings or picnics. The woman's hosiery clasp most likely represents a lost item. Similar to NH7 (Park), a large and diverse number of artifacts would not be expected at a small, rural, remote church in an environment such as Newhouse. As with the profile of the remainder of the loci at Newhouse, items of any reuse value (e.g. the windows, heater, seating [pews or benches]) would have been salvaged at the time the town was abandoned or subsequently removed by unauthorized artifact collectors.

Historical records indicate that there was a Catholic church at both Frisco and Silver Reef, but there is no description or indication of the exact location of either in the historical records. An artifactual comparison was therefore, not possible.

**Table 5-5. Locus NH9 North Newhouse Rock House Artifacts**

Artifact Description	MNI/MNV
Barrel hoops	2
Bottle glass shards (Amethyst, aqua, brown [one bottle only], clear)	4
Cast iron heater or stove parts	2
Ceramic and stoneware sherds (3 patterns)	3
Clothing (woman's hosiery clasp, metal strap slide)	2
Concrete basin area inside church (probable baptismal font)	1
Door or window latch fashioned from heavy gauge wire	1
Enamelware basins and a galvanized wash tub	2
Food tins (sardine/fish and evaporated milk)	3
Iron spring	1
Mason jar shards	1
Milled lumber, hand cut and wire nails, brick (200 fragments)	1
Miniature teapot handle (possible child's toy)	1
"Perfection" bottle stopper	1
Talcum powder can top	1
Tobacco pocket tobacco tin (Four Roses brand)	1
Window glass shards	20

**Figure 5-52. Locus NH9 Rock House Artifact Count by Use Category (MNI/MNV)**

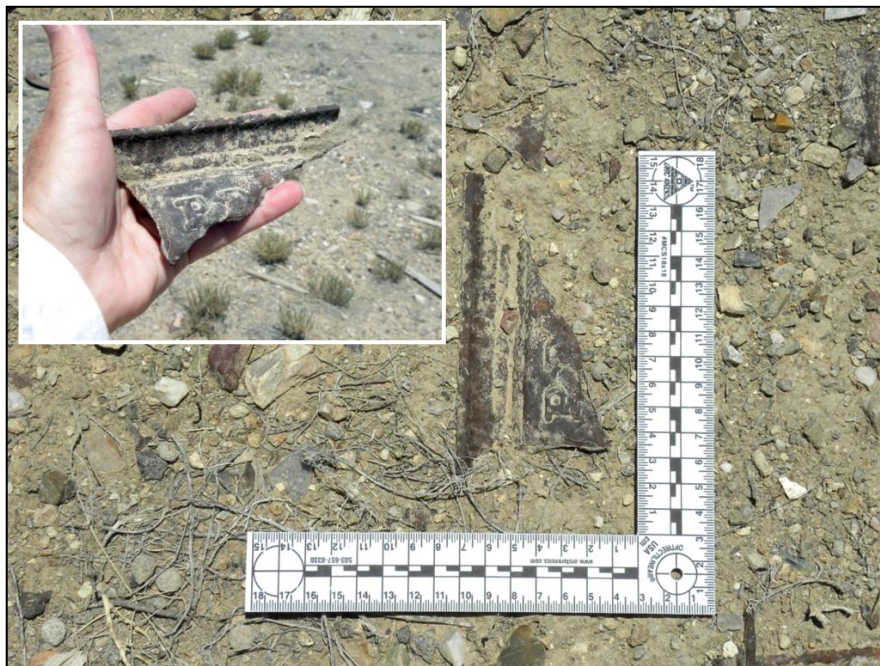




**Figure 5-53. Locus NH9 Rock House Borden Evaporated Milk Can**

The Borden evaporated milk can was first manufactured in 1892 (Filippone 2010). Whether an item of transfer from an adjacent building or used at NH9, evaporated milk cans are commonly found in ghost town environments. The tiny opposing holes in the can top allow airflow for easier pouring.

(Photographs by Author, June 2009)



**Figure 5-54. Locus NH9 Rock House Cast Iron Stove or Heater Part**

The part bears the incomplete mark “P and possibly “D.” Given the harshly cold winters in at Newhouse, a heater would have been a welcome item at the church.

(Photographs by Author. June 2009)

***Newhouse Locus 10 (NH10). North Newhouse Dwelling and Storage Building (Dog House Site).*** NH10 is the location of a rectangular dwelling (24 feet east/west by 20 feet north/south) and small storage building (6 feet north/south by 3 feet east/west) that was probably used for food storage (Figures 5-55 and 5-56). The locus is situated along an east/west trending dirt road that had multiple dwelling sites on either side. The dwelling was not constructed on a stone or brick foundation and there are no construction materials of that type within the locus. Based on the artifacts (milled lumber, hand wrought and wire nails, and window glass shards) and historical records (see Figure 3-13), the building was frame and placed directly on the ground surface. Similar to the dwellings in the company town area, there is a subtle, but perceptible, outline and depression where the building once stood. The small, adjacent, semi-subterranean food cellar is the only reasonably intact wood structure remaining at Newhouse. Given the sparseness and nature of the scatter, the usable items were probably salvaged at the time of abandonment.

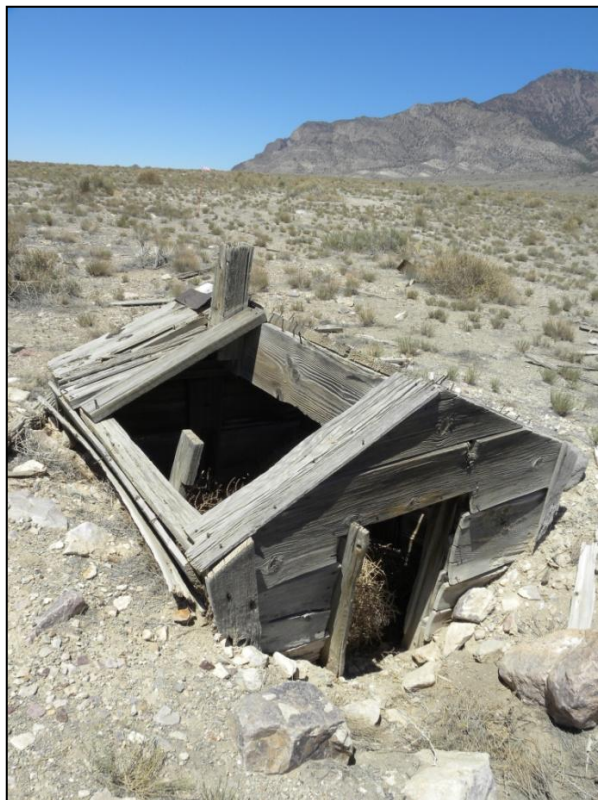
The NH10 household and construction artifacts and their associated numbers are listed in Table 5-6 and shown in Figure 5-57. The remains indicate that the dwelling was probably inhabited by a man, woman, and at least one child. Among the artifacts are both undecorated and decorated ceramics, one double and one single bed frame, and a variety of food tins and bottle fragments (Figures 5-58 and 5-59). An abundance of barrel hoops along the north locus boundary (hundreds) indicates that this may have been the dwelling of the town's cooper.

This assemblage also contains a 9mm thick grooved glass shard of undetermined purpose (Figure 5-60) and a 6-inch segment of steel fastener used to connect woven machinery belts. This type of machinery belt and fastener (alligator-type lacing) is usually seen with portable motors or generators (Holbrook, Merrill, & Stetson 1928: 1278-1279) and may have been used by the cooper during the manufacture of the barrels and hoops (Figure 5-61 and 5-62). Inasmuch as this area of Newhouse did not have electricity, portable generators would have been in use at multiple locations and remnants of the woven belts and steel lacing are found scattered across the town site.





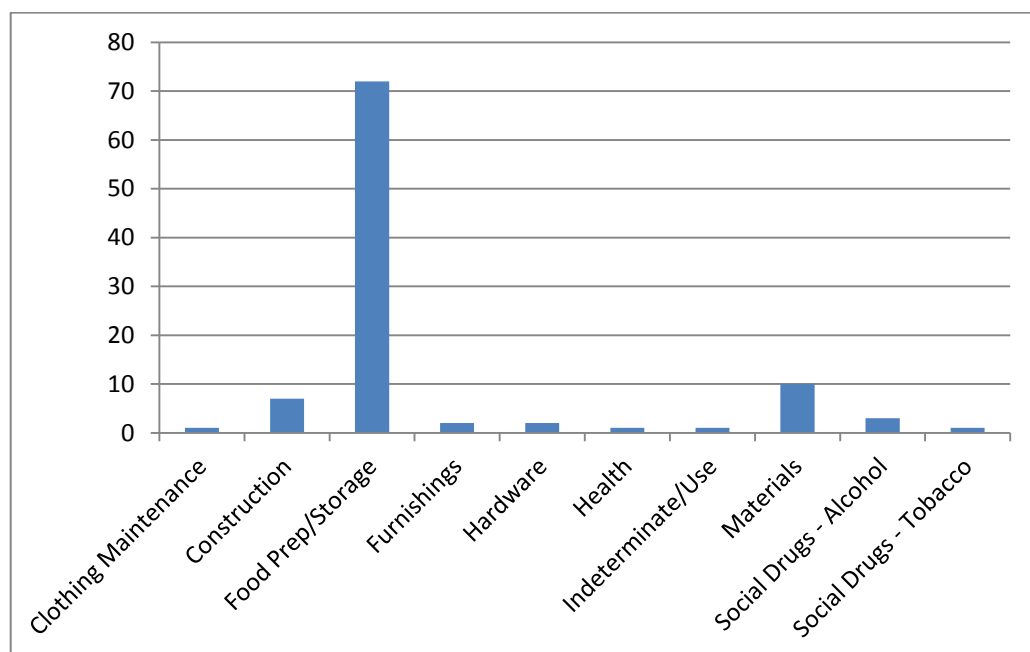
**Figure 5-55. Locus NH10 North Newhouse Miner's Dwelling and Storage Building**  
View to southeast from northwest locus corner marker.  
(Photograph by Author, June 2009)



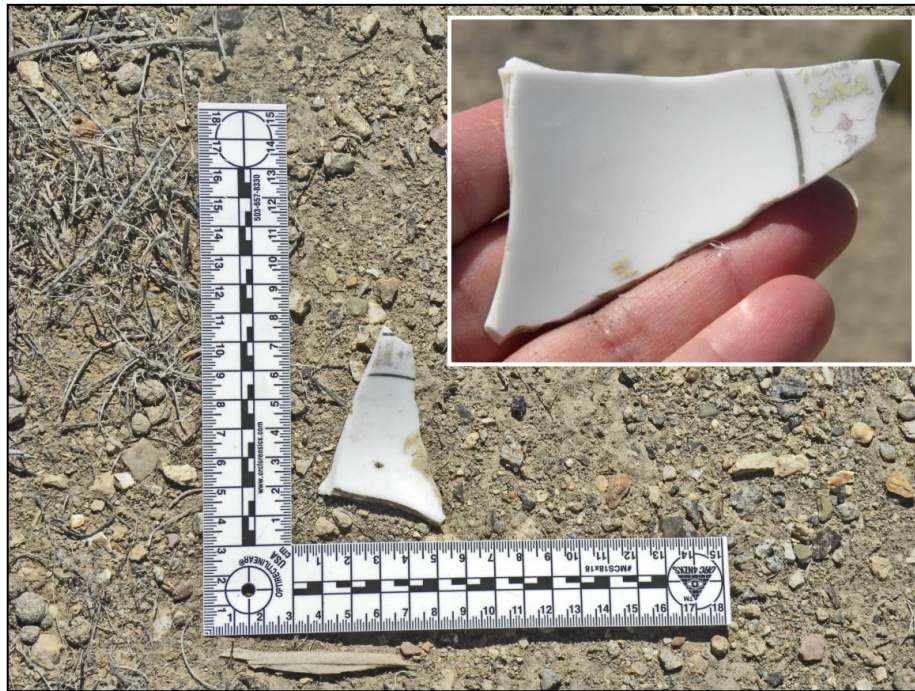
**Figure 5-56. Locus NH10 North Newhouse Miner's Dwelling Storage Building**  
View to northeast. The 18 square foot semi-subterranean storage building has remnants of a tin roof and a roof vent.  
(Photograph by Author, June 2009)

**Table 5-6. Locus NH10 North Newhouse Dwelling and Storage Building Artifacts**

<b>Artifact Description</b>	<b>MNI/MNV</b>
Barrel hoops (200 hoops) (barrels typically had between 5 and 6 hoops each)	40
Ceramic sherds (tableware – 11 decorated and undecorated earthenware and porcelain)	6
Double and single bed frame and mattress springs	2
Ceramic switch (probably part of the generator)	1
Food tins (evaporated milk, vegetable, sardine)	20
Galvanized pails, buckets and tubs (wash tub, lard pail)	2
Glass bottle shards (condiment, milk, medicine) (aqua, clear, amethyst, brown) (50 shards)	6
Machinery belting fastener	1
Mason jars and zinc caps and liners	1
Milled lumber and hand wrought and wire nails (80 fragments)	2
Stoneware pot sherd (brown glazed – possibly a flower pot or mixing bowl)	1
Tobacco tins	1
Window glass (80 shards)	4
Window glass – grooved, 9mm thick – purpose indeterminate, but likely industrial from the adjacent mill	1

**Figure 5-57. Locus NH10 North Newhouse Miner's Dwelling and Storage Building Artifact Count by Use Category (MNI/MNV)**





**Figure 5-58. Locus NH10 North Newhouse Dwelling and Storage Building  
Porcelain Teacup Sherd**

Porcelain teacup body fragment with interior silver/platinum banding and lavender and green floral pattern. The pattern is similar to those made by the Japanese manufacturer Noritake (1876 – present), but the exact pattern is not confirmed.  
(Photographs by Author, June 2009)



**Figure 5-59. Locus NH10 North Newhouse Miner's Dwelling and Storage Building  
Condiment Bottle**

(Photographs by Author, June 2009)





**Figure 5-60. Locus NH10 North Newhouse Miner's Dwelling and Storage Building**  
**9mm Thick Ribbed Glass Shard – Undetermined Purpose**  
(Photographs by Author, June 2009)



**Figure 5-61. Locus NH10 North Newhouse Miner's Dwelling and Storage Building**  
**6-inch Length of Woven Machinery Belt/Steel Lacing**  
(Photographs by Author, June 2009)



**ALLIGATOR LACING ASSORTMENT**

Carton contains 2 sets of 6-in. lacing complete with hinge and gauge.

NO.	Wt. Cart.	CART.
HP15S — lb.	\$5.50	
HP25S — lb.	7.00	
HP27S — lb.	7.50	
HP35S — lb.	9.50	



**BRISTOL BELT LACING**



**For Leather Belts**

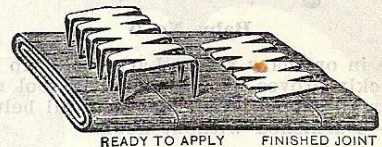
Cold rolled steel; smooth, elastic joints; does not cut belt fabrics. Box contains enough to lace 100 inches belt width.

**No. 0**—For split leather and light belts,  $\frac{1}{8}$  to 3-16 in. thick; weight per box,  $\frac{1}{2}$  lb. .... \$2.50

**No. 1**—For ordinary single leather belts, 3-16 to 1 $\frac{1}{2}$  in. thick; weight per box, 1 lb. .... 1.50

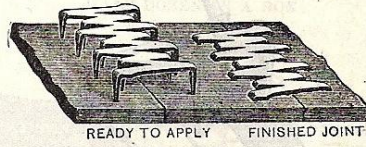
**No. 2**—For extra heavy and wide single leather belts,  $\frac{1}{4}$  to 5-16 in. thick; weight per box, 1 $\frac{1}{2}$  lbs. .... Box 2.00

**No. 3**—For double leather belts, 5-16 to  $\frac{3}{4}$  in. thick; weight per box, 2 $\frac{1}{2}$  lbs. .... Box 2.50



**For Rubber and Woven Belts**

NO.	Belts	Thickness	Wt. Box	BOX
<b>10</b>	2 ply	1-8 to 3-16 in.	$\frac{3}{4}$ lbs.	\$2.50
<b>11</b>	3 ply	3-16 to 1-4 in.	1 $\frac{1}{4}$ lbs.	1.50
<b>12</b>	4 ply	1-4 to 5-16 in.	2 $\frac{1}{4}$ lbs.	2.00
<b>13</b>	5 ply	5-16 to 3-8 in.	3 $\frac{1}{4}$ lbs.	2.50
<b>14</b>	6 ply	3-8 to 7-16 in.	4 lbs.	3.00
<b>15</b>	7 ply	7-16 to 9-16 in.	5 $\frac{1}{4}$ lbs.	3.50



**For Any Kind of Belting**

NO.	For Belts	Wt. Box	BOX
<b>110</b>	1-8 to 5-32 in.	1 lb.	\$2.50
<b>111</b>	3-16 to 1-4 in.	1 $\frac{1}{4}$ lbs.	1.50
<b>112</b>	1-4 to 5-16 in.	2 $\frac{1}{4}$ lbs.	2.00
<b>113</b>	5-16 to 3-8 in.	3 $\frac{1}{4}$ lbs.	2.50
<b>114</b>	3-8 to 7-16 in.	4 lbs.	3.00
<b>115</b>	1-2 to 5-8 in.	5 lbs.	3.50
<b>117</b>	11-16 to 13-16 in.	6 lbs.	4.00

ASSORTED LENGTHS (100 INCHES) IN A BOX

**Figure 5-62. Aligator-Type Woven Belt Lacing**  
(Holbrook, Merrill, & Stetson 1928: 1278-1279)

Although the assemblages at both NH10 and NH5 (town center dwelling) are primarily domestic, differences in the social status of the resident families is apparent. Construction materials are quite different (stucco vs. frame) and NH10 shows no evidence of electricity or indoor plumbing. Privies were common in North Newhouse and in proximity to many of the buildings seen in Figure 3-13. Barrel hoops, which are scant in the company-constructed areas of Newhouse (because they had piped water), are numerous across the North Newhouse landscape and particularly around Locus NH10. There was no evidence of alcohol-related items or fresh food items (cut animal bone or oyster shell) noted in this locus.

### **5.3.2 Frisco**

The four Frisco loci surveyed and described in this section are shown on Figures 5-63 and 5-64.

#### **Previous Studies**

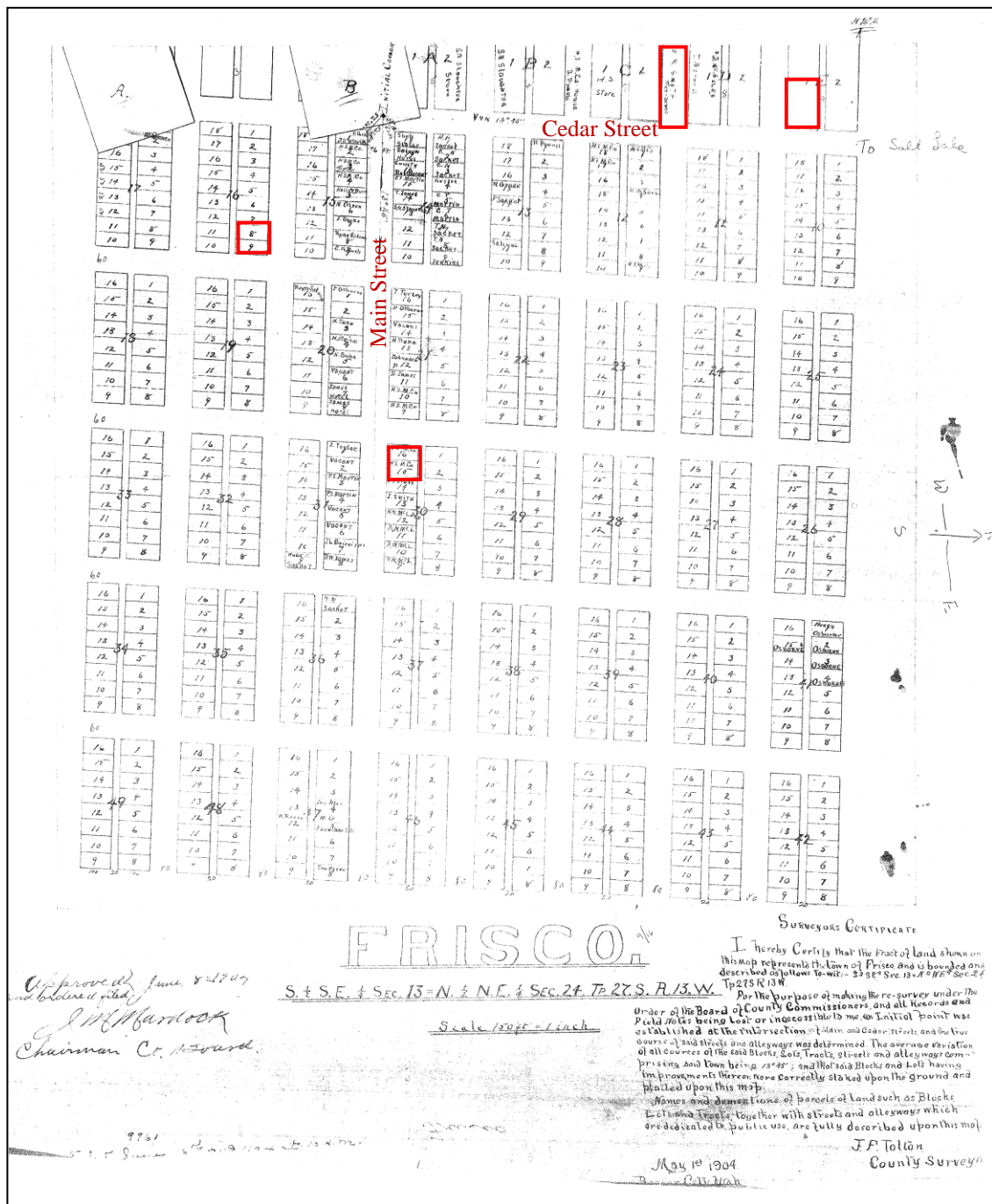
With the exception of surveys for mining reclamation purposes in 2008 and 2010, there have been no recorded systematic professional archaeological investigations at Frisco (Bassett 2008; 18). The purpose of these surveys was to record and evaluate open mines within the San Francisco Mining District for closure, to assess any associated features, and to recommend mitigation measures for any impacts associated with the closure. In the immediate vicinity of Frisco, two sites were recorded: 42Be3116 and 42Be3120 (Bassett 2008: 33). Site 42Be3116 is a large complex consisting of 111 mines (various types), one of which is the Horn Silver Mine. An additional 17 features (e.g. head frames, ore bins, buildings, cabins) were recorded within this site that date to between 1875 and the early 1950s. Site 42Be3120 is a single open shaft with no associated features. Artifacts noted in the survey were sparse, consisting primarily of dimensional lumber and sheet metal. Areas within the Frisco town site proper were not surveyed or recorded.

An archaeological site record (Intermountain Antiquities Computer System [IMACS] form) was prepared so that the site could be entered into the Utah State database and given a site number (42Be003180). The site record was updated in 2010 and the entire San Francisco Mining District is currently the subject of a Doctoral





**Figure 5-63. Frisco, Utah, Four Surveyed Loci**  
(Base Image Source, Google Earth, USDA Farm Service Agency 2011)



**Figure 5-64. Frisco, Utah, Survey Plat 1904**

The four red boxes represent the loci surveyed at Frisco (counterclockwise from the upper right, Locus 1 through Locus 4).

Map Drawn by J. R. Tolton, Beaver County Surveyor [Adapted]  
(Beaver County Recorder's Office)

thesis; additional data should be available in the next few years (Puckett 2010).

### **Site and Locus Descriptions**

In 2012, the physical remains of Frisco include numerous industrial mining features; the shells of a few buildings; the foundation remains of several buildings along Main and Cedar Streets; five charcoal kilns (see Figure 2-27), remnants of the old railroad bed (Figure 5-65), and a maze of dirt roads (Figure 5-66). Shattered artifacts are present across the landscape, including window and bottle glass, large and dense can scatters (Figure 5-67), decorated and undecorated ceramics, toy parts, mining equipment, and other remains of town activity. Whole artifacts are rarely found.

***Frisco Locus 1 (FR1). Miner's Cabin.*** FR1 is the location of a small stone building that has been interpreted as a miner's cabin. It is situated near the east entrance to the town site and beneath a cluster of mature juniper trees that (given their girth) were very likely present when Frisco was an active settlement (Figure 5-68). The locus was originally thought to be the site of the Frisco jail, but subsequent historical research revealed that street names were reversed on one of the several official government survey plats, incorrectly placing the jail east, rather than south of town. Further confusing the situation is a historic photograph of the jail (see Figure 3-37), the size, design, and construction of which is nearly identical to the remains of the miner's cabin and may represent a commonly used design within the Frisco landscape. The artifact assemblage at FR1 is sparse, but similar to that discussed for NH8 (miner's cabins). FR1 artifact numbers by use category are shown in Figure 5-69. These include barrel hoops (four/1 MNV), barbed and smooth wire fencing material (milled lumber, nails), one single bed frame/mattress, two brown-glazed earthenware sherds (one MNV), the leather sole of a woman's shoe, seven food tins (sardine/fish/ A. Booth's Oysters), one tobacco tin, and a stove pipe collar. Although this building is just 140 square feet in size, the artifacts infer that it may have been used either communally or separately by both a man and woman. Unlike NH8, which contained no artifacts commonly associated with women, the artifacts at FR1 are gender mixed – pocket tobacco tins are usually, but certainly not always, indicative of males within this context. The small leather woman's shoe sole and two porcelain cup sherds are more





**Figure 5-65. Old Railroad Bed Remnants between Frisco and Newhouse**  
View to west. Remnants of the railroad ties are seen in the image center.  
(Photograph by Author, April 2008)



**Figure 5-66. Frisco, Utah, Landscape**  
View to southwest. This photograph shows the general terrain and the remains of historic mining roads, equipment, buildings, and foundations.  
(Photograph by Heather R. Puckett, April 2008)





**Figure 5-67. Frisco, Utah, Grampian Food Can Scatter**

View to southwest. Above the scatter are the foundations of what may have been a dwelling or cookhouse in the Grampian area of Frisco. The can types represent a variety of food types, including condensed milk, fruits and vegetables, and fish (tuna, sardines). The scatter covers about 750 square feet.

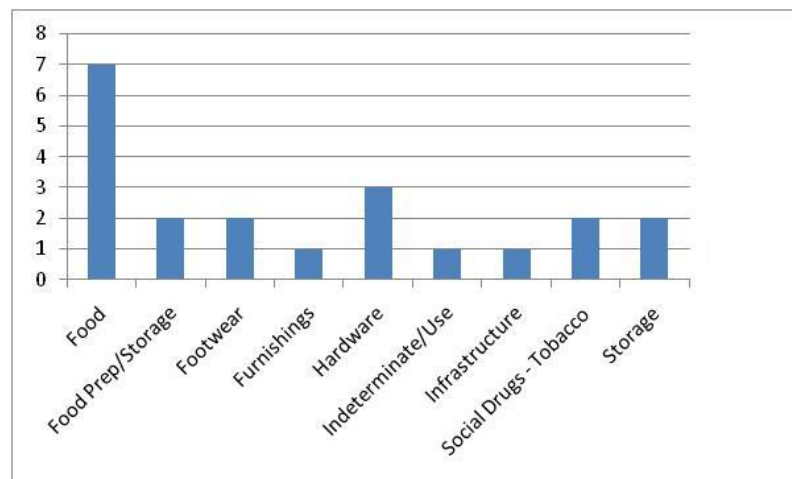
(Photograph by Author, April 2008)



**Figure 5-68. Locus FR1 Miner's Cabin**

View to east. The small rectangular stone foundation of the cabin is in the photograph center. The foundation has collapsed, but the approximate dimensions are 10 feet north/south by 14 feet east/west. A modern campfire ring made of the cabin's walls or foundation and containing modern refuse is in the foreground.

(Photograph by Author, June 2009)



**Figure 5-69. Locus FR1 Miner's Cabin Artifact Count by Use Category (MNI/MNV)**

commonly indicative of female occupation (Figure 5-70). With the possible exception of the glazed earthenware sherds, there are no alcohol-related artifacts at this locus.

As is the case at both Frisco and Newhouse, the artifacts at FR1 have been significantly displaced as a result of modern usage and looting. This has occurred through the deconstruction of the walls and foundation and the use of the materials to build several modern campfire rings; modern trash is found within and surrounding the rings (e.g. aluminum cans). Given the proximity to Highway 21 and the fact that this is the only cluster of trees to provide shade at Frisco, it makes a logical camping and rest area for visitors and, unfortunately, looters.



**Figure 5-70. Locus FR1 Miner's Cabin Porcelain Sherd and Woman's Shoe Sole**  
The presence of fine porcelain tableware sherds (teacup) and a woman's shoe sole at this locus indicate that the miner's cabin may have at one time had a female occupant. (Photographs by Author, June 2009)

***Frisco Locus 2 (FR2). E. N. Smyth Residence, Restaurant, and Boarding House.*** FR2 is the remains of a large wood building locally known as the White House (historically painted white) (Figures 5-71 and 5-72); it is situated along Cedar Street, east and north of the main Frisco commercial district (see Figures 5-63 and 5-64). The locus is similar in function and size to NH6 (the Cactus Café and Boarding House) both of which were two-level, multi-purpose dwellings. The artifacts at the two sites are very similar in both numbers and character. Among these are butchered animal bones (upper legs and ribs) (Figure 5-73) – primarily cow, but possibly sheep at Frisco – food can (some commercial-sized) and glass scatters, wire mesh bed frames and mattresses, and a variety of ceramic tableware patterns. Although most of the sherds were too small to confirm specific patterns, there were identifiable maker's marks at FR2 and three patterns for which reasonable attributions could be made. Among these are Homer Laughlin (one partial eagle's wing maker's mark – ca 1901-1915) (Lehner 1998: 247), a blue-patterned sherd attributed to Ernst Teichert ca. 1884 (Lage 2004: 334), and a rose-patterned sherd with a scalloped edge attributed to Syracuse China produced between 1893 and 1898 (Lage 2004: 329) (Figure 5-74).

FR2 has a higher number of alcohol-related containers, and that was anticipated based on the Frisco history, the number of saloons in the town, and no prohibition on alcohol consumption. Unlike NH6, FR2 was constructed completely of wood; therefore, there is no rubble, brick, or concrete foundation materials in this locus. There is also no indication of either piped water or electricity, which correlates more closely with the North Newhouse area than the industrial and company-constructed portions of Newhouse.

Similar to NH8 (miner's cabins), several of the remnants of milled lumber found at FR2 have metal disks affixed with nails. At Newhouse, the disks are crown bottle caps (25mm in diameter); at Frisco, the disks are simple (35mm diameter) umbrella-head roofing nails (Figure 5-75). Interestingly, there were crown bottle caps noted across the various loci at Frisco as well, but none were attached to the milled lumber. In both cases, the affixing of the disks appears to be some sort of effort to adorn the buildings, but could also represent some sort of counting endeavor or amusement (e.g. to mark time, or to keep score during a contest). Any conclusions on this interpretation remain unconfirmed.





**Figure 5-71. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House  
ca. early 1900s**

View to east. This is one of only a very few historic photographs of Frisco buildings.  
(Photograph Courtesy Dr. Harold “Hal” Hickman, St. George, Utah)



**Figure 5-72. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House**

View to north. Remains of FR2 are seen in the photograph center.

(Photograph by Author, June 2009)





**Figure 5-73. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House  
Cut Animal Bone**

Photograph by Author June 2009



**Figure 5-74. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House  
Earthenware Rim Sherd**

This earthenware scalloped rim sherd with rose floral pattern has been attributed to Syracuse China produced between 1893 and 1898 (Lage 2004: 329)

Photographs by Author June 2009



**Figure 5-75. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House**  
The exact purpose for attaching the caps (inset left from NH8) and roofing nails (inset right from FR2) is not known. It may simply represent an attempt to adorn otherwise drab buildings, or could be a form of counting time or events. The custom was found only at these two loci (see Figure 5-46).  
(Photographs by Author, June 2009)

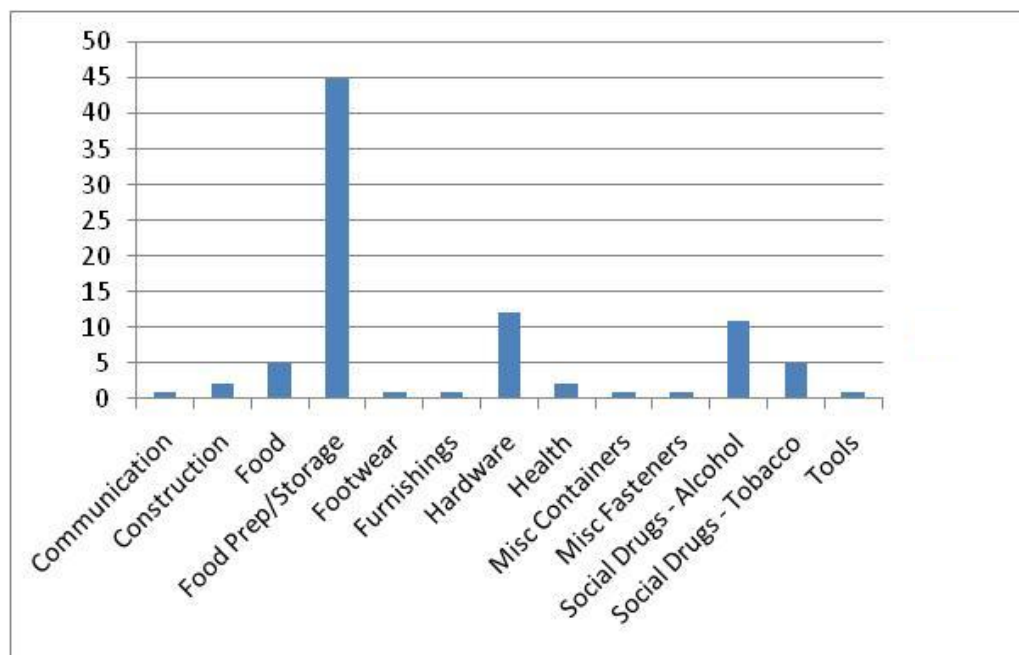
Artifacts associated with FR2 are listed in Table 5-7 and the MNI/MNV count by use category is shown in Figure 5-76. A comparison of FR2 and NH6 by use category was previously provided as Figure 5-32.

The fate of the White House at the time of abandonment is not recorded in the histories. Given the size of the building and the amount of milled lumber fragments remaining in the locus, usable building materials appear to have been salvaged as opposed to the building having been moved.



**Table 5-7. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House Artifacts**

<b>Artifact Description</b>	<b>MNI/MNV</b>
Animal bone (cow and possibly sheep) – butchered (saw and cleaver marks on upper leg and rib bones)	5
Barrel hoops	3
Bed frame and mattress springs	1
Bottle glass (clear, amethyst, aqua, brown, white, cobalt) – food/drink and medicinal (200 shards)	15
Ceramic sherds (decorated and undecorated earthenware and hotelware)	12
Earthenware jugs (glazed cream and brown)	2
Fencing wire and lumber	1
Food and tobacco tins	30
Handle end of a crude iron fireplace poker or branding iron	1
Iron bar and bolt of undetermined function	1
Large sheets of rusted metal of undetermined function (approximately 4-foot by 6-foot sections, possibly siding)	20
Leather sole of a man's shoe	1
Leather strap with grommets, perhaps from a horse saddle	1
Metal file (probably a farrier's rasp)	1
Milled lumber and nails (200 fragments) many with small metal disks affixed	1
Stove and/or heater parts (cast iron)	1
Telegraph Insulator	1
Window glass (300 shards)	10

**Figure 5-76. Locus FR2 E. N. Smyth Residence, Restaurant, and Boarding House Artifact Count by Use Category (MNI/MNV)**

***Frisco Locus 3 (FR3). Town Center Commercial Building.*** FR3 is located west of Frisco's Main Street in the first commercial block south of Cedar Street (see Figures 5-63 and 5-64). There is a sparse scattering of broken brick across the site, but there is no evidence of a foundation, nor are there milled lumber fragments. The small amount of brick may represent transfer from adjacent sites on Cedar Street, where several of the buildings were constructed of brick. Alternatively, given the value of brick in this environment, nearly complete salvage may have taken place at the time of abandonment. The general lack of construction remains at this locus may also indicate that it was among the Frisco buildings that were moved (Figure 5-77). There are only a few window glass shards as well (30), which indicates that the windows were salvaged.

Based on the artifact assemblage, FR3 is interpreted to be a possible saloon or brothel. There are no known historical records (text or photographs) for this part of Frisco and there are no comparisons for this type of locus in the Newhouse landscape. As noted in Chapter Three, Samuel Newhouse prohibited establishments of this type and the only known saloon or brothel near Newhouse (the Finn Saloon) was outside the town boundary. Frisco was rife with saloons, reportedly having at one time at least 28 in the commercial block, although city directories confirm a high number of only 18 between 1883 and 1884 (Graham 1883: 248; Graham 1884: 305). Unfortunately, the exact locations of the saloons were never recorded or mapped.

While the artifacts at this locus are narrow in character, compared to all other locus descriptions in this thesis, FR3 has the highest density of bottle glass fragments (approximately 200/24 MNV). The fragments are primarily from liquor bottles of varying sizes, colors, and purposes (beer, wine, Champagne), with most being deep brown or olive green, some with maker's marks (Figures 5-78 and 5-79). Other glass fragments at this locus are from wide-mouthed jars (Ball/Mason), small-necked patent medicine-type bottles, very small bottles (three) that probably contained perfume or cologne (Figure 5-80), and one ½ inch thick decorative glass bowl fragment with a pink and yellow rose pattern. FR3 also has three women's shoe soles, one partial woman's high-button shoe (Figure 5-81), one metal drawer or cabinet knob, one kitchen sink-type strainer, two plain white porcelain plate sherds, and three fragments of butchered cow bone. Figure 5-82 indicates the assemblage density by use category.



**Figure 5-77. Locus FR3 Commercial Building Overview**

View to Northwest. The roughly square locus is shown in the right rear of the photograph. An east/west trending two-track dirt road crosses the photograph in front of the locus and eventually ends near the Horn Silver Mine.

(Photograph by Author, June 2009)

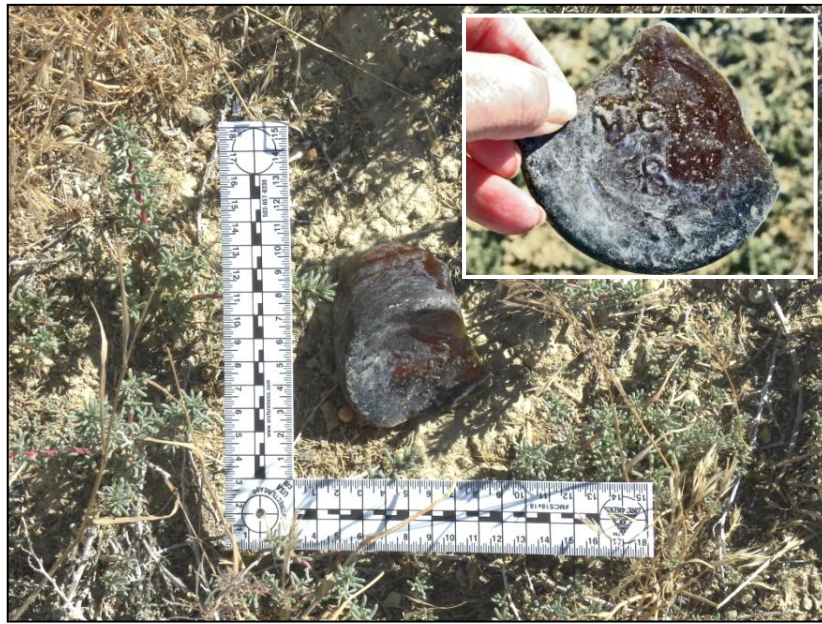


**Figure 5-78. Locus FR3 Commercial Building Artifact Scatter**

Glass and ceramic bottle fragments of varying colors. The fragments are indicative of beer, wine, and Champagne containers. The image also shows window glass shards, cut animal bone, and small fragments of brick.

(Photograph by Author, June 2009)





**Figure 5-79. Locus FR3 Commercial Building Beer Bottle Base**

The mark on this bottle base (M C Co 8) is from William McCully & Company, Pittsburgh, Pennsylvania. The bottle was manufactured between 1865 and 1879 (Toulouse 1971: 132)

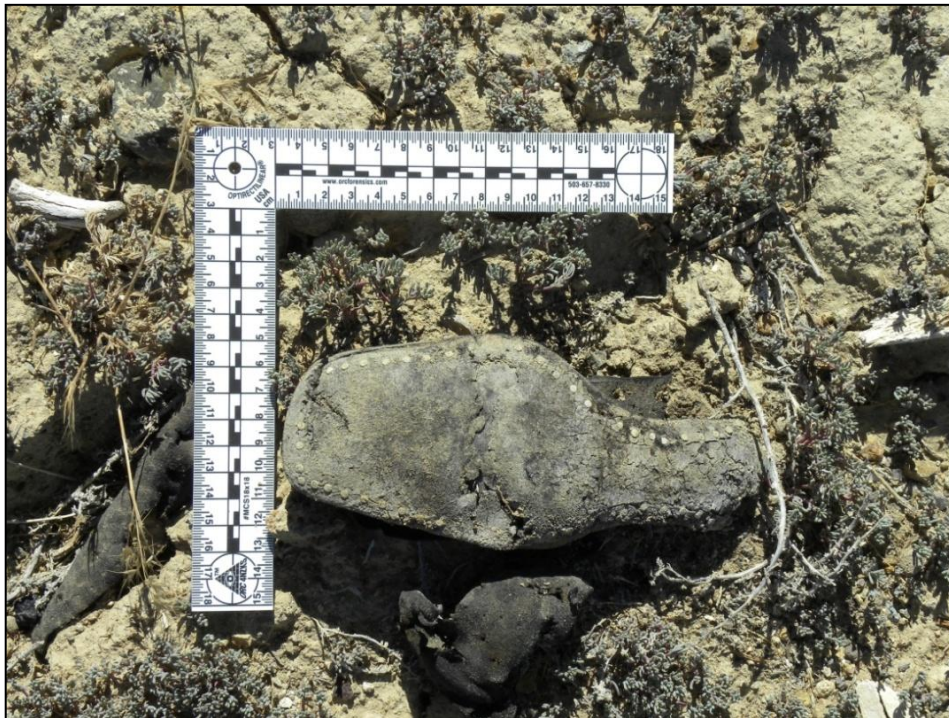
Photographs by Author June 2009



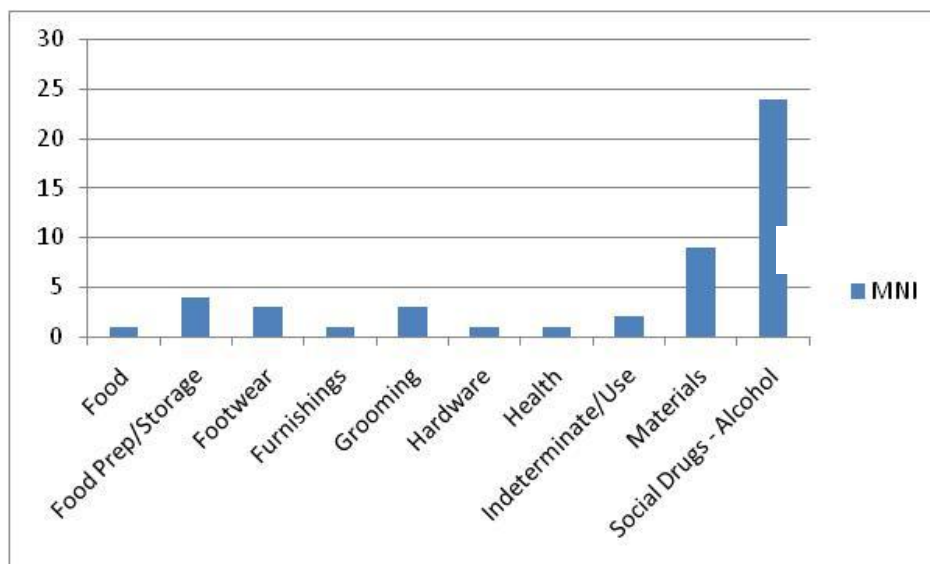
**Figure 5-80. Locus FR3 Commercial Building Perfume Bottle**

Small diameter (25mm), sun-affected lavender glass bottle body. A 15mm band at the bottom of the bottle is beveled. Without maker's or other identifying marks, the origin of the fragment could not be confirmed, but its size infers women's perfume or cologne. There is high probability that it was manufactured by the Illinois Glass Company, which was the largest producer of glass bottles in the United States during the late 19<sup>th</sup> and early 20<sup>th</sup> centuries (Society for Historical Archaeology 2010).

Photographs by Author June 2009



**Figure 5-81. Locus FR3 Commercial Building Woman's Shoe**  
 Woman's leather high-button [nailed] shoe sole (left foot) (1880-1933)  
 (Berge 1980: 275-286).  
 (Photograph by Author, June 2009)



**Figure 5-82. Frisco Locus FR3 Commercial Building Artifact Count by Use Category (MNI/MNV)**

In contrast to the miner's cabins at Newhouse (NH8), which had a distinctly male-oriented assemblage, the remains at FR3 are more indicative of a woman-



Owned/operated business. This, in association with the high density of alcohol container fragments, supports the interpretation of the locus as a saloon or a brothel – or both. As Butler (1987) notes in her work on prostitutes in the American West, it was not unusual for a prostitute to become wealthy enough to purchase and own her own establishment. U.S. Census records for Frisco also show that it was not unusual for women to own typically male-oriented businesses in Frisco. The livery on Main Street, which was approximately 300 feet northeast of this locus, was owned by Ellen Easley and Jeanette Turley (Puckett 2011). As described by Rutter (2005: 19-21).

A brothel, of course, is a generic term for any house of prostitution – a place where two or more girls ‘hung out their shingle.’ Common brothels were often located in dancehalls, saloons, gambling halls, or apartment buildings. Many houses served good meals. There was usually a bar, a parlor, and possibly a piano player called a ‘professor.’

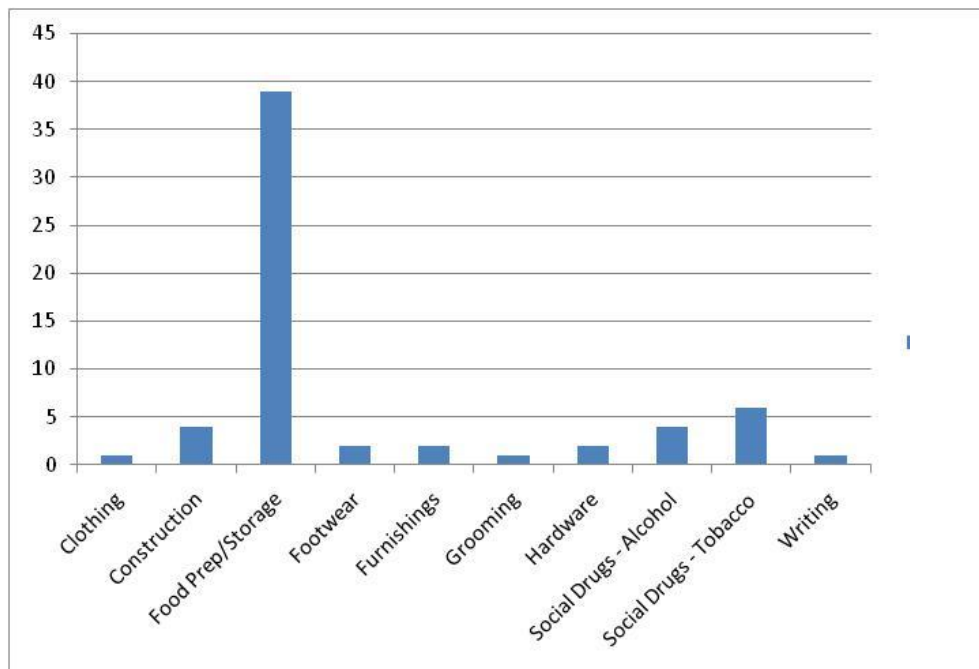
***Frisco Locus 4 (FR4). Horn Silver Mines Store.*** Based on the artifact assemblage, FR4 is believed to be the location of one of several Horn Silver Mines general stores. The parcel is noted on two 1904 Frisco plats as “HSM,” indicating that it was deeded or leased to the Horn Silver Mine Company, but the type of business constructed within the parcel is not noted. Twelve merchandise stores were operated by the Horn Silver Mine Company in this area of Frisco (Puckett 2011).

There is a dense 20-foot by 30-foot concentration of large cobbles, boulders, and milled lumber in the locus center; the materials are scattered across and within a deep depression (Figure 5-83). The locus is so heavily disturbed that no definitive outline could be discerned, but the rubble is out of character for the surrounding terrain, and undoubtedly represents the building’s foundation, walls, and/or part of a stone cellar. Similar to several of the loci at Newhouse (NH2, NH3, and the Newhouse Opera House), this building appears to have been pulled from its foundation and the materials salvaged for new construction elsewhere. Within and around the stone rubble, a moderate assemblage of personal, household, and commercial artifacts are sufficiently diverse to indicate a store, rather than a large dwelling or restaurant (Figure 5-84 and Table 5-8). There was no butchered animal bone or oyster shell noted at this locus, although one recently deposited, non-food leg bone was recorded that is probably



**Figure 5-83. Locus FR4 Horn Silver Mine Store Overview**

View to northeast. The boulder and cobble rubble in the photograph center is the remains of the store and, given the deep depression in the locus, a possible cellar.  
(Photograph by Author, June 2009)



**Figure 5-84. Locus FR4 Horn Silver Mine Store Artifact Count by Use Category (MNI/MNV)**

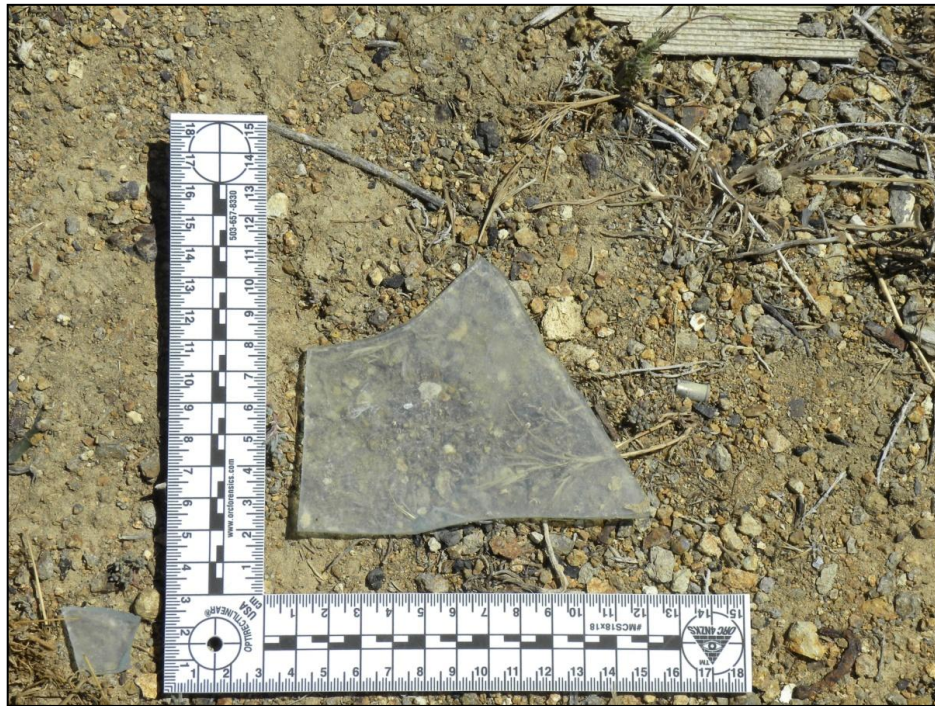
**Table 5-8. Locus FR4 Horn Silver Mine Store Artifacts**

<b>Artifact Description</b>	<b>MNI/MNV</b>
Animal leg bone (one only, unbutchered – likely coyote)	1
Bottle and drinking glass fragments (brown, aqua, clear, amethyst, blue)	7
Button (women's ) – scalloped mother-of-pearl	1
37 ceramic sherds (tableware – decorated ironstone and porcelain and undecorated hotelware) (too small to identify the patterns)	14
Excelsior hair comb	1
Glass bowl shard (beaded pattern)	1
Food tins (evaporated milk, vegetable, lard)	21
Graniteware or galvanized pails, buckets, and washtubs	3
Iron bar with holes for bolts or screws, undetermined function	1
Iron key	1
Metal pencil eraser socket	1
Porcelain rim sherd, commercial grade (possible sink)	1
Pot and pan handles – enamelware and cast iron	4
Stoneware jug and bottle fragments – glazed and unglazed	4
Railroad spike	1
Shoe soles and uppers – 1 man's, 1 woman's	2
Stove and/or heater parts – cast iron	1
Tobacco Tins	6
Window glass (plate and thick store-front type)	1

coyote (unverified). Large fragments (5 inches across) of thick plate glass typical of store front windows were also noted (Figure 5-85) and there were no bed or mattress frames or dense deposits of empty food tins, which would be more indicative of a dwelling or boarding house.

While there were about 20 small decorated (two MNV) and un-decorated (five MNV) ceramic sherds located at this locus, the specific patterns or makers could not be identified. Uncharacteristic of the case study landscapes in general, this locus did have three ceramic sherds with partial maker's marks. Marks from the Wedgewood Company, Ltd.; Barrowfield Pottery, Glasgow (Figure 5-86); and Charles Meakin, Trent Pottery, Burslem, England, correlate well with the census, cemetery records, and histories and are suggestive of the nationalities or goods preferences of the Frisco residents. During the period between 1880 and 1900, there was a high density of immigrant residents at Frisco, particularly English, Irish, Italian, and Scottish.

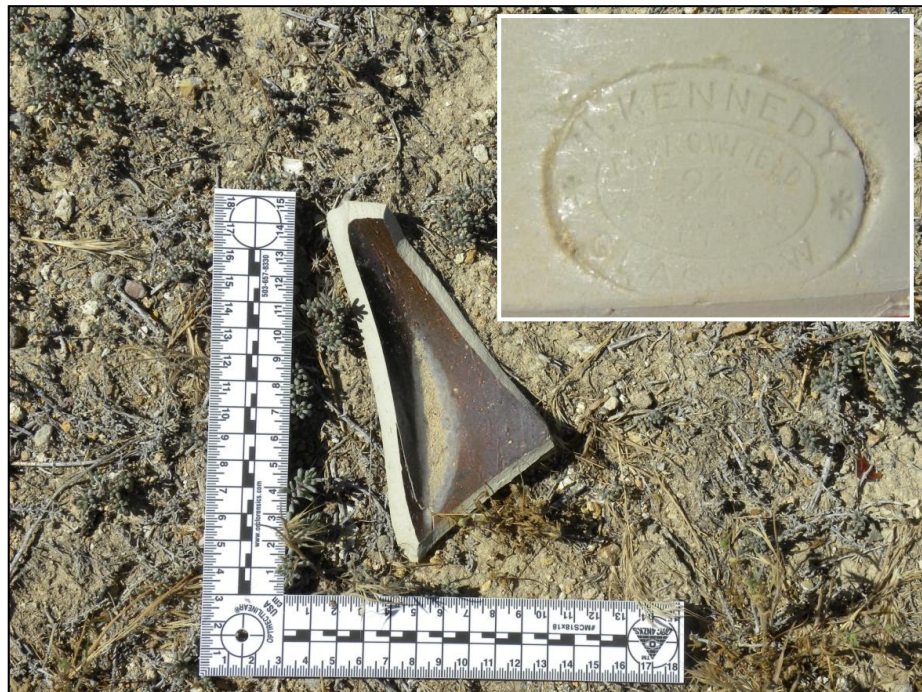




**Figure 5-85. Locus FR4 Horn Silver Mine Store Plate Glass Shard**

The thickness and size of the plate glass shards at FR4 infer that this locus was a commercial building.

(Photograph by Author, June 2009)



**Figure 5-86. Locus FR4 Horn Silver Mine Store Stout Bottle Body Fragment**

Stoneware stout bottle impressed with H. KENNEDY/ BARROWFIELD/24/ POTTERY/ GLASGOW (inset) (manufactured 1880-1926) (Ward 2001).

(Photographs by Author, June 2009)

Attempts to compare NH1 (multipurpose bank building) and FR4 were only marginally useful. While both were company-owned general merchandise stores, there were very few artifacts at NH1 in general and even fewer that represented the merchandising element of the building. Within the context of Frisco's heavily disturbed and looted landscape all that remains at FR4 are shattered artifacts and discards; whole and reusable items from a general store would have been too valuable to leave behind.

### **5.3.3 Silver Reef**

Locations of various historic sites along Main Street at Silver Reef are shown on Figure 5-87. The features were located during the archival research and ground-truthed during the field work for this thesis.

#### **Previous Studies**

There has been one known archaeological investigation at Silver Reef. As noted previously, the research was conducted by Dr. Robert Schuyler, University of Pennsylvania, and Dixie State University in St. George, Utah, between 1981 and 1987. The results of the research are unpublished and the artifacts collected during the field work are not available for inspection. The locations of Dr. Schuyler's field testing program are shown by the red boxes superimposed on Figure 5-87.

In 2012, Silver Reef consists of the Wells Fargo and Company Express building, which was transformed into a museum and art gallery in 1986 (see following section); a small information center that was once the powder magazine; and the reconstructed remains of the Rice Bank. The Cosmopolitan restaurant, which was completely destroyed by fire in 1879 (along with most of the commercial district) was authentically reconstructed on its original foundation in 1992 (Kun 2009) (Figures 5-88 and 5-89). Numerous other foundations and ruins are scattered across the landscape along with remnants of miscellaneous mining features and equipment and the Protestant and Catholic cemeteries.

Of the three case studies, Silver Reef is the only case study site with a population in 2012. "Old Silver Reef" is a true ghost town (zero population); however, over time, a new Silver Reef, with about a dozen large modern homes, has developed across a portion of the old town site (see Figure 5-87).





**Figure 5-87. Location of Various Features within the Silver Reef Town Site Commercial District**  
Red boxes show the location of Dr. Robert Schuyler's excavations in the 1980s. Modern homes are seen at the top of the image.  
(Base Image Source, Google Earth 2012)





**Figure 5-88. Cosmopolitan Restaurant ca 1880**  
(Utah State Historical Society 1880b)



**Figure 5-89. Cosmopolitan Restaurant as it appears in 2012**  
(St. George Biz 2009)

## Silver Reef Museum and Collection

The Silver Reef Museum is situated in the historic Wells Fargo and Company Express building and within the Wells Fargo Silver Reef Monument that is owned in 2012 by Washington County. The building was constructed in 1877, restored in the mid 1980s, and officially placed on the U.S. National Register of Historic Places in 1971 (U.S. Department of the Interior, National Park Service 1971). The museum houses a large collection of artifacts and other memorabilia representing Silver Reef's history and the lifeways of its residents, including items of clothing, mining-related tools and equipment, a large collection of firearms, and a variety of household items (e.g. porcelain and earthenware ceramics, bottles, cooking utensils). The original barrel vault is still within the building's interior as are a Wells Fargo safe and strong box. The original stone steps that were used for the loading and unloading of freight and passengers from stagecoaches and the Wells Fargo wagons are still in place at the front of the building (Figures 5-90 through 5-92).



**Figure 5-90. Silver Reef Museum Interior**

Doorway to original barrel vault (left) and Wells Fargo and Company Safe (right).  
(Photographs by Author, June 2009)





**Figure 5-91. Silver Reef Museum – Wells Fargo and Company Strongbox**  
A strongbox was used to safely transport bullion, coins, and other valuables between stagecoach stops and Express Company locations. This strongbox likely dates to the 1870s or early 1880s. In later years they were made of sheet iron (Wells Fargo and Express Company 2012)  
(Photograph by Author, June 2009)



**Figure 5-92. Silver Reef Museum and Sandstone Stagecoach Step**  
The museum is the former Wells Fargo and Express Company (built in 1877). The original sandstone bench feature seen in front of the building is actually the original step required for accessing the stagecoaches and freight wagons.  
(Photograph by Author, June 2009)

The artifacts from Silver Reef were evaluated and photographed at the museum. The artifacts were collected from within the Silver Reef landscape over many decades or donated by the descendants of former residents; however, they were not collected or curated by professional archaeologists or archivists or by using professional methods and there are no records at the museum to indicate their provenience (provenance).

Because all three case studies have contemporary histories, the collection was utilized primarily to help with the identification and comparison of the artifacts found at the other two case study sites. There were no whole (intact) items found at either Frisco or Newhouse.

Examples from the museum collection that are similar to artifacts found at Frisco and Newhouse are provided in Figures 5-93 through 5-110. Images of additional artifacts found in the Silver Reef Museum, but not found during the field surveys, are also provided. Most of these artifacts represent items that were undoubtedly used at the two locations, but were lost to salvage during the abandonment process or the heavy looting that has occurred since that time. The artifacts offer valuable insight into the lifeways of late 19<sup>th</sup>-century – early 20<sup>th</sup>-century mining environments (see Figures 5-5, 5-6, Appendix F, and Figures 5-111 through 5-116).





**Figure 5-93. Silver Reef Museum, Porcelain Doll's Leg**

Porcelain doll's leg similar to that found at Frisco (see Figure 5-94).

The presence of dolls legs and other toy and miniature fragments correlated with the case study census records and histories reveal that families with children were present at all three case study sites.

(Photograph by Author, June 2009)



**Figure 5-94. Frisco, Porcelain Doll's Leg**

Upper portion of porcelain doll's leg found south of Frisco's Cedar Street. The artifact is approximately 2 inches in length. The socket of this piece would have fit into the cloth upper leg and body of a china doll about 12 inches tall. The brown paint on the lower end would have been a hand-painted boot or shoe similar to that seen in Figure 5-93 (Foulke 1992).

(Photograph by Author, April 2008)



**Figure 5-95. Silver Reef Museum, Skeleton Key and Lock Surround**

A similar cast iron key and its associated lock box (damaged) was found at NH8 (Miner's Cabin). Most of this type of key would fit more than one lock limiting their usefulness for safety. Keys and locks of this type were readily available from mail order houses (Montgomery Ward 1895).

(Photograph by Author, June 2009)



**Figure 5-96. Newhouse, Skeleton Key and Lock Box**  
Iron skeleton key and partial door lock box found at Newhouse  
Locus 8, Miner's cabins.  
(Photograph by Author, June 2009)



**Figure 5-97. Silver Reef Museum, Oval Porcelain Bowl**

Sherds similar to this blue-patterned porcelain serving bowl were found at Newhouse Locus 1. Both are attributed to Alfred Meakin, Staffordshire, England (Lage 2004). Similar to the cameo shown in Figure 5-5, a porcelain serving bowl may have belonged to a family of wealth or social status or, perhaps to Mrs. Grambs, who owned and operated the Cosmopolitan restaurant.  
(Photograph by Author, June 2009)



**Figure 5-98. Newhouse, Blue Porcelain Sherd**

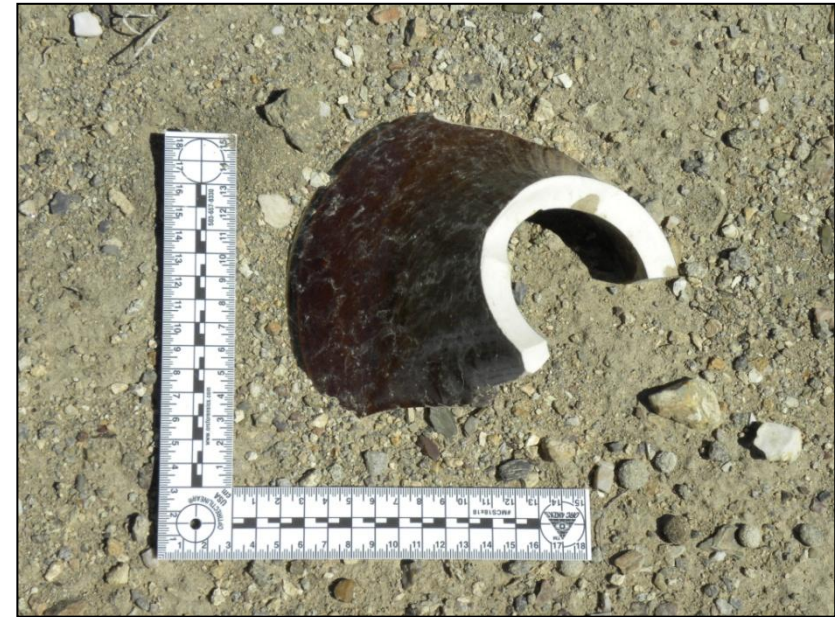
This blue-patterned porcelain sherd was found at Newhouse Locus 1 (Bank) and is similar, but not identical, to the porcelain bowl found in the Silver Reef Museum. As noted in the caption for Figure 5-97, both patterns have been attributed to Alfred Meakin, Staffordshire, England (Lage 2004). This sherd most likely came from tableware used in the miner's dining room located within the multipurpose bank building, which also housed the Newhouse company store.  
(Photograph by Author, June 2009)





**Figure 5-99. Silver Reef Museum, Stoneware Jug**

Stoneware fragments of this type were found at both Newhouse and Frisco. The inside of this 1-gallon (8 inch diameter) jug is glazed brown like the top and dates to between 1871 and 1919. The jug would have been sealed with a cork and probably held alcohol at one time (Raycraft 1985; Carrick 1923).  
(Photograph by Author, June 2009)



**Figure 5-100. Newhouse, Stoneware Sherd**

This stoneware fragment was found at Newhouse Locus 10 (North Newhouse Dwelling). The glossy dark brown glazing on the sherd is on the interior and exterior and identical to that found on the jug shown in Figure 5-99. The exact function of this vessel is not clear – perhaps a kitchen bowl (Raycraft 1985; Carrick 1923).  
(Photograph by Author, June 2009)



**Figure 5-101. Silver Reef Museum, Button Collection**

Various sized two- and four-hole buttons. The buttons are made of a variety of materials, including sea shell, porcelain, mother of pearl, and glass. Four-hole buttons, especially for men's shirts, became popular around the turn of the 20<sup>th</sup> century (Gorsky 2010).

(Photograph by Author, June 2009)



**Figure 5-102. Newhouse, Buttons**

One each two- and four-hole mother of pearl shirt buttons from Newhouse Locus 6 (Cactus Café). Machine-made four-hole buttons became popular around the turn of the 20<sup>th</sup> century and were popularly made and sold by J.C. Penny and Company (Green 1991). (Photograph by Author, June 2009)





**Figure 5-103. Silver Reef Museum, Galvanized Fuel Can ca. 1920s**

Galvanized buckets, wash tubs, and other containers are commonly found in early 20<sup>th</sup>-century western sites. This 2-gallon (16 inch diameter) can probably held gasoline and likely dates to the Colbath and automobile eras at Silver Reef (1916-1948).

(Photograph by Author, June 2009)



**Figure 5-104. Newhouse, Galvanized Wash Tub**

This galvanized wash tub was found adjacent to the Newhouse Locus 5 (Town Center Dwelling). It is made of the same material as the fuel can shown in Figure 5-103 and was likely used for washing clothes. The marking on the bottom of the tub (inset) indicates that the size/capacity of the tub was 9 pounds. An early Sears, Roebuck and Company Catalog (1902: 593) shows that this size galvanized tub cost .68 cents.

(Photograph by Author, June 2009)



**Figure 5-105. Silver Reef Museum, Boyd's Genuine Porcelain Lined Cap**

This type of glass liner for zinc caps was patented March 30, 1869 by Lewis R. Boyd of New York City. The liner is milk or opaque glass. The embossed (raised) letters on one side read "Boyd's Genuine Porcelain Lined Cap." The word "porcelain" is a misnomer and not originally used by Boyd. The liner was inserted into the bottom of solid zinc caps used on Ball fruit jars in canning. It provided an all-glass contact for the food in the jar and prevented the cap from imparting a metallic taste to the food (Society for Historical Archaeology 2010; The Basque Museum and Cultural Center 2012)

(Photograph by Author, June 2009)



**Figure 5-106. Newhouse, Boyd's Genuine Porcelain Lined Cap**

This Boyd's glass liner and zinc cap was found at Newhouse Locus 6 (Cactus Café). When the cap is correctly assembled for use in the canning process, the maker's marks on the liner are not visible.

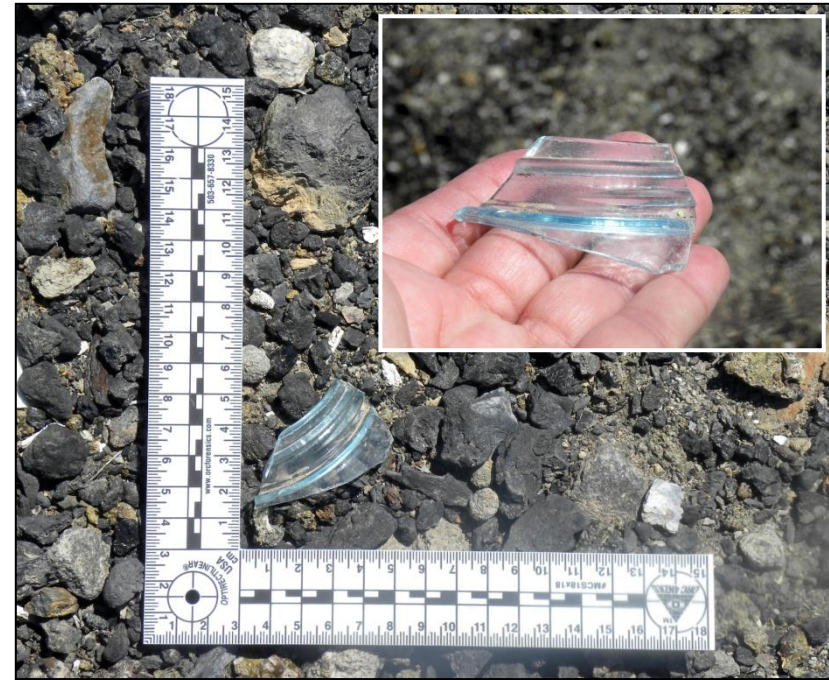
(Photograph by Author, June 2009)





**Figure 5-107. Silver Reef Museum, Wide Mouth Condiment Bottle**

The external threads and dimensions of this octagonal wide-mouthed bottle (10 inches in height) indicate that it once held pickles, pickled vegetables, or fruit. The bottle was made by the Illinois Glass Company between 1873 and 1920 (Lockhart et al., 2005)  
(Photograph by Author, June 2009)



**Figure 5-108. Newhouse, Wide Mouth Bottle or Jar**

This wide mouth threaded bottle or jar rimsherd was found at Newhouse Locus 6 (Cactus Café). Based on the aqua color and approximate diameter, the sherd is probably from a Mason canning jar (Society for Historical Archaeology 2010).  
(Photograph by Author, June 2009)



**Figure 5-109. Silver Reef Museum, Porcelain Water Pitcher**

The delicate gold pattern on this water pitcher is very similar to a ceramic sherd found at Newhouse. There were no maker's marks on either the pitcher or the sherd, but it is attributed to the Haviland Company, which manufactured fine porcelain beginning in 1840 (Haviland Collectors International Foundation 2009).

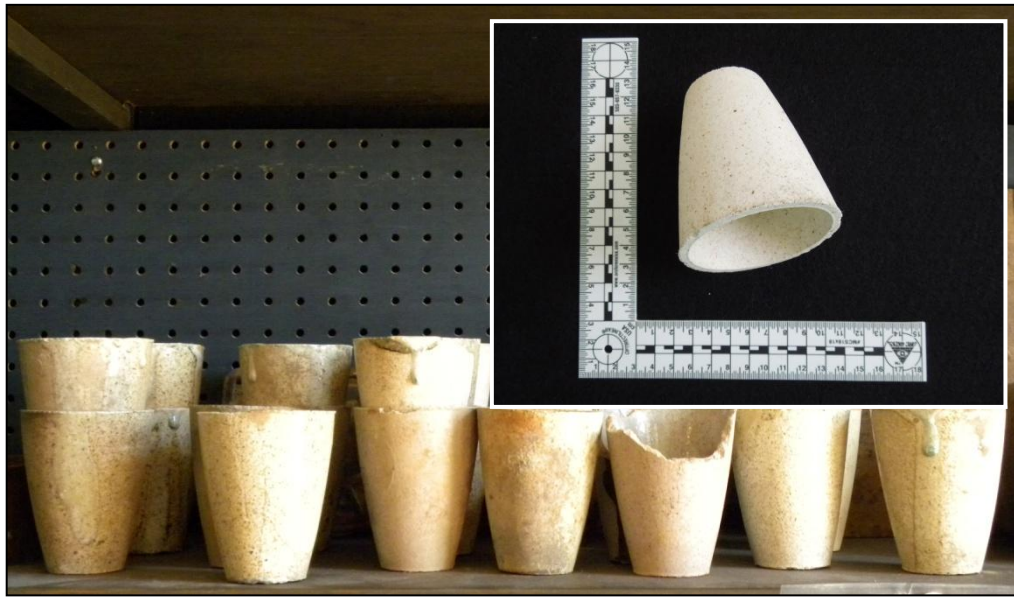
(Photograph by Author, June 2009)



**Figure 5-110. Newhouse, Porcelain Sherd**

This bow and bead raised gold patterned porcelain sherd was found at Newhouse Locus 3 (Train Depot). The pattern is similar, but not identical, to that of the complete pitcher at Silver Reef and is probably from a teacup based on the curvature and thickness of the sherd.

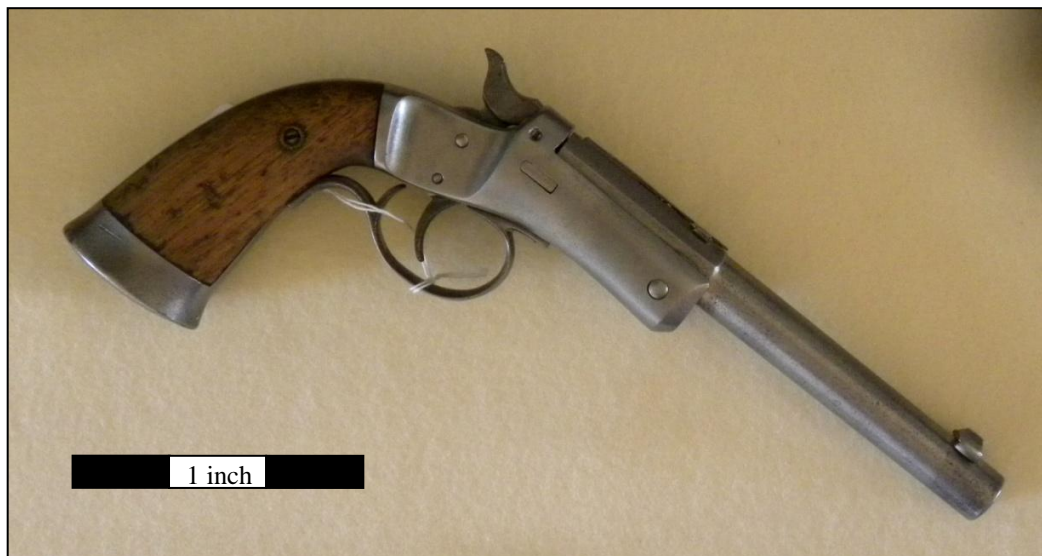
(Photograph by Author, June 2009)



**Figure 5-111. Silver Reef Museum, Assay Cup Collection**

Fired clay cups of various sizes were used by an assayer to determine the composition, purity, and quality of various ores. During the fire-type assay process (which requires this type of vessel), the ore was first reduced to a powder, then placed in an oven to separate the precious metal from its matrix, and then cooled. The cup seen in the photograph inset is from Newhouse and is in this author's personal collection. When the Newhouse assay shed was moved to Milford in the 1920s, dozens of the assay cups were also moved and still remain inside the shed (see Figure 3-23).

(Photographs by Author, June 2009; inset July 2012)



**Figure 5-112. Silver Reef Museum, Pistol**

The Silver Reef Museum has a large collection of historic firearms. Among them is this Stevens Model 35 Tip-Up Single Shot 22 Caliber Target Pistol. This pistol type was manufactured by the J. Stevens Arms Company between 1907 and 1916. Other than ammunition, there were no firearms-related items found at either Newhouse or Frisco.

(Photograph by Author, June 2009)





**Figure 5-113. Silver Reef Museum, Embossed Druggist “Remedy” Bottle**  
Van Buskirk Sozodont [save the teeth] oral hygiene product. The embossed lettering on this side of the bottle reads “For the Teeth and Breath.” The product was widely sold between 1859 and 1902 (Fike 1987: 181). Medicine bottle fragments similar in shape to this bottle were found at both Newhouse and Frisco; however, there were insufficient markings to determine the exact origin or contents (inset from Newhouse Locus 3).  
(Photographs by Author, June 2009)



**Figure 5-114. Silver Reef Museum, Miniature Teapot**  
Miniatures such as this white glass teapot fragment are usually indicative of the presence of children; however, they can also represent an adult’s collectible. Similar miniature fragments were found at Newhouse and Frisco, including the handle of the same material from a teapot that was found at Newhouse Locus 9.  
(Photograph by Author, June 2009)



**Figure 5-115. Silver Reef Museum, Wool Carding Brushes**

Wool carding brushes were used to separate sheep wool for eventual spinning into yarn. The paddle end of the brush is approximately 4 inches by 8 inches in size. The writing on this set of carding brushes reads “THE ONLY GENUINE OLD WHITEMORE PATENT NO. 8 WOOL, L.S. WATSON & CO., LEICESTER, MASS., which dates them to the early 1900s. Although this exact type of brush was not found at Newhouse, they would have been used in that sheep shearing environment. A Fragment of a sheep shearing comb was found near the sheep shearing pens (inset) (see Figures 5-7 and 5-9). (Photographs by Author, June 2009)



**Figure 5-116. Silver Reef Museum, Oil Lamp Collection**

Kerosene and oil lamps were used widely in western mining towns. They came in a variety of sizes and designs and were available from local general merchandise stores as well as the Sears and Roebuck and Montgomery Ward’s catalogues. Small fragments of lanterns were found at both Frisco and Newhouse, including the opaque lamp globe fragment seen in the photograph inset from Newhouse Locus 3.

(Photographs by Author, June 2009)

## 5.4 INTERPRETING THE REMAINS

All of the artifacts and features discussed in this thesis contribute to a far greater understanding of both the broader context of early American mining settlement life in the West and the lifeways at each case study site. They support the range of occupation (timeframe) for each settlement as chronicled in various historical documents, and reveal the social, dietary, and recreational preferences and proclivities of the residents and workers.

Domestic items and extravagant recreational and infrastructure features tell us that Newhouse was far more affluent than Frisco. Among these are the presence of fresh oyster shells from the East coast (none found at Frisco) (see Figure 5-18); remnants of a sophisticated, state-of-the-art water supply system (pipelines and reservoir) (water brought in by horse and wood water wagon at Frisco); light bulbs and ceramic electrical fixtures for town lighting (no electricity at Frisco); the lack of privies in the town center (inferring indoor plumbing, which was not present at Frisco); and the building materials used to erect many of the dwellings and commercial buildings (e.g. stucco and rammed earth at Newhouse as opposed to predominantly wood constructions at Frisco). The fact that Newhouse did not suffer from the number of devastating fires that affected Silver Reef and Frisco probably attests to this as well. The subtle outline of the Newhouse town park, which was planted with exotic trees and shrubs and irrigated (see Figures 5-13, 5-39 and 5-40), remains in 2012 and there are historical images and narratives that describe grass tennis courts, “bathing pools,” and an ice house, although they were not readily identifiable in the modern landscape. Prior to this research, there was no indication that any of these extravagant features existed at Newhouse, and no similar elements are noted in the historical records for either Frisco or Silver Reef.

The difference in the numbers of alcohol-related artifacts between Frisco and Newhouse (alcohol bottle shards in a wide range of types, classes, and colors) confirms historical accounts consistently indicating that Samuel Newhouse had little tolerance for alcohol consumption in his work environment and that he forbade saloons and brothels within the town limits. The much higher count for alcohol-related artifacts at Frisco and the findings from Frisco Locus 3 (possible brothel) support the number of saloons recorded in the Frisco City Directories and newspaper accounts (as high as 18 between

1883 and 1884) (Graham 1883: 248; Graham 1884: 305). Perhaps the reputation of Frisco, at least in its early years (1870s-1890s), as an American Sodom and Gomorrah (*Deseret News* 1882, 1903b; *The Salt Lake Herald* 1902b; Daughters of Utah Pioneers of Beaver County 1948: 263; Notarianni 1982) was not embellished as some have suggested, but justified.

The presence of ceramics in numerous patterns (including porcelain sherds) and “fancy” [decorative] glassware at all three settlements, particularly in the assemblages of the boarding houses, shows a desire to express some level of comfort and refinement in otherwise unforgiving environments. At Newhouse, the ceramic variety within the company-constructed area of the town may also reflect the level of affluence that did not exist at Frisco or Silver Reef, although the sherds may also represent heirlooms or cherished items that accompanied the residents as they moved from place to place.

While the artifacts do not explicitly tell us *why* settlements are abandoned, the scant number of whole items and the lack of any spatial organization and caching do tell us something about *how* they were abandoned. Even with the degree of disturbance that has occurred at each location in the intervening years, the patterning (or lack thereof) indicates that the abandonment was not precipitated by any type of cataclysmic event. Rather, that desertion was planned, took place over an extended period – months or years – and that usable and valuable items, including entire buildings, were removed with no intention on the part of the abandoners to return. Most importantly, what the artifacts help to expose is the previously undocumented history of three mining communities that suddenly appeared in the remote Utah desert during the late 1800s and just as suddenly vanished from the western landscape by the 1920s.

## **CHAPTER SIX: FINDINGS**

The primary goal of this research was to consider an under-investigated archaeological site type – late 19<sup>th</sup>-century/early 20<sup>th</sup>-century settlements in the American West – within the context of abandonment. Although a strong association between the archaeological remains and the processes of abandonment was not forthcoming, analysis of the three case study communities – Newhouse, Frisco, and Silver Reef, Utah – illustrates how valuable archival research and the examination of broken and discarded items can be for expanding local and regional histories and interpreting the lifeways of deserted settlements. Prior to this research, no comprehensive, professional historical or archaeological studies had been undertaken at Newhouse or Frisco and very little of substance had been published about any of the case studies. In addition, the causes for abandonment at the case study locations, and within the ghost town site type as a whole, has never been questioned.

### **6.1 FINDINGS**

#### **6.1.1 The Misconceptions**

##### **All Ghost Towns are Western Mining Towns**

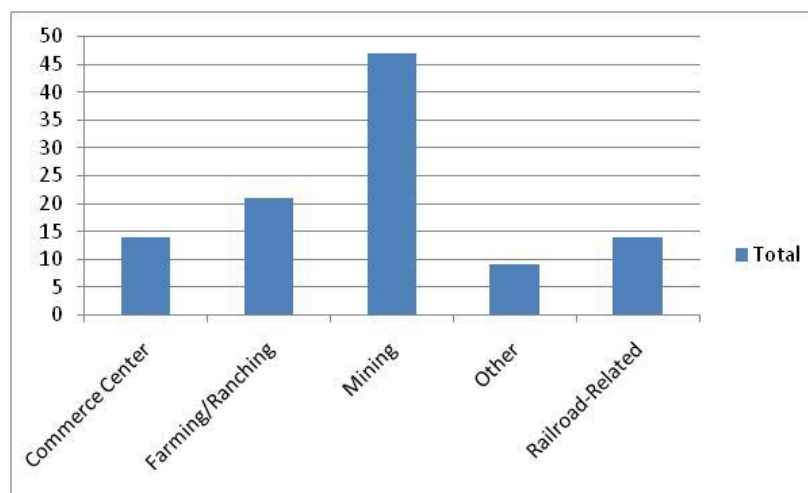
The majority of Americans – academic and non-academic alike – will define the term “ghost town” as an abandoned western mining town. The definition is ingrained in the American psyche and is perpetuated in both print and film media; dictionaries and encyclopedias consistently offer the same definition (Random House, Inc. 2006: 277; Simon & Schuster 1980: 588; Hirsch, et al. 1988: 67). The database analysis presented in Chapter Four, along with an extensive literature review of ghost towns scattered across the West, show that this definition is far too narrow. However, if ghost towns are not all mining towns in the West, then, what and where are they?

Firstly, although they are most commonly associated with America and Australia, the literature review confirms that ghost towns are a worldwide phenomenon (e.g.



Macetown, New Zealand; Craco, Italy; Chernobyl, Ukraine). In the United States, about 2,557 are found in the 11 western United States alone (see Figure 2-29), but they are found in all 50 States and, by rough counts, there are more than 5,000 of them. There are also likely many more abandoned places that have never been recorded.

As to the primary industry of ghost towns, the Utah subset of 105 is a good indicator that ghost towns are quite diverse. As illustrated in Figure 6-1 and further discussed in Chapter Four, ghost towns are certainly not all mining-related and make up only 45 percent of the Utah total; the remaining 55 percent are associated with a variety of other industries. These include commercial or trade centers that developed along transportation routes (usually between towns separated by long distances); settlements that built up around agricultural (farming, orchards, timber harvesting) and ranching endeavors; and communities that supported the development and operation of America's railroad system. Unique towns, such as religious settlements, quarry sites, military outposts, and manufacturing plants make up the "other" category. Given its mountainous, ore-rich environment, the number of mining towns in the Utah dataset may also be skewed higher than in other states and regions, particularly the northwestern United States where ghost towns are more often associated with the logging and fishing industries. Review of the histories and the various tallies undertaken for this research, then, preliminarily refute the popular perception that all ghost towns are associated with mining in the West.

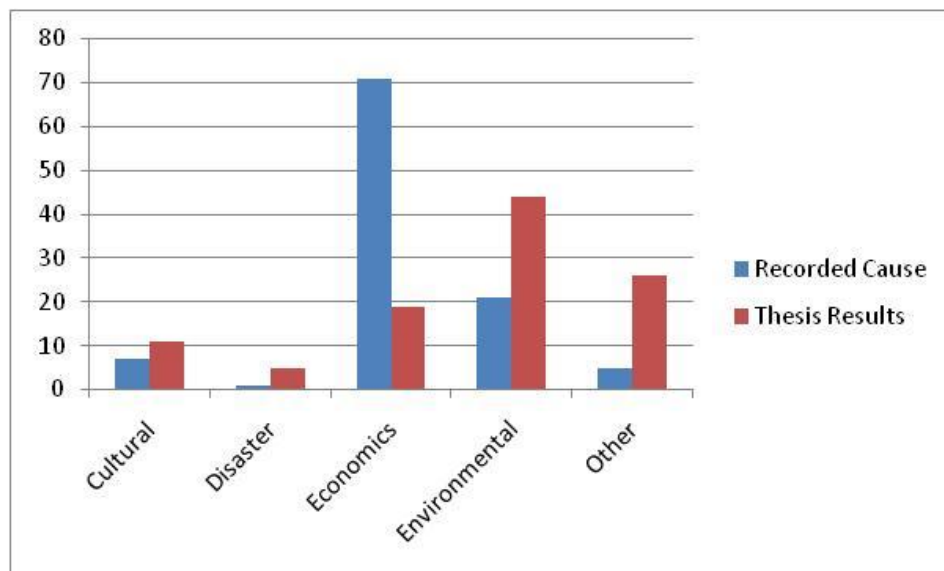


**Figure 6-1. Utah Ghost Towns – Totals by Industry**

Of the 105 total ghost towns in the Utah database, 55 percent are associated with an industry other than mining.

## All those Old West Towns Died because the Ores Played Out

As shown in Chapter Two, there are a number of factors that can trigger abandonment. While economic factors are the most often cited, the data from both Utah and the broader region of the West show that economics is often secondary to other factors or not a factor at all (Figure 6-2). What is unambiguous from the research is that abandonment triggers vary by the physical, social, and environmental conditions of the particular community and that any single cause for an abandonment would be an exception rather than the rule (e.g. from a natural or technological disaster). Although the Utah database (Appendix C) is a narrow subset of the possible universe, the results are a good preliminary indicator of patterns and trends. Of the Utah database, economics was a dominant factor in only about 18 percent of the total number of ghost towns (19 towns). The remaining 82 percent were abandoned for environmental reasons (44 towns, or 42 percent), social/cultural reasons (11 towns or 10 percent), some sort of cataclysmic event or disaster (5 towns or 5 percent), or a combination of factors (26 towns or 25 percent).



**Figure 6-2. Utah Ghost Towns Causes of Abandonment – As Recorded vs. Results of the Research**

Unfortunately, historical accounts of the three case studies do not directly address the topic of abandonment, nor does the larger body of literature related to ghost towns. Various abandonment factors are discussed (e.g. lack of water, crime, cultural tensions,

fires), but they are rarely advanced as the reason the community collapsed. Rather, the presumption is overwhelmingly that collapse was due to one or another economic factors, such as a sudden drop in the market value of ore, that the ores were exhausted, or as a result of the high costs of ore recovery. In other words, as Church (2002: 238) has noted, archaeologists and historians seem to be more comfortable with the economic origins of abandonment than they are considering indirect or less tangible possibilities.

As contemporaneous settlements, the Bank Panic of 1907 affected the price of silver at all three case study sites equally. The dramatic drop in the price of silver and copper resonated throughout world markets, but it cannot account solely for differences in the dates the towns were abandoned or their ability to recover. Rather, the unique circumstances at each affected their survival. As described in Chapter Three, both Frisco and Silver Reef had repeated, devastating fires. Frisco had no water to fight fires; Silver Reef had an abundance of water, but no piped system or ready access to it. After each devastating fire, areas were rebuilt, but not to the original extent and that contributed to population movements and, eventually, the town's abandonment.

Frisco was totally devoid of potable water. Water in the springs surrounding both Frisco and Newhouse was unfit for consumption and the extravagant water system constructed in the early 1900s that rescued and supported Newhouse was never extended to Frisco. Although Silver Reef had plentiful water, its abundance proved to be a negative and primary contributor to its abandonment. The high water table kept the mines constantly flooded and even continuous pumping could not keep them dry.

In the early years of Frisco (late 1870s through about 1884), crime was so rampant that many of the residents relocated to safer communities across the West (e.g. in Utah, Black Rock, Milford, Cedar City). In the late 1880s, Frisco was nearly deserted because of this and was only somewhat revived when a full time sheriff was hired. Frisco also experienced a disastrous mine collapse in 1885. The collapse caused Frisco's population to decline significantly and the town never fully recovered. There were no deaths associated with the accident but within hours of the cave-in, 26 percent of the miners and their families had abandoned the town for a life elsewhere (*The Salt Lake Tribune* 1885a and b). Many of the miners took all their possessions with them, including their dwellings. In addition, passenger service to Frisco on the Utah Southern

Railroad extension from Milford was discontinued to Frisco in 1928, freight service was discontinued in 1931, and large portions of the railroad bed were destroyed by flooding in 1934 and never rebuilt (Strack 2012).

Newhouse was abandoned for a combination of reasons; however, it was the extreme isolation that made the town vulnerable to even subtle changes in its physical and social environments. Near the end of its peak years (1910-1913), Newhouse suffered two serious mine collapses, with associated deaths. Although not a primary factor in the town's abandonment, newspaper accounts indicate that these events had a significant effect on the morale of the already faltering community. Economic factors clearly affected Newhouse as well, including the banking collapse of 1907 and the well-chronicled actions of its flamboyant owner. As shown in the brief biography of Samuel Newhouse provided in Chapter Three, extravagance and great generosity overextended his financial worth, from which neither he nor the town could recover. As the Newhouse population began to decline, the elaborate water system fell into disrepair and there was a lack of potable water to support the residents and other ancillary endeavors (e.g. sheep shearing, farming). Passenger and freight service along the Utah Southern Railroad extension from Frisco to Newhouse, which was the primary method for moving equipment, goods, and residents, was discontinued and subsequently dismantled by 1921 and that essentially eliminated all alternatives for the community's recovery.

The perception that ghost towns were almost always abandoned because "the ores played out," is not supported by this research. The three case study histories confirm this, but it is also a consistent pattern in the 105 settlements included in the Utah database and many of the other settlement histories reviewed during the archival research (see Figures 4-7 through 4-10). The conclusion, then, is that a variety of factors affected the abandonment of western ghost towns and that each community had a unique and complex set of circumstances that contributed to its success or failure.

### **Ghost Towns are not for Real Archaeologists**

Western ghost towns are not, as yet, widely recognized as a subject of serious research by most professional archaeologists (Research Questions Two and Three). The reasons for this are not wholly clear but, as discussed in Chapter Two, are believed to be

based in the notions that they are too young historically and that their short life spans and largely surficial deposits have little to offer in the way of scholarly interpretations of western lifeways, trends, and patterns. After all, why would anyone want to study a place “that had failed and disappeared?” (Limerick and Klett 1992: 21).

As a misconception, this view may be the most egregious as it intentionally eliminates an entire genre of sites from serious examination and increases the risk that valuable scientific contributions will be lost through disinterest and time. In reality, there is no requirement for archaeological sites to be of a certain age before they become worthy of examination, nor is a shallow footprint a measure of significance. What this research shows is that even the small bits and pieces of everyday life can provide us with glimpses into a settlement’s history. They also offer us an opportunity to question and challenge commonly held assumptions about late 19<sup>th</sup>-century – early 20<sup>th</sup>-century western abandoned communities that may – or may not – be correct.

These countless, short-lived booming camps consumed far greater human effort and suffering, more money and equipment, than the occasional successful mining district that gained lasting fame. The relative silence about the failures in the Mining Kingdom has resulted from a lack of records. Men have a tendency to forget rather than record disappointment and failure, so the story of the average camp has not won much space in old men’s memoirs (Jackson 1963: 1-2).

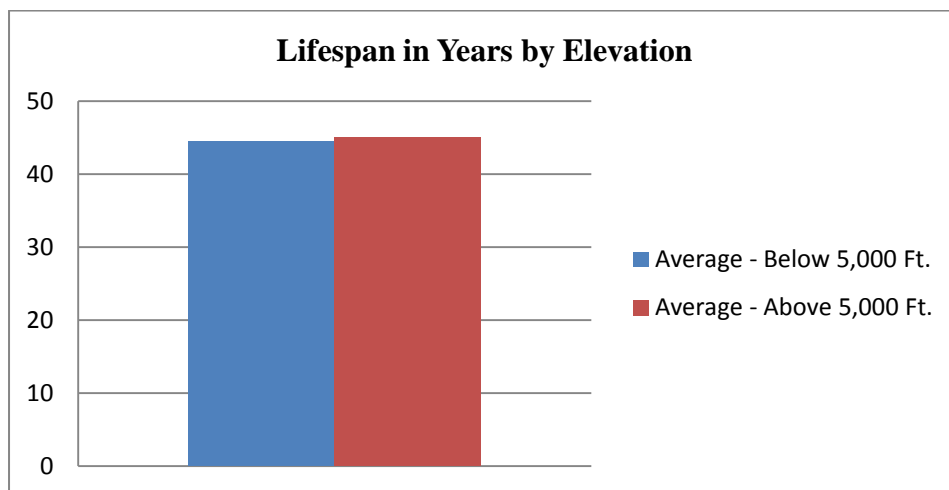
### **6.1.2 The Database: Some Interesting By-Products**

As shown in Chapter Four, constructing the database of 105 Utah ghost towns was a valuable part of the research (Appendix C). The data allowed the quantification of specific community attributes (e.g. peak population, elevation, climate, number of active years) and exposed some interesting results that would not have otherwise been revealed through the historical records or field work. Among these were the correlation of life span and elevation and the stability of company-constructed settlements vs. non-company towns. Given the mountainous environment of most western mining towns, elevation was included in the database to determine if there might be a measurable difference in the life span of towns at higher elevations (i.e., would those towns have a shorter life span than settlements at lower elevations with milder climates). From an environmental and social perspective, severe climate; more difficult access to the mines,



goods, and services; and more difficult working conditions might have negatively affected the residents and, ultimately, community longevity and stability. Although the conclusions are preliminary pending analysis of a larger data universe, the Utah dataset shows that elevation had no effect on longevity. While not a statistically significant margin, the towns at higher elevations actually survived about 6 months longer. Of the 105 ghost towns, the average life span below 5,000 feet (the elevation at which snow remains on the ground in Utah throughout the winter months) was 44.5 years; the average town life span above 5,000 feet was 45 years (Figure 6-3).

Not as surprising, but nonetheless interesting, was the relationship between institutional investment and the longevity of company towns compared to non-company towns. Whereas non-company towns had little, if any, centralized financial or organizational control, company town owners invested heavily in infrastructure and amenities that would encourage long term employment and residency. Although there are probably exceptions to be found, quantifying this attribute within the small Utah dataset showed clearly that company-constructed towns, irrespective of the industry type, survived longer as a result of that investment – on average, 19.4 years longer (see Figure 4-3).



**Figure 6-3. Utah Ghost Towns – Correlation of Life Span and Elevation**  
In Utah, 5,000 feet above sea level represents the snowline. Above this elevation, temperatures generally remain at, or below, freezing (32 °F) and snow remains on the ground throughout the winter months.

### **6.1.3 The Artifacts: Revelation or Disappointment?**

It is by constructing possible models of a phenomenon (a hypothesis), and then testing them, that we advance and build on the knowledge that we already have. By doing so, we prove many negatives along the way (Tremblay 2006).

Linking the circumstances of abandonment to the archaeological remains from the three case study locations was a goal of Research Question Three. Attempting to answer this question was approached through the field survey and artifact collection and analysis; however, the linkage was useful only to *how* the sites were abandoned (i.e., the choices made by the residents as to timing and materials kept or discarded), but not *why* the sites were abandoned and then only marginally because the archaeological remains were compromised by the discard behavior (i.e., they had sufficient time and means to remove whole, usable, valuable materials) and decades of intervening extensive ground disturbance. What this tells us, is that the process by which settlements are abandoned (the *how*) may be revealed using archaeological methods (e.g. what is left, whether it was cached, spatial arrangement in the landscape), but the reasons *why* settlements are abandoned are best answered by the historical record.

It should be noted that the minimal information revealed by the case study locations regarding *how* they were abandoned should not necessarily be extrapolated to other ghost towns in the West. The results from these three locations in Utah are more an issue of the topography, environment, and significant disturbance at these particular locations. Characteristics of the physical and social environments vary greatly in other parts of the West and even within Utah. In addition, the lack of physical integrity and degree of disturbance at Newhouse, Frisco, and Silver Reef, is a symptom of greater social issues – looting, vandalism, and site protection – that cannot be resolved within this thesis or applied equally to all ghost town sites.

#### **What the Artifacts Revealed**

While analysis of the artifacts was somewhat disappointing from the perspective of *why* they were abandoned, what they revealed about three Utah ghost towns for which limited to no archaeological data previously existed – or, in the case of Silver Reef, is not publically accessible – was extremely valuable to the historical record.

Assemblages from heavily disturbed sites with short life spans might not tell us much about specific individuals, but they are important indicators of trends or patterns of community life. For example, the presence of fresh Atlantic oyster shells at Newhouse and only canned oysters at Frisco is an indicator of differing levels of status/affluence. As well, the much higher number of alcohol-related artifacts at Frisco (see Figure 5-3) confirms historical accounts and the data provided in city directories and gazetteers showing Frisco's high number of saloons and Samuel Newhouse's prohibition of them. Based on the artifacts, we now know more about the history, physical, and social environments of the case study settlements than has ever been published. Known and unknown features have been identified and pinpointed within the landscape and mapped (e.g. dwellings, commercial and recreational buildings, utility and transportation features) and hundreds of artifacts from all three locations have been cataloged and analyzed to help us better interpret the choices, preferences, and lifeways of the residents and workers. The roughly 100 artifacts collected from Newhouse give us tangible evidence of daily life there and reveal differences (social status, amenities [e.g. privies vs. piped water]) in the material remains between North Newhouse and the company town area. As a means of public outreach and education, the artifacts will be returned to the land owner for permanent display in the original Newhouse train depot. Access to these remnants of Beaver County history will provide residents and visitors with insight into the history and activities at Newhouse not previously known.

### **The Cemeteries**

This research has also provided valuable ancillary historical information about the three case study cemeteries (Appendix D). The archival research, field surveys, and informal interviews revealed the presence of a cemetery at Newhouse that once encompassed 14 graves. The existence and location of the cemetery was previously unknown and not recorded in the Utah Cemeteries and Burials Database. The database of graves at Frisco was also significantly expanded using the same methods and the records updated. The location of the Silver Reef Chinese cemetery was also revealed. In a historical and archaeological environment where much cemetery data has been lost over time, this information may be valuable to future researchers and built upon to answer research questions not yet posed.

## 6.2 THE WAY FORWARD

Archeological and anthropological study of American West ghost towns is in its infancy. The subject of abandonment as it relates to the site type is even less developed. There are thousands of ghost town sites across the West readily available for future study. Individually, they offer us discreet environments encompassing artifacts and features that may answer any number of scientific questions about physical, social, and environmental issues. Each settlement has its own unique historical record that needs to be documented and, as a group, ghost towns offer us an excellent opportunity for comparison of datasets that may reveal trends and patterns of western life otherwise difficult to distinguish.

As noted in Chapter One, there were additional paths for research exposed during the writing of this thesis. To conserve the word count and keep the thesis tightly focused, most of these unexpected turns required intellectual restraint; therefore, the possibilities are only tangentially mentioned. A few possible paths forward are worth noting here, however, to give some indication of the potential scope for future examination. This will perhaps entice historians, anthropologists, and archaeologists to employ the interdisciplinary approaches described in Chapter Two (i.e., literature review, survey and testing, mapping, photography) and pursue this research genre further. Potential themes include:

- The contributions that pioneer women made to the settlement of the West and how that might have influenced settlement patterns and town planning
- The development of a typology for company town architecture that might reveal how community planning changed over time
- An expansion of Hardesty's work at Rhyolite regarding consumer behavior on the mining frontier through the examination of refuse deposits to include a broader range of ghost town types (Hardesty 1988)
- A genealogical and archaeological study of one or more settlements using census records and artifact assemblages to determine if ethnic neighborhoods can be discerned within the modern ghost town landscape

- A replication or expansion of Stevenson's work in the Yukon, to determine if similar caching patterns are present in other sites where there was intention by the residents to return
- A comparison of frontier cemeteries within a county, multi-county, or state area to assess the relationship between gravestone iconography and ethnic diversity
- An examination of marginalization and how it might be identified and interpreted within the ghost town landscape
- Development of one or more gazetteers to depict the detailed lifeways of a particular settlement
- An application of the theories of historical archaeology and capitalism within the ghost town context.

Given the thousands of ghost town landscapes scattered across the West, much could also be done with aerial and satellite photographs and the plotting of sites and features with Geographic Information Systems (GIS) technologies and 3-dimensional imaging and reconstruction. The latter technology has been largely used by engineers and architects for transportation and urban planning projects; however, there is an emerging applicability of the software to historic landscape interpretation. Among the capabilities of the various softwares is the ability to superimpose historic images on modern landscapes, particularly Google Earth (which is geo-referenced) and which could be a valuable tool for the future interpretation of western ghost towns and their processes of growth and abandonment.

As shown in Chapter Three, this research generated a major expansion of the history and archaeology of the three case study settlements. An examination of other aspects of each, or all three collectively, would be a useful addition to what has already been revealed within the context of abandonment. Development of gazetteers to further define these settlements would greatly contribute to a better understanding of the people that lived there, the types of commercial endeavors present, and their lifeways.



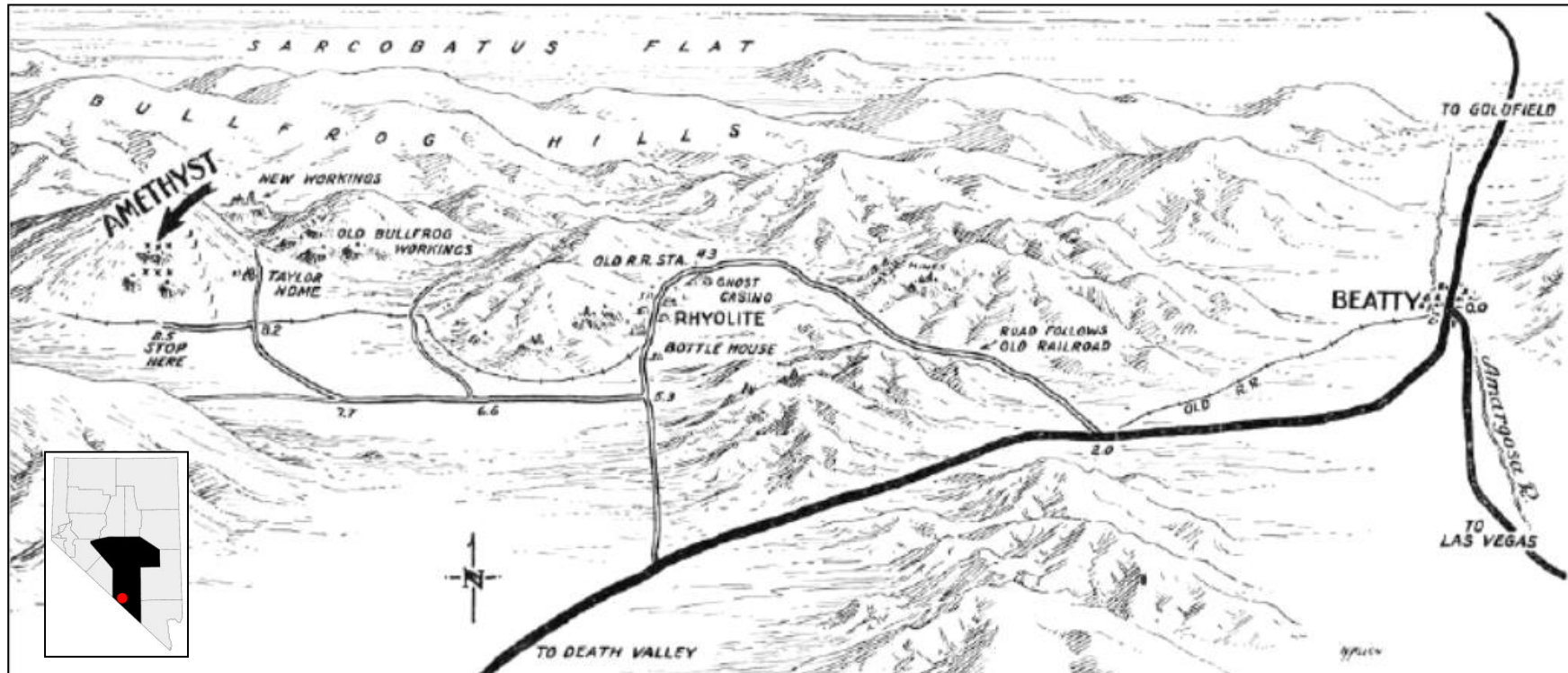
### 6.3 SOMETHING IMPORTANT HAPPENED HERE

For more than three centuries the West attracted restless and curious white men. The first ones were the Spanish explorers, who searched avidly but unsuccessfully for the fabled Seven Cities of Cibola, said to be so rich in gold, only to find that they were the seven adobe pueblos of Zuni, gilded by sunlight. They became a symbol of the lure which for more than three centuries beckoned men and made them crazy, while they searched and killed, and found and lost the gold and silver and copper. Sometimes, the quest made them millionaires; sometimes paupers. But even when they lost, their eyes kept searching the sandy banks of rivers and the rocky sides of mountains for the “strike” which they knew was ahead of them, and as they grew older the glitter in their eyes grew brighter and their efforts became more determined. Tomorrow they would strike it rich; tomorrow was another day (Wolle 1953: 3).

#### 6.3.1 Rhyolite: Rags to Riches to Rags in Five Years

Rhyolite, Nevada, is situated in the harsh, treeless Nevada desert at the east entrance to Death Valley. The closest settlement, Beatty, Nevada, lies approximately four miles to the west; Las Vegas, Nevada, is 120 miles to the southeast (Figure 6-4). Although the settlement has been described in numerous popular publications (travel guides, ghost town websites), a mining of scholarly literature reveals that Rhyolite has been the subject of just a few historical works of substance (Limerick and Klett 1992; Goodman 2010) and only one archaeological investigation (Hardesty 1988b), which did not address abandonment, rather considered consumer preferences based on the remains found in refuse deposits (historic trash dumps).

**History.** In August 1904, Shorty Harris, a self-described “single-blanket-jackass prospector” discovered gold in the nearby Bullfrog Hills. Within one week of making his claim, the word had spread and there were more than 1,000 miners prospecting in the Bullfrog Hills. Three months later, there were four active tent cities (Amargosa City, Jumpertown, Bonanza, and Bullfrog) dotting the surrounding mineral-rich mountains (Harris 1930: 12-20; Wolle 1953: 354).

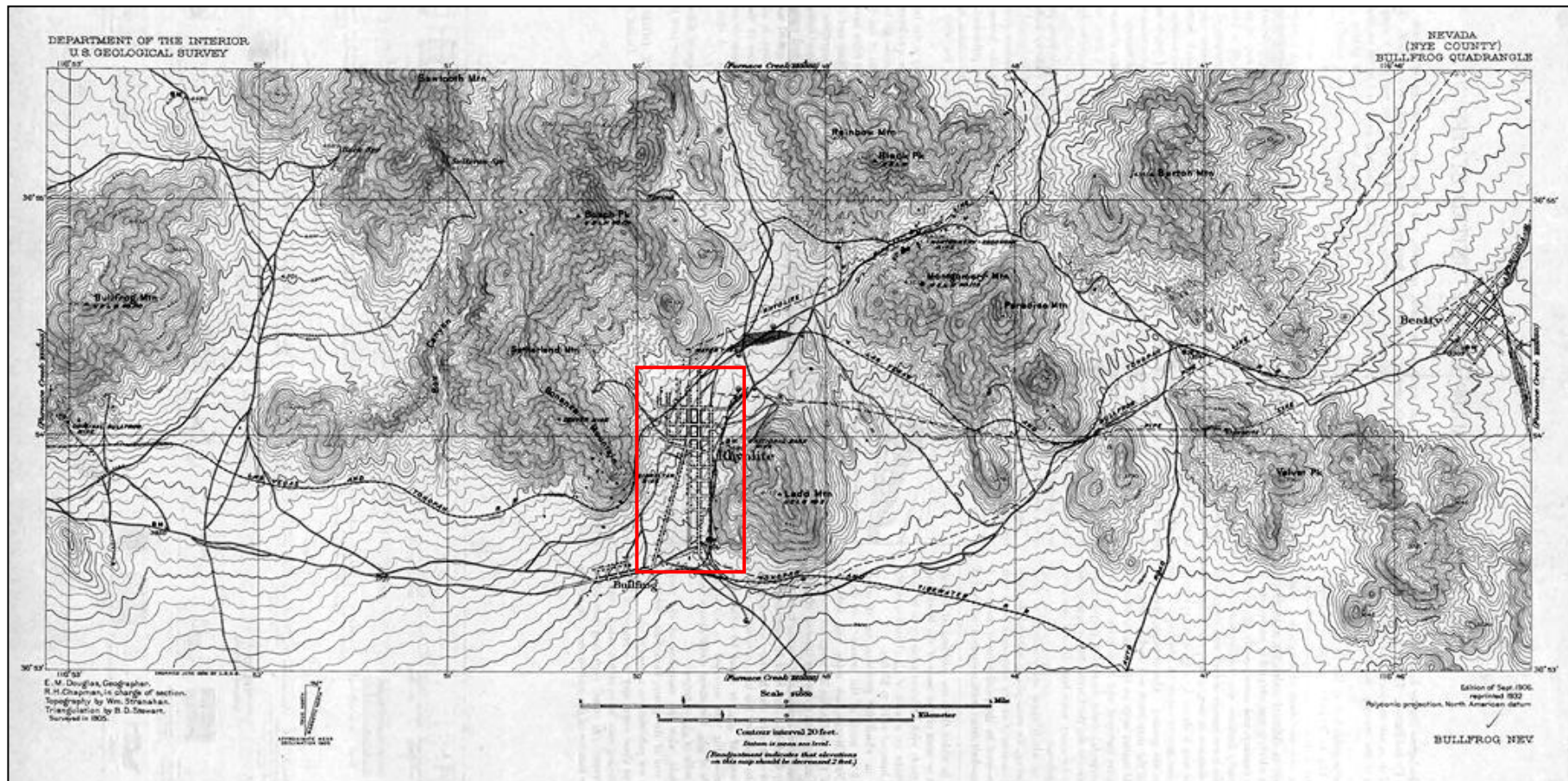


**Figure 6-4. Location of Rhyolite, Nye County, Nevada, and Surrounding Settlements 1947**  
(Hilton 1942: 17)

Shorty – like many old-time prospectors – seldom was reticent about his strikes. Before the partners had been in town half a day, even the swampers on the freight wagons knew about “Shorty’s discovery” down on the Amargosa. Everyone wanted to hear about it. Shorty wanted to tell about it. The tarantula p’isen [poison/liquor] flowed, elbows were bent – and the sharpsters gathered round (Murbarger 1956b: 205).

Within six months (by February 1905), the town site of Rhyolite had been planned and surveyed (Figure 6-5). Promoters of the new settlement convinced the men of the surrounding tent towns into moving to the new site *en masse* and, tempted by free parcels of land, they made the move in a single day (Death Valley National Park 2012). By 1906, there were over 2,000 mining claims being worked in the Bullfrog Hills, more than 10,000 miners have moved to Rhyolite (Belden and DeDecker 2005: 69), and “buildings were springing up everywhere.” Electricity and piped water was available in Rhyolite by April 1907 and later the same year a mill opened to process 300 tons of ore each day. During the rapid growth period of 1906-1907, the residents of Rhyolite constructed the three-story concrete and steel Cook Bank building, numerous hotels and stores, four newspaper offices, 45 saloons (open 24 hours a day), a soft drink bottling plant, a school for 270 children, an ice plant, two electric plants, foundries and machine shops, and a miner’s union hall and hospital. A Stock Exchange and Board of Trade was formed and a red light district drew women from as far away as San Francisco, including “a house of sinful pleasure” operated by the infamous Diamond Tooth Lil (Death Valley National Park 2012; Flinchum 2006; Belden and DeDecker 2005: 60) (Figures 6-6 and 6-7). One creative young miner even built a home of 50,000 liquor bottles (Pierson 1943: 28). In describing Rhyolite, Murbarger wrote (1956: 206):

On the cold, gusty day of January 18, 1905, with Bullfrog and her sister boom camps still less than six months old, an opportunist pitched his tent at the edge of the hills a mile up the wash from Bonanza. Looking over the desert emptiness about him Pete Busch sensed that here on this slope – and not in the valley below – was the place where a city should rise; and he knew, further, that he was the lad who could start that city to building.

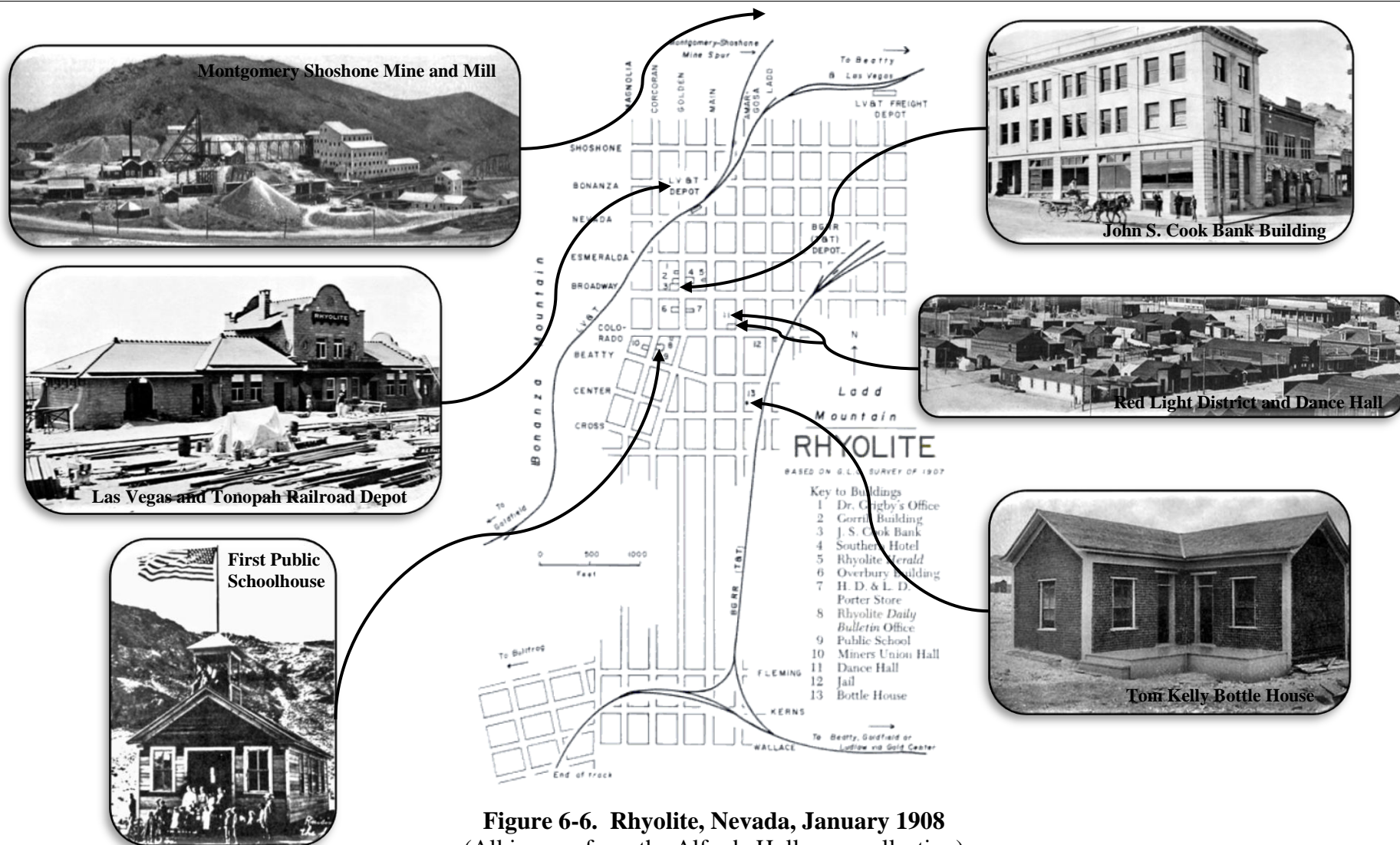


**Figure 6-5. Plat of Rhyolite, Nevada, and Surrounding Settlements 1906**

This map shows the original layout of Rhyolite, Nevada, within the Bullfrog Hills (red rectangle). Following Gillenwater's typology (see Figure 2-2), the town site was surveyed in 1905 and laid out in the block style.

(U.S. Department of the Interior, U.S. Geological Survey)





**Figure 6-6. Rhyolite, Nevada, January 1908**  
(All images from the Alfreda Holloway collection)





**Figure 6-7. Rhyolite, Nevada, during its Peak of Activity 1908**  
(Alfreda Holloway collection)

It would be a city of dignity and decorum, a credit to the state. Unlike Bullfrog and Bonanza, it would not be fabricated of adobe and canvas, but of cement and stone and brick. It would have fine schools and churches, an elegant opera house and sumptuous hotels and cafes – places where gentlemen and their ladies might assemble without rubbing shoulders with the unwashed masses.

In February 2005, Rhyolite's main thoroughfare – Golden Street – was only a bold mark on an engineer's map and a series of stakes set in parallel lines across a desert slope. Less than one year later, those stakes had been replaced by a wide, smooth street [Golden Street] pulsing with traffic, and flanked on either side by substantial buildings two and three stories in height.

The American Banking Panic of 1907 (see Chapter Three, Section 3.2.5) and the San Francisco earthquake of 1906 drastically reduced “the important influx of capital needed to keep the mines and mine speculation going” (Neal 1974: 38). For a town that had produced more than \$3 million in gold, Rhyolite suddenly found itself with no cash or credit and the mines, mills, and commercial endeavors began to close. According to U.S. Census records, the population of Rhyolite dropped from a peak of about 12,000 to 676 (occurring sometime between the 1900 and 1910 census enumerations) (U.S. Census 1900c and 1910c). The new schoolhouse that was newly opened in 1907 to accommodate 270 students had barely enough students left in 1908 for a single class (Belden and DeDecker 2005: 69).

By the end of 1911, the railroads had discontinued service and the rails and cross-ties removed. With limited demand for power and water the utilities were discontinued and the town's population plummeted to 14 by 1920 (U.S. Census 1920c; Murbarger 1956: 215-217). By 1924, Rhyolite was a true ghost town (zero population) and the few remaining buildings were either concrete skeletons, hauled away in whole, or the materials salvaged for use elsewhere (Neal 1974: 38).

In the fall of 1907 the miners began leaving Rhyolite. My folks gave away their furniture and walked away from the house they owned on Golden Street. The Gibraltar Mine had closed. I often heard my father say that the Gibraltar was still

promising mine. Someone would have a good chance of finding more pockets of rich gold ore there... (Tracey 1959: 27).

By May of 1910, there were no street lights, the water company had closed, and the banks were gone. With the population down to below 700, the Porter Store had a final sale and closed its doors for good. In March of 1911, the last mine and mill shut down and the final death notice for the largest city in southern Nevada had been posted (Holloway 2010).

### **6.3.2 A Ghost Town Retrospective**

Forty years after Rhyolite was abandoned, it was visited by Muriel Sibell Wolle, a well-known western artist and writer and, between 1929 and 1947, head of the University of Colorado's Fine Arts Department. In a publication on western ghost towns that included a chapter on Rhyolite, Wolle described the remains of Rhyolite as a landscape of five or six buildings – concrete shells – with “not even a tree to break the monotony of the desert floor” (Figure 6-8; see Figure 6-7 for comparison). Both her description and drawings reveal the stark and often harsh reality of western ghost town prosperity and collapse and the personal tragedy that marks that rapid rise and decline. In her writings Wolle remarked (Wolle 1953: 357):

At the end of a side street stands the shell of the jail; down Golden Street beyond the bank is the Bottle House, a strange creation whose walls are made of empty bottles laid in cement. Beside it is a garden without flowers. Except for the wind that rattled through the greasewood, we heard no sound but our own muffled footsteps in the sand and we saw no signs of life except darting lizards and desert quail zigzagging through the sage. Rhyolite, born in 1905 and dying in 1911, is an eerie ghost whose sand-filled skeleton buildings seem shockingly urban and out of place on the lonely, sun-bleached desert.

After the passage of another 40 years, Rhyolite was visited by one of Wolle's students, Patricia Limerick, who in 2012 is Professor of History at the University of Colorado, Boulder, and Faculty Director and Chair of the Board of the Center of the American West (Figure 6-9; see Figures 6-7 and 6-8 for comparison). Her thoughts on



**Figure 6-8. Rhyolite, Nevada, 1940s**

This image shows Rhyolite as it would have appeared to Muriel Sibell Wolle in the 1940s. The Rhyolite jail is in the right image foreground; the ruins of the Cook Bank Building are in the image center.

(Alfreda Holloway Collection)



**Figure 6-9. Rhyolite, Nevada, 1990s**

This image shows Rhyolite as it would have appeared to Patricia Limerick in the 1990s.

This view is from the identical location as Figure 6-8. In 2012, the town appears essentially same.

(Limerick and Klett 1992: 28)

Rhyolite and the West in general, have direct relevance to my own experiences during this research and the importance of this site type to the history of the American West. What both Wolle and Limerick found at Rhyolite, and what I discovered as well, is that abandoned places are not without history, nor are they necessarily reflections of failure. Rather, for the historical archaeologist, they are ideal spaces – in the words of Douglass (1998: 98), “controlled laboratories” – for unveiling history and visualizing the expectations of those pioneers that crossed the 98<sup>th</sup> meridian with no idea at all what the realities of the other side would hold. These places are also opportunities for us to chronicle the thwarted hopes of pioneers and frontier adventurers like Pete Busch, who stood on the hill overlooking Rhyolite anticipating a prosperous community and life only to have both vanish in the extraordinarily short period of five years. Something important happened at these places and the scientific community is being remiss, if it does not attempt to investigate and document that. As Limerick observes (1992: 34, 37), ghost towns give us the opportunity to “stand at a spot where humans once lived in numbers and contemplate the overpowering fact of their absence. Taking ruins seriously allows us to give the American West the full dignity of its accumulated years of history.”

As we drove up the once populated Golden Street of Rhyolite we felt the ghosts of the dreams and high hopes lingering around the ruins of the old town. In 1905, thousands of men, women, and children had camped on the slopes of the Bullfrog Hills in canvas and burlap tents. They wintered there, scarcely able to keep warm. Fuel was scarce. They cut down anything on the barren desert that would burn. Water was hauled in from Beatty and the price was much higher than they could afford. Were they chasing rainbows or did they hope to gain a home, property and a place to raise their children? The big money speculators could afford the disappointment that came later. Our tent dwellers could not (Tucker 1970: 10).

Long before I began this research, I was fascinated by ghost towns. Not the restored, reconstructed, touristy places like Tombstone or Virginia City, but places like Rhyolite and Newhouse that have been essentially erased from maps and lost to time. Where there were once busy streets, thriving businesses, and a thousand or more hardy



residents, now there is little more than a forlorn landscape, a few crumbling ruins, and silence. In the case of Newhouse, if it were not for the Wintch family that lives about 5 miles to the West, there would not be another living soul for 30 or more miles in any direction.

There are literally thousands of ghost towns scattered across the American West. Yet, except for a handful, there has been a surprising lack of scholarly research undertaken or published on them. From the perspective of one who finds these places irresistible, this lack of interest is perplexing. Limerick, as noted, suggests that perhaps they are too quaint and picturesque to be taken seriously (Limerick and Klett 1992:22) and Alanen infers that they may be too short-lived to be of research interest (Alanen 1979: 50). While these are certainly valid observations based on the dearth of published materials, in actuality they are indefensible as rationales for dismissing this site type as unworthy of serious investigation. Most of them did have short life spans and many of them have quaint and picturesque landscapes, but there is important scientific information locked in the historical records and artifact assemblages. Conversely, their brief histories, the absence of abundant or *de facto* archaeological remains in the modern landscapes and, in the case of this research, the inability to link small fragments of everyday life to specific abandonment processes, do not diminish the ability of ghost towns to contribute to the history of the West, or the region, or to a better understanding of this particular site type. Ghost towns have powerful and legitimate stories to tell. As scientists, we owe it to the fields of history, social anthropology, and historical archaeology to let them speak.

## **APPENDIX A**

**Excerpt from Autobiography of Edith Erickson Lundell  
Resident of Newhouse, Utah 1907-1913**

Following is a letter written by Mrs. Valerie Williams Wood. The letter contains biographical information written by her grandmother, Edith Erickson Lundell, who lived and worked at Newhouse, Utah, between 1907 and 1913. Permission to use the information in this thesis was granted by Mrs. Wood and is contained in the second to last paragraph of her letter.

A photograph of the Erickson family on the porch of the Newhouse Café and boarding house, and mentioned in the account (the Cactus Café), follows Mrs. Lundell's history. The photograph was coincidentally acquired from the collection of Dr. Harold "Hal" Hickman, St. George, Utah, more than 2 years prior to this author being contacted by Mrs. Wood. The photograph was unknown to Mrs. Wood and her family prior to this research and is provided in this appendix to support the context. The photograph also appears in the thesis as Figure 5-34.

Explanatory information has been added to the letter within brackets.

July 27, 2010

Dear Paige,

I wish I had more to show you, but I only have an account from my grandmother about her living there [Newhouse]. She wrote a little about it when she penned a short biography on her mother, and then she wrote a 5 page history of her own life when she was about 76 [ca 1973] and she mentioned Newhouse.

My grandmother was Edith Erickson Lundell and she was born in 1897. Her mother, Margaret Barney Erickson, became a widow when Edith was 2 and after that time she worked at various places to support herself and her children. Here is what Edith wrote about Newhouse.

"About this time (probably around 1907) Margaret got her big chance to be self-supporting and care for her family at the same time. The chance to go to a mining camp called Newhouse and manage a small boarding house, where she and her girls did all the work of cleaning, cooking, and serving. Her boarders were men who worked at the mill and mines.

After a few years at this, she was offered the management of a bigger and better hotel [Newhouse Cactus Café], one with nicer furnishings and more elite customers. Here too, she and her three daughters carried on most of the business and work to run such an establishment. There was occasionally hired help, which would come and stay a short period. Then Margaret and the girls, who were now in their teens, did all the work--took care of the large dining room, cleaned the ten rooms upstairs and cared for all the cooking and washing. Margaret even made all the bread that was needed, the pies, cakes, and ice creams--the latter only served in the summertime.

Margaret worked hard to put her girls into an Academy (Murdock Academy in Beaver), and to see that they were always dressed nicely and in fashion. While at Newhouse,

Margaret's eldest daughter, Inez, married an educated, talented, cultured young man who was Catholic. Unfortunately, the marriage ended in divorce."

Edith wrote more about Newhouse in her autobiography.

"When I was around ten Mother got the big chance to go to the mining camp of Newhouse and cook at a small eating house for mill and mine workers. Here we four, Mother, Inez, Meredith and I lived for around two years. This was the first time Mother, since being left a widow, had a chance to make money and be self supporting. Our house was a square hastily constructed one of 4 rooms of equal size, a kitchen, dining room, and two bedrooms. The part of Newhouse we now lived in was called 'Tin Can Alley' [also known as North Newhouse] because of a deep gully running back of our house in which everyone threw their tin cans. Here it was my duty to arise early in the mornings around five and wait on tables for the men coming for an early breakfast, or help in the kitchen. We carried our water from a pump some distance and uphill, going far, and down coming back with our bucket full, sometimes we had help from Aunts Nell or Carry (Barney) but most often Mother and we three girls did all the work. Inez the older was around fifteen years.

Whether we were here three or four years I do not remember, but we got the chance to move over on the other side of the mill to the better part of town where mother was to run the cafe [Cactus Café] where the clientele was a higher class: the bosses, superintendents, and all traveling visitors and theatrical companies. We received complimentary tickets to all the shows that came through Newhouse [various types of entertainment was held at the Newhouse Opera House, which was next door to the Cactus Café]. Here we worked until I was sixteen (about 1913) Mother doing all the cooking, even making all her own bread and pastries.

This part of town consisted of gray stucco houses row upon row stretching far out upon the desert sand. Here we went to school in a two room lumber school house at the end of one of the long rows of stucco houses. Next came the desert, the howling coyotes, the lizards and horn toads, sage brush and cactus.

In this small mining camp was a manmade park, a club house, store, post office and drug store. But we were happy here, the four of us. Mother and her three girls worked long hard hours. Our only electric appliance was an iron for the clothes, which used to stand all day on the let down ironing board and as we found a few spare moments during the day we would iron.

We also did all the laundry for the roomers, on the old scrub board. Also there was only one bathroom in the whole place, which was upstairs. The only rest and recreation Mother got was to take a walk in the evening down the railroad tracks. I waited on tables, set tables, swept, scrubbed, dusted and washed dishes. Sometimes we would have hired help but usually they didn't stay long.

When my twin sister [Meredith] and I were sixteen we moved from Newhouse to Beaver where we girls could go to Murdock Academy."

I don't know if any of this will be of use to you, but you have my permission to use any of it. I don't know how you would reference it since it isn't a published work. Edith wrote all of it and the originals are in my possession.

I have been fascinated with Newhouse ever since I read what my Grandmother wrote about it. From what I have read about it on the internet, they were on the tail end of the town's life. If you have any questions or think I can be of any assistance, feel free to contact me.

Valerie Wood  
2208 North 2600 East  
Layton, Utah 84040  
801-444-1653





**Newhouse, Utah, Cactus Café and Boarding House 1908**

Left to right - Margaret Erickson [Lundell], manager of the Cactus Café; either Edith or Meredith Erickson (one of two twin daughters approximately 10 years old); and Inez Erickson, eldest daughter (approximately 16 years old).

(Photograph Courtesy Dr. Harold "Hal" Hickman, St. George, Utah)

## **APPENDIX B**

### **Transcript of Oral History Interview**

**Gladys Whittaker**

**April 5, 2008**

1                   **TRANSCRIPT OF ORAL HISTORY INTERVIEW**  
2                   **REGARDING THE HISTORY AND ACTIVITIES AT NEWHOUSE**  
3                   **AND FRISCO GHOST TOWNS**  
4                   **GLADYS WHITTAKER**  
5                   **INTERVIEW CONDUCTED AT THE HOME OF GLADYS WHITTAKER**  
6                   **365 South 500 West Street**  
7                   **Milford, Utah 84751**  
8                   **INTERVIEW RECORDED ON APRIL 5, 2008**  
9                   **INTERVIEWERS: PAIGE M. PEYTON AND HEATHER R. PUCKETT**

10

11   *Note: The first few minutes of this transcript represent casual conversation that*  
12   *occurred before the interview officially began.*

13

14   GW   ...so he passed away (Mrs. Whittaker's husband) and so you see those historical  
15           markers up on the hill, down there across from the motel. We were getting  
16           those for the Dominguez-Escalante celebration of that year in 1976. They were  
17           commemorating the Dominguez-Escalante trip and they reenacted it from the  
18           old trip from New Mexico and up into Utah as far as Provo through that area,  
19           then down here, and just south of Milford they changed their mind about going  
20           down to California. It was too much and they turned around and came back. So  
21           this is the turning point, so that's why they hold this big celebration here.

22   PP   I see

23   GW   That's when we put up those markers down...to get...

24   PP   ... the markers put up?

25   GW   There were, oh, quite a few grants given out to different communities for  
26           projects commemorating that. Ours was mainly to commemorate that  
27           Dominguez-Escalante.

28   GW   And as far as me knowing a lot about Newhouse, I'm not really familiar with it,  
29           because, you know, I came here in [19]46, so I wasn't involved with that area  
30           up there, it was before my time, see.

31   PP   Yes, of course.

- 1 GW And all those houses have been moved into town, I imagine there's between 30  
2 and 40 and what's so interesting is that in Frisco they had dugouts in the  
3 mountains and everything else that the employees lived in. They had no decent  
4 housing out there. You know, they had some hotels and that, but you know, as  
5 far as homes, there were so many people that lived there, but they didn't have  
6 any decent houses, but Newhouse, this Sam Newhouse was the one who was  
7 involved in this Cougar Spar mine, he built homes for his employees and I  
8 thought that was so nice. They had a school out there, they had a church out  
9 there, and this was the thing that was nice about Newhouse in comparison to  
10 Frisco. Frisco was just...
- 11 PP They appear to be to totally different kinds of towns.
- 12 GW Oh they were
- 13 PP One was kind of a rough and tumble western town – that's Frisco – with crime  
14 and all the things that go along with that
- 15 GW Yes
- 16 PP And then Newhouse was more of a company town, what you read about as  
17 company towns, which are built by the company owner and it was like a suburb  
18 or a planned community of today, where they had the clubhouse and facilities for  
19 the people that lived there. They seem to be quite different from one another,  
20 even though they are just across that little mountain ridge. That is one of the  
21 things that fascinate Heather and I about them as a matter of fact. And we  
22 assume it's OK if we tape record your voice, so we'll know...OK
- 23 GW Yes, that's fine and as foggy as it is, if it comes across, why it'll be amazing.
- 24 PP Oh, I'm sure it will be just fine and may we take a photograph of you too? Is  
25 that OK?
- 26 GW Oh, my word...
- 27 PP Heather said, can I take a photograph of you with her and I said, well, I'll ask  
28 her.
- 29 GW Well at this stage of the game, I'm 80 years old...you know, you kind of lose a  
30 lot of what you once had, let's say, but anyway, what questions do you have?
- 31 PP Well, OK, let me do one other thing before we ask you any more questions. In  
32 order for us to be able to publish anything that you tell us, we have to have a

- 1 consent form from you that says it is OK, so do you mind signing this little form  
2 saying that's it's OK for us to do that?
- 3 GW No, I don't think there's anything that I'll tell you that...
- 4 PP I don't imagine, but just in case...
- 5 *Mrs. Whittaker signing unrestricted oral history interview consent form...*
- 6 PP So if, if you will just start by telling us what your name is and your date of birth,  
7 and your address, and that will start the official oral history interview.
- 8 GW Oh, alright. My name is Gladys Whittaker, and I live at 365 South 500 West in  
9 Milford and I am, my birthday was November 20, 1927.
- 10 PP Well, you know, I was looking at a book in the library the other day and I  
11 noticed that some...one of the pioneer residents of Milford, the family name is  
12 Whittaker, is that...that would not be your family because you came in '47...the  
13 name is spelled the same...
- 14 GW Is it?
- 15 PP Yes, well I think it is, you have two "ts" in it don't you? W h i t t a k e r
- 16 GW Well, I never have come across that...what book...
- 17 PP I believe it's in the book about the history of Beaver County and in the back  
18 there are lists of Beaver County pioneer families...and there was a family  
19 named Whittaker. And I thought surely that is the same family. But now that  
20 you've told us your story...it's not the same family...well that's interesting.
- 21 GW No, when my husband came down here, his father worked on the railroad and of  
22 course his seniority brought him down here and they stayed here and that's  
23 where I met him.
- 24 PP I see, well, I guess that de-bunks the first myth.
- 25 GW Yep, there goes the first myth down the drain.
- 26 PP Do you have any old photographs other than this book (referring to George  
27 Horton's 2002 book on Milford)? Do you have any old photographs or maps or  
28 other books about either Frisco or Newhouse?
- 29 GW - - - - - (undecipherable)...*Mrs. Whittaker leaves the room to search for*  
30 *another item.*
- 31 Mrs. Whittaker returns with a copy of *Someone Should Remember: Frisco,*  
32 *Utah, Horn Silver Mine* (by C. J. Brown). You probably already have this...



- 1 HP I have a copy of that...does she [the author of the book] still live in Milford?
- 2 GW Yes, she does.
- 3 PP OK...and did you know George Horton, who wrote this book? [referring to
- 4 Horton's history of Milford (2002)]
- 5 GW Yes, he's still alive. He lives up in Provo. If you wanted to interview him, I
- 6 could call him.
- 7 PP At a minimum we would like a copy of his book. I'm not sure where we might
- 8 find that, so we may have to ask him.
- 9 GW You'd have to ask him... He'd be the only one that would have access to any
- 10 more copies.
- 11 PP There's an email address actually in front and we're going to try to contact him.
- 12 We spoke with a lady that also knows him and another lady named Georgia...
- 13 GW Georgia Thompson...
- 14 PP Apparently she collaborated with him, so we are going to contact both of them
- 15 to see if we can get a copy of the book. It's wonderful and full of good
- 16 information and photographs and other things.
- 17 GW Oh, it's wonderful. He wrote a thesis when he graduated and I have a copy of
- 18 that too, but this [referring to George Horton's 200 book] that he wrote just a
- 19 few years ago is just an excellent book.
- 20 PP Well, you mentioned that there were about 30 or 40 houses moved from
- 21 Newhouse over here to Milford?
- 22 GW Yes
- 23 PP Do you know who moved the houses? Did Mr. Newhouse himself own the
- 24 houses, or did he build them and then the people just leased them?
- 25 GW I think he just built them and the employees bought them.
- 26 PP The employees bought them.
- 27 GW Yes
- 28 PP OK
- 29 GW But I mean he was the finance behind, you know, that.
- 30 PP Right, and where were they moved to?...we found a few of them this morning
- 31 after we looked at Mari's [Mari Prichard Parker] house, there was one right next

- 1 door and we could tell that was one of them also. They are kind of distinctive –  
2 we believe—because they have two chimneys.
- 3 GW Well they have the porch. I was over here on 400 West and 300 West [a few  
4 blocks south of Mrs. Whittaker's home] there's several homes in that area.  
5 You go over there and take a peek at it and you'll see and there's another one  
6 down the street here too. I mean they're all over town. You know they were  
7 well-built homes.
- 8 PP They were, absolutely. What always amazes me though, is how they picked  
9 houses up and moved them. I mean that wasn't the easiest thing to do...we  
10 didn't have 18-wheel trucks in those days to pick things up.
- 11 GW They had the big wagons and the teams and that's how they hauled all those into  
12 Milford. To me it was amazing how...well when the mine kind of petered out  
13 there, I mean here we are out in the middle of nowhere and no jobs or anything  
14 and so what are we going to do?
- 15 PP Sure...
- 16 GW And so they came into Milford for employment and the homes came with them.  
17 You maintained what you had and took care of things. It wasn't a throw-away  
18 society.
- 19 PP Do you know anything about what kinds of businesses were at Newhouse –  
20 stores or...
- 21 GW They had one store and I think they had a school and it seems to me that they  
22 had one church out there.
- 23 PP If they had a church would it have been an interdenominational type of church?
- 24 GW Oh, I would imagine
- 25 PP There was a train station also.
- 26 GW Yes, there was a train that came out of Frisco and went around the mountain to  
27 Newhouse.
- 28 PP Everything is gone now,
- 29 GW Oh yes...
- 30 PP Did they move some of the commercial buildings also? Would they have  
31 moved the church or the school?

- 1 GW Yes, one of the buildings they moved was – they moved out here to a ranch. I  
2 don't know which one of the commercial buildings it was...the train station or  
3 just what it was.
- 4 PP OK, now we've been told that the train station was moved across the Wah Wah  
5 Valley. There's a ranch over there that belongs to the Wintch family
- 6 GW Yes
- 7 PP And the train station we believe is there.
- 8 GW Well it could be...
- 9 PP We're going tomorrow and see if that's where the train station went.
- 10 GW There are things that are at a ranch, but I don't know just which buildings they  
11 were.
- 12 PP Do you know where most of the people came from that lived in Newhouse? In  
13 other words, were they locals, did they come from Salt Lake?
- 14 GW I think they came just like they did here. I mean when I first came to this town  
15 there were people from practically every state in the Union. It was amazing.
- 16 PP How about Europeans? Germans? Chinese?
- 17 GW Well Chinese, because there was a Chinese restaurant here...and still here.
- 18 PP Was there like a Chinatown? You know what I mean, sometimes communities  
19 will have a small Chinatown.
- 20 HP ...a separate section of town where they lived? Like a separate section where  
21 the Chinese lived?
- 22 GW They lived in the railroad houses at that time, but they've been a part of our  
23 community ever since I moved here. They have a thing [restaurant] on Main  
24 Street, you've probably seen it and then he recently retired. But his Uncle has  
25 "The Station" [Milford's Chinese restaurant]. We've had Chinese food here for  
26 so many years that we hate to see him go away. You should try their Chinese  
27 food. I enjoy that "Station" food.
- 28 PP Are you familiar with the cemetery at Frisco?
- 29 GW Well, I've been there lots of times, but as far as being familiar with all the  
30 graves...
- 31 PP The cemetery appears to us now, to have been much larger at one time.

- 1 GW I think it probably was. In those days, they didn't have the materials and that to  
2 preserve headstones. I mean they didn't have the money to buy them. And a lot  
3 of the headstones that are out there are being put there in recent years. They had  
4 a little block of wood that they would carve the name on. That cemetery is  
5 interesting isn't it?
- 6 PP It is an interesting cemetery and what I was wondering is, we haven't heard  
7 anything that leads us to believe there was a cemetery at Newhouse and so we  
8 weren't sure where they might have buried folks.
- 9 GW I really don't know. Most of the people, you know, that would know this, that  
10 were acquainted with that are gone.
- 11 PP I was going to ask if there is anyone else that we should chat with that might  
12 have had family that lived there at one point...like a father or grandfather...
- 13 GW No....
- 14 PP We'll leave our business cards with you if you like.
- 15 GW I would... and if I'm talking with people, there may be some that would be glad  
16 to call you.
- 17 PP Wonderful... Do you know if Mr. Newhouse had a home there? Did he build  
18 one for himself, or did he just visit?
- 19 GW I think he just came to visit.
- 20 PP He did have several homes in Salt Lake. He did have one huge home in Salt  
21 Lake.
- 22 GW Oh yes – the Newhouse hotel was there...
- 23 PP But I never was clear if he had built himself a little house there [Newhouse].
- 24 GW I don't remember hearing that about him.
- 25 PP I saw a photograph that showed he built a train car...once they built the railroad  
26 extension down to Newhouse, that he would travel in a fancy train car...
- 27 GW Yes, they would travel by train and they had their facilities in the train.
- 28 PP Yes, that's true.
- 29 GW I'm sure that would be the easiest way for him when he came down here.
- 30 PP I'll bet that's exactly what he did. It was very lavish, the pictures that I've seen.  
31 He probably did just stay on the train when he came to visit.
- 32 GW Did he have the money to do that?

- 1 PP Yes, he did, at one time, he certainly did have the money to do that. Later on,  
2 not so much.
- 3 GW Yes, well, he kind of dwindled it down.
- 4 PP Well, I think he made a lot and he spent a lot from what I'm reading and then he  
5 didn't have quite so much when he passed away in Paris.
- 6 GW I wish I could be more help to you.
- 7 PP Oh you are being very helpful.
- 8 GW Oh, I know our local library...did you go down there?
- 9 HP They weren't open today.
- 10 GW They will be...they'll be open this afternoon.
- 11 PP OK, wonderful. Now, we've also heard stories that at Frisco, no, sorry,  
12 Newhouse, that there weren't any saloons or brothels like there were at Frisco.
- 13 GW It wasn't...no, it was absolutely a different place out there. It was nothing like  
14 Frisco. Newhouse was more of a hometown type of place.
- 15 PP Well, those stories are probably true then that there were no saloons.
- 16 GW Completely different money.
- 17 HP Frisco itself was extremely wild.
- 18 GW Oh, it was wild. It kept the sheriff busy burying guys that got into brawls up  
19 there in their cabins. It was not what you would call a nice hometown to live in.
- 20 PP Right. I think after a while probably Frisco got better, but I think in the late  
21 1800s, it was pretty rough. Newhouse, though from the very beginning appears  
22 to have been a totally different environment.
- 23 GW Yes there was a difference there. I can call the library and see what time she's  
24 going to be down there.
- 25 PP Well, after we finish with our questions that would be wonderful, if you could  
26 do that. We can drop by there before we leave...I'm sure she won't be open  
27 tomorrow [Sunday].
- 28 GW Oh no, she's not open tomorrow.
- 29 PP We also heard that there was a racetrack at Frisco. Have you ever heard that?  
30 Recreationally they had a baseball team...we understand that both Frisco and  
31 Newhouse had a baseball team and they used to play each other. Where the  
32 baseball fields are, we don't know.



- 1 GW Well, that's just what I was going to say...if you look at that hill where Frisco  
2 was, where would you put a baseball team?
- 3 PP Or a racetrack..but I guess if you want to play bad enough, you'll find a place.
- 4 GW That's right, they'd level some sagebrush area out and play.
- 5 PP You bet. We actually saw pictures...we saw baseball players...yes we did...we  
6 saw baseball players and we also saw the early Milford baseball players with the  
7 words across...
- 8 GW Yes, I've seen pictures of the early Milford baseball players.
- 9 PP We did see one picture that had baseball players in it, but they didn't ...they  
10 looked a little more rag tag. They didn't have an organized uniform. [Laughter]  
11 But that appeared to be one of their recreational activities and they also had an  
12 opera house at Newhouse.
- 13 GW Oh yes.
- 14 PP I don't know about Frisco...whether or not they had one.
- 15 GW They had one here [Milford].
- 16 HP I think some of the saloons at Frisco might have offered some shows, maybe  
17 like a stage show or something. We saw in some of the newspapers, it would  
18 say that there was a troop coming from Beaver over to perform, but I don't  
19 know that they actually had an opera house.
- 20 PP How about a medical facility? Did they have a little hospital?
- 21 GW They had a doctor, but I don't know about a real hospital.
- 22 PP Do you know how they got their mail? Did it come by train, or did it come by  
23 Pony Express?
- 24 GW Well, it came by Pony Express before the train came. The instigator of the train  
25 was Frisco and then later around the mountain there was another mining  
26 process. You know there were a lot of different mines here.
- 27 PP The one I hear most associated with Newhouse is Cactus.
- 28 GW The what? Yes, the Cactus.
- 29 PP How about the approximate populations of both of them? I've heard that  
30 Frisco's population ranged everywhere from about 6,000 people to a couple  
31 hundred people.

- 1 GW Oh, I think it was more because of the things they had out there, you know, the  
2 taverns and rooming house. There are so many stories about it [Frisco], you  
3 don't know what to believe.
- 4 PP Well, it's hard to confirm them...
- 5 GW Well, yes, you know some of them lived in dugouts on the hill there. So many  
6 of the miners, it could be true that they did that because they didn't have the  
7 finances to build a home.
- 8 PP We have some indication that at both places there were tent communities...
- 9 GW Yes
- 10 PP They just lived in tents. At Newhouse, they had houses like what you see here  
11 in Milford, but then there were also houses of stucco, very substantial. It would  
12 have been hard to move those. They were much more substantial.
- 13 GW Oh yes...although this house here, we moved it from 75 miles out...
- 14 PP Really?
- 15 GW Yes and that was simple. Of course, that was in the days when you had a truck  
16 so you could move something.
- 17 PP Right...the idea that they moved houses of this size by wagon just amazes me,  
18 but I know they did it
- 19 GW Oh yes
- 20 PP I know they moved the schools and other big buildings.
- 21 GW Yes, they had several teams hooked onto it and moved them all over the place.
- 22 PP They sure did...up and down the hill.
- 23 GW Uh, huh...it was probably 25 miles to Frisco and another 15 around the  
24 mountain, and so about 50 miles that they moved those homes.
- 25 PP Do you know where they got their water?
- 26 GW A lot of it was hauled from here. There was a spring out there...Squaw Spring  
27 there at Frisco and there's water out in Wah Wah Valley too. Maybe they piped  
28 it in?
- 29 PP I don't think they piped it into Frisco, if what we're reading is true, it was all  
30 brought in by wagon and maybe even by train later on, but certainly by wagon  
31 in the early days.
- 32 GW Yeah...

- 1 PP Mr. Newhouse had a lot of money though, so he built, from what we're reading,  
2 a pipeline from Wah Wah Springs all the way across that valley up to Newhouse  
3 for his company town. Quite unusual. So tomorrow, we're hoping to visit with  
4 the Wintch family. There's a little cemetery out there also that dates to the  
5 middle...late 1800s.
- 6 GW At their ranch? Right at their ranch.
- 7 PP Right at their ranch. Someone we spoke with said you can still see the pipeline,  
8 or the road along the pipeline from Wah Wah Springs to Newhouse, which is  
9 how they got their water. so we're hoping to be able to see a little remnant of  
10 that. And the train station, hopefully.
- 11 GW Who are you seeing?
- 12 PP It's the son [Mark Wintch], his dad [John Wintch] lives in Manti, up near Salt  
13 Lake in Manti M A N T I...that's where he lives. Mr. John Wintch.
- 14 GW Which county?
- 15 PP The county? Oh, J U A B. Juab. How do you say that?
- 16 GW "JoooAB"
- 17 PP Oh good, I was right. I was not sure – that's an unusual word, so I was not sure  
18 how to pronounce it.
- 19 GW Yes it is unusual and I am not sure where it derives from.
- 20 PP Yes, when you first look at it, I am from southern California and when you first  
21 look at it, you try to make a Spanish word out of it, but it's even hard to say in  
22 Spanish, so I thought it's got to be "JoooAB"
- 23 GW I'm sorry I'm not more help to you.
- 24 PP Oh, no you are. I just love listening to the stories, so we thank you so much for  
25 taking the time to spend with us. No doubt about it.
- 26 HP I think the one question I had, related to Squaw Springs, and what was the  
27 relationship between Squaw Springs and Frisco or Newhouse. Did they have  
28 anything there other than a rooming house.
- 29 GW Yes, that's where they got a lot of their water. Squaw Springs was just south of  
30 there.
- 31 HP Just south? Right in that bend in the road?

- 1 GW Yes, it was right there on the side of the road and, in fact, it might still be there.  
2 I haven't been out there for years.
- 3 HP I think I rode out there once and there was a corral and that was the only thing  
4 that I remember seeing. So we'll have to go out there for sure.
- 5 GW I think once I saw a picture of it...maybe it's in his book here [referring to  
6 George Horton's book on Milford].
- 7 PP Oh possibly.
- 8 GW They have this down at the library.
- 9 PP How did you come by the book? Did he [George Horton] give it to you? ...Mr.  
10 Horton give it to you?
- 11 GW Yes he did. We've been friends for years and I tried assisting him with things  
12 when he needed help.
- 13 PP Well, from what we've seen, we definitely need to get a copy of it, because it's  
14 great!
- 15 GW Oh, yes it's fantastic...it's a book that...I was just so thrilled with that book.
- 16 HP Do you know C. Norman Baxter?
- 17 GW He passed away.
- 18 HP We saw him in a video about Frisco that was down at the University [Southern  
19 Utah University, Cedar City, Utah].
- 20 GW Let's see if I can tell you about anyone you might have concerns about. I know  
21 Gilbert McCully – he may have his name in there too. He was very involved  
22 with mining. He used to explore to see if he could find a good deposit of ore.  
23 He's passed away too. Many of these people who would be of help to you are  
24 no longer around.
- 25 PP Sure. Did you know the Blakemores? The family that owned the Horn Silver  
26 Mine?
- 27 GW Oh, no.
- 28 HP He passed away. It's probably been about 6 years ago. He's actually buried in  
29 the Frisco cemetery.
- 30 GW He is? Are you kidding?
- 31 HP We thought it was a fake grave, cause it had some boots on it. And we talked to  
32 the lady that is in the little train down here [a caboose used as the Chamber of

- 1 Commerce for the town of Milford] and she said, no that was where he had been  
2 buried because he had such a close relationship with the mine and everything .
- 3 GW For goodness sake.
- 4 PP Yes, he and his wife are both buried there.
- 5 HP They passed away a couple of years apart and are there in unmarked graves.
- 6 GW Oh my word! You can see how long it's been since I've been out there.
- 7 PP Well, they're definitely the most recent graves out there. When we saw them a  
8 couple of years ago, we just thought maybe somebody had built some  
9 monument or something, that they weren't really graves, because there's no  
10 headstone, so when we went to visit the lady down in the little train station here,  
11 she said, "Oh, no, those are real graves and it's the Blakemores – husband and  
12 wife Blakemore – but they're unmarked because he didn't want anybody to  
13 know that's who it was. But obviously he was well known in the community  
14 for a while because he ran the Horn Silver Mine for a long time. And his son  
15 still does.
- 16 GW You girls are telling me things I didn't know.
- 17 PP Well, we're hoping we're telling you straight stories. It's like anything else,  
18 you can't be 100 percent sure. That's all part of it. That's one of the things  
19 when you try to do research about something that's not current, it's extremely  
20 difficult because the people who know the best, are usually somewhere else or  
21 they've passed away.
- 22 GW Or they've passed away...
- 23 PP And even remembrances, even my remembrances from my childhood. I'm sure  
24 I don't get them all 100 percent straight every time I tell the story. You don't  
25 always remember it quite straight, you know...
- 26 GW Sure your memory isn't always as good as it could be.
- 27 PP Of course not, so it's always challenging to be writing about something that has  
28 happened in the past.
- 29 GW Oh, yes it is.
- 30 PP It's so interesting. You know, Heather and I both love it and have been  
31 archaeologists for a long time, but just decided to go back and do this one more  
32 time. And we couldn't think of anything better to do it on that this.



- 1 GW Well this is a fun project.
- 2 PP Yes. Well, I think we've been through all our questions.
- 3 GW Do you want me to call the library?
- 4 PP That would be wonderful. Thank you.

## **END OF INTERVIEW**

A photograph of Mrs. Whittaker is provided below. A copy of the Unrestricted Interview Agreement is on the following page.

The original taped interview and the original Unrestricted Interview Agreement are among the research files of Paige Peyton, 541 Golden West Drive, Redlands, California 92373 – 909.307.8228.



Mrs. Gladys Whittaker  
April 5, 2008

**Interview Agreement with No Restrictions**

The interview is for a research project conducted by Paige Peyton. Recordings and transcripts resulting from interviews conducted will be kept in the author's possession. They will not be made available for public use without the interviewee's written permission.

Participation is entirely voluntary and without remuneration.

\* \* \*

We, the undersigned, have read the above and voluntarily offer Paige Peyton full and unrestricted use of the information contained on audio or video recordings and in transcripts of these recordings. In view of the scholarly value of this material, we hereby assign rights, title and interest pertaining to it to Paige Peyton.

PAIGE PEYTON  
Name of Interviewer

Paige Peyton  
Signature

541 GOLDEN WEST  
Address

BEDLANDS, CA 92373  
City State Zip

4/5/2008  
Date

Gladys Whitaker  
Name of Interviewee

Gladys Whitaker  
Signature

365 South 500 West St  
Address

Milford UT 84751  
City State Zip

4/5/2008  
Date

## **APPENDIX C**

### **Utah Ghost Town Database**

**Note:** For legibility, the printed version of this appendix does not include all of the data cells used during the analysis.

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
ALTA - also Central City	Salt Lake	1864-1895	31	5,000	Mining - Silver	Moderate summers/ Cold winters	8,560	Worked-out shafts	Crime/Fire/Snow slides/Mining disasters	Murbarger 1956b: 24, 154, 190, 271; Nestor 2007: 226; Carr 1972: 48-50, 90, 110; Bowman 1967; Wolle 1953: 371-374, 381, 391-392; Thompson 2006: 171-172; Groberg 1995; Whitley 2006: 22, 41-42, 74, 92-93, 238, 259, 272-274, 280-285, 287-297, 303, 306; Robertson and Harris 1962: 66-75; Manly and Litteral 1891-2: 3, 13; Butler 1920; Carter 1971; Utah Mining Association 1967; Watson 2007: 7; Sillitoe 1996: 81-82, 150, 189-190, 240, 316
ALUNITE	Piute	1910-1930	20	100	Mining - Potash/ alunite	Moderate year round/some snow in winter	6,555	Lack of need for potash after WWI ended	Potash extraction process too expensive	Carr 1972: 116; Thompson 2006: 186-172; Wolle 1953: 358; Butler 1920; Sutton: 1949; Utah Mining Association 1967; Gibbs 1916; Cott 2012a; Newell 1998: 2, 11, 218-229, 267-268, 275-276, 316
ARAGONITE	Tooele	1905-1909	4	300	Mining - aragonite (a decorative stone used in construction)	Hot summers/ Cold winters	5,030	No reliable transportation system for shipping ore	Isolation	Carr 1972: 17; Thompson 2006: 156-157; Blanthorn 1998: 106
ARGYLE - also Kennedyville	Rich	1875-1915	40	130	Mormon settlement - Farming	Warm summers/ Cold winters	6,340	Too cold for farming	Isolation - population moved closer to goods and services	Thompson 1962; Thompson 2006: 183; Cott 2012b; Parson 1996: 251; Carr 1972: 17
ASAY TOWN - also Aaron or Hatchtown	Garfield	1872-1900	28	50	Mormon settlement - Farming/ Ranching/ Sawmill	Cool summers/ Cold winters	8,100	Hatchtown Dam broke destroying the town	Disaster/Fire prior to the flood which destroyed the sawmill	Carr 1972: 125; Thompson 2006: 78-79; Carter 1970; Cott 2012c; Newell and Talbot 1998: 111-117, 172, 211-213

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
BACCHUS - also Coonville	Salt Lake	1913-1960	47	100	Dynamite manufacturing	Warm summers/ Cool winters	4,910	Increased costs for maintaining the town	Insufficient water for both residents and plant	Allen 1966: 84; Carr 1972: 45; Hulce 1964; Cott 2012d; Sillitoe 1996: 153
BERYL	Iron	1901-1930	29	200	Mining - Red beryl gemstones/ Railroad	Hot summers/ Cold winters	5,147	Highway replaced the railroad and bypassed the town	Isolation	Thompson 2006: 127; Whitley 2006: 216; Cott 2012e; Seegmiller 1998: 14, 101, 131, 167-168, 178, 182, 186, 196-199, 275-276
BINGHAM	Salt Lake	1863-1961	98	15,000	Mining - gold/silver/copper	Warm summers/ Cold winters	5,862	Mining still active, but old town site mostly destroyed by modern copper mine	Fires/Floods/ Snow slides/ Mudslides	Allen 1966: 38, 41; Hardesty 2010: 36; Silverberg 1988:181-182; Nestor 2007: 226-227; Carr 1972: 25, 42-44; Groberg 1995; Whitley 2006: 3, 10, 14, 21, 22, 27, 29-30, 35-36, 42-43, 184-188, 190, 220-249, 264, 272, 292-293, 335; Wolle 1953: 366-371, 374; Robertson and Harris 1962: 47-66, 121; Manly and Litteral 1891-2: 3, 7, 14-16, 19-24, 38, 54, 110, 147; Bingham Commercial Club 1909; Carter 1971; Papanikolas 1965: 289-315; Frazier 1965: 283-288; Utah Mining Association 1967; Arrington 1963; Bingham Heritage Trails Association 2010; Sillitoe 1996: 37, 61, 82-83, 109, 154-55, 157, 179-180, 183, 213



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BLACK ROCK	Millard	1891-1959	68	250	Originally scattered cattle ranching - later, a railroad stop for local ranchers and farmers, a large sheep shearing operation, and a pumice quarry.	Warm summers/ Cold winters	4,853	Railroad operations moved to other locations	Overgrazing	Kelsey1996; Carr 1972: 108, 110, 113; Thompson 2006: 127; Manly and Litteral 1891-2: 20; Cott 1990: 38; Cott 2012f; Jessop 2010; Fike and Headley 1979: 4, 72-73; Lyman and Newell 1999: 8, 10, 22
BLACK'S FORK - not Black's Fork Commissary	Summitt	1870-1930s	70	75	Logging/Timber operations	Mild summer/ Cold Winters	6,043	Company went out of business	Harsh climate/Isolation	Carr 1972: 60; Thompson 2006: 174-175; Cott1990: 38; Hampshire et al., 1998: 87-88
BROWN'S PARK - also Brown's Hole and John Jarvie Ranch	Daggett	1870-1930s	60	75	Trading Post/Store/Ranching/Outlaw Hideout	Warm summers/ Mild winters	5,474	End of American West outlaw era	Isolation/Crime	Carr 1972: 62, 68; Robertson and Harris 1962: 11; Bureau of Land Management 2012; Utah.com 2012; Reeve 1995: Johnson et al., 1998: 21, 25-29, 39, 42, 47, 52, 58, 64, 74, 89, 90, 105-121
BULLION [City]	Piute	1868-1880	12	2,000	Mining - Silver/Gold	Warm summers/ Cold winters	7,057	Miners deserted the town for richer mining communities nearby	No other reason identified	Carr 1972: 99, 160, 161; 168; Thompson 2006: 186; Manly and Litteral 1891-2: 18, 22, 119-122; ; Utah State Historical Society 2012a; Newell 1998: 95-96, 160
BULLIONVILLE	Uintah	1880-1920	40	200	Mining - Silver/Gold/Copper	Warm summers/ Cold winters	4,800	Decrease in volume of mineable ore	Isolation	Thompson 2006: 162; Butler 1920; Standing 1967: 256-268; Utah Mining Association 1967; Burton 1996: 96, 135; Carr 1972: 67

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CASTLE GATE	Carbon	1886-1974	88	1,120	Mining - coal and Railroad	Warm summers/ Cool winters	6,147	Buildings dismantled and relocated to Spring Canyon to increase mining area.	Mine explosions/Mine strike over safety and wages	Carbon County School District 1930; Carr 1972: 162; Whitley 2006: 44-46, 128-131, 133-138, 232; UtahGenWeb 2012; Manly and Litteral 1891-2: 4, 20-21, 159; Zehnder 1984; Halverson 2012; Glen Reva 2012; Costa 2012; Weiser 2010; Smith 1985: 2; Watt 1997: 3, 4, 10, 39-40, 109, 134-135, 149-153, 162, 218, 351
CASTLE ROCK - also Castle Rock Station, Frenchies, and Red Fork Station	Summitt	1860-1937	77	75	Pony Express/ Stagecoach Station. Later a small settlement with a veterinarian to serve local ranches and a railroad stop	Warm summers/ Cool winters	6,453	Highway through the canyon was rerouted.	Isolation	Carr 1972: 58; Thompson 2006: 4; Peterson and Pearson 1947; Fike and Headley 1979: 9-10; Hampshire et al., 1998: 59, 156, 197
CISCO	Grand	1880s-ca. 1970	90	95	Water stop for the Denver and Rio Grande Railroad/sheep shearing center/oil and natural gas production	Hot summers/ Cold winters	4,375	Bypassed by Interstate 70	Isolation	Thompson 2006: 123; Whitley 2006: 152; Weiser 2008a; Cott 2012g; Firmage 1996: 136, 211, 230, 232, 267, 341, 357
CLEAR CREEK	Carbon	1870s-1955	85	600	Mining - Coal/ Logging	Warm summers/ Cool winters	8,303	Decrease in volume of mineable ore	No other reason identified	UtahGenWeb 2012; Carr 1972: 75; Carbon County School District 1930; Whitley 2006: 128-138; Manly and Litteral 1891-2: 7; Reynolds 1948; Alexander 1963: 235-247; Cott 2012h; Watt 1997: 109

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CLIFTON	Tooele	1858-1872	14	200	Originally a stagecoach stop - later mining - Lead/Silver	Warm summers/ Cold winters	6,200	Ore was low grade and not worth the expense to extract	No other reason identified	Murbarger 1956b: 132, 188-190, 271; Carr 1972: 40, 124; Thompson 2006: 167; Manly and Litteral 1891-2: 9, 17, 130; Cott 2012i; Blanthorn 1998: 132-135.
COAL CITY - also Oak Springs Bench and Cedar Mesa Ranch and Great Western	Carbon	1885-1940	55	100	Originally farming and ranching - later coal mining	Hot summers/ Cold winters	8,000	Too far from coal hauling transportation routes	Great Depression of the 1930s	Carr 1972: 80; Thompson 2006: 96; Whitley 2006: 138; Carter 1971; Mercer 1961; Carbon County School District 1930; UtahGenWeb 2012; Murbarger 1956: 132, 188-190, 271; Carter 1971; Reynolds 1948; Cott 2012j; Watt 1997: 183-197, 309-313
COLTON - also Pleasant Valley Junction	Wasatch	1883-1950	67	327	Railroad to service coal mining operations in nearby towns	Warm summers/ Cool winters	7,180	Railroad facilities became obsolete with change from steam to diesel	Three major fires	Carr 1972: 70-71, 74; Thompson 2006: 95; Athearn 1959: 128-157; Chappell and Hauck 1970; Zehnder 2007
CONSUMER S - also Gibson	Carbon	1908-1950	42	500	Mining - coal	Hot summers/ Cold winters	7,500	Declining value of coal/Great Depression of 1929	Isolation	Carr 1972: 80-81; Thompson 2006: 97; UtahGenWeb 2012; Whitley 2006: 129-130, 136; Weiser 2008b; Watt 1997: 120-121, 184
CORINNE - also Connor City	Box Elder	1869-Present	102	1,500	Union Pacific Railroad/ Non-Mormon settlement/ Supply center/ Farming	Warm summers/ Mild winters	4,253	Utah Northern Railroad constructed to bypass Corrine	Crime/Isolation/ Fires/Epidemics/ Indian raids	Nestor 2007: 227; Carr 1972: 8-10, 20, 32; Anderson 1941: 141-154; Thompson 2006: 149; Whitley 2006: 68, 278, 424-425; Wolle 1953: 376; Carr 1961; Madsen 1969: 102-123; Robertson and Harris 1962: 39-46; Huchel 1999: 23, 123-143, 166, 306, 327-331; Polk 1998

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COVE FORT	Millard	1867-1890s	30	10	Early pioneer fort for protection of travelers and the Deseret Telegraph lines in central Utah/Pony Express Station	Hot summers/ Cool winters	6,026	Outlived its intended purpose -now protected as a historic site	No other reason identified	Carr 1972: 113-114; Thompson 2006: 55; Daughters of Utah Pioneers 1948; Bradley 1999a: 71; Porter 2012; Great Basin Heritage 2012; Pesek 2012; J-9; Robertson and Harris 1962: 139; Lyman and Newell 1999: 10, 25, 36, 58, 86, 114, 130-132, 421
DEER CREEK	Utah	1872-1880	6	150	Small town to service the railroad, mines at Forest City and lumbermen	Warm summers/ Cold winters	5,400	Railroad line ceased	Crime/Epidemic/ Isolation	Nestor 2007: 227; Carr 1972: 51, 154; Manly and Litteral 1891-2: 14; Holzapfel 1999: 216, 223, 256
DEVIL'S SLIDE	Morgan	1904-1990	86	250	Quarrying - limestone for manufacture of cement	Hot summers/ Cold winters	5,235	Paternalism - residents moved so they could own their own property.	Disaster/Mine explosion	Carr 1972: 160; Wright 1978;; Cott 2012k; Utah State Historical Society 1909; Utah State Historical Society 1923; Smith 1999: 4, 6-7, 82-87, 325
DIAMOND [City]	Juab	1870-1890	20	900	Mining - originally quartz crystals were found and thought to be diamonds - later Silver	Warm summers/ Cool winters	6,240	Miners moved to richer mines	Mine shafts filled with water/charcoal from various woods burned uneven	Francaviglia 1991: 88; Murbarger 1956b: 271; Carr 1972: 88, 90, 94; Thompson 2006: 62; Whitley 2006: 343-345; Wolle 1953: 382-383; Manly and Litteral 1891-2: 9, 21-22; Carter 1971; Harris 1961; Robertson and Harris 1962: 90-109; Cott 2012l; Wilson et al., 1999: 97-98, 101, 120

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DIVIDEND - also Standard	Utah	1907-1953	46	625	Mining - Silver/Lead/Gold/Copper	Warm summers/ Cool winters	5,900	Decreasing value because of low grade ore	No other reason identified	Francaviglia 1991: 88; Murbarger 1956b: 271; Nestor 2007: 227; Carr 1972: 98-99; Whitley 2006: 256, 279, 348, 356-358; Wolle 1953: 385; Carter 1971; Harris 1961; Robertson and Harris 1962; 90-109; Cott 2012m; Holzapfel 1999: 22, 137-144, 192, 241
DOVER	Sanpete	1877-1930	53	100	Farming	Hot summers/ Cold winters	5,060	Drought	Soils became alkaline as a result of improper irrigation methods/ Epidemic	Carr 1972: 101; Cott 2012n; Utah State Historical Society 2012b; Lever 2010; Antrei and Roberts 1999: 29, 364-365
DRAGON	Uintah	1905-1917	12	750	Railroad - rare mineral mining (gilsonite - used to make many items, including paints and lacquers)/ shipping point	Hot summers/ Cold winters	5,772	The need for gilsonite was replaced by use of synthetic products	Fire/Railroad terminus moved to Watson	Carr 1972: 64-65; Thompson 2006: 107; Whitley 2006: 314, 389; Manly and Litteral 1891-2: 8; Cott 2012o; Burton 1996: 9, 96, 97, 132, 202, 205, 213, 257-58
DUNCAN'S RETREAT	Washington	1861-1891	30	70	Mormon settlement - Farming/ Orchards	Warm summers/ Cool winters	3,550	Virgin River flood	No other reason identified	Bradshaw 1950: 117; Carr 1972: 136; Thompson 2006: 39; Whitley 2006: 207; Carter 1970; Larson 1961; Cott 2012p; Sons of Utah Pioneers 2012; Bancroft 1889: 601; Alder and Brooks 1996: 80-83, 392



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EAGLE CITY	Garfield	1889-1914-one resident remained until 1977	25	100	Mining - Gold	Warm summers/ Cold winters	11,420	Mill burned/mine shafts filled with water and it was too expensive to drain them	Men left for World War I/ Crime/Isolation/ Climate	Nestor 2007: 227; Carr 1972: 160; Thompson 2006: 76; Cott 2012q; Webb 2012; Newell and Talbot 1998: 198-199
ECHO [City]	Summit	1854-1929	75	300	Originally a stagecoach stop/Pony Express station. Later a large railroad town.	Warm summers/ Cool winters	5,459	Great Depression of the 1930s	Railroad company mechanized many of its operations causing personnel cutbacks	Carr 1972: 53, 57; Thompson 2006: 153; Whitley 2006: 325, 344; Manly and Litteral 1891-2: 13, 214, 227; Athearn 1968: 291-314; Peterson and Pearson 1947; Cott 2012r; Summit County Historical Society 2009; Wright 1966: 161-168; Hampshire et al., 1998: 53-59, 133, 147, 150-155, 167, 173-174, 263, 286, 338-39
EMMAVILLE	Salt Lake	1868-1874	6	500	Originally planned as a way station between Salt Lake and Alta. In addition to the mining at Alta, the town supported the quarrying of granite blocks to make Salt Lake City Mormon Temples	Moderate summers/ Cold winters	5,200	Bypassed by the railroad in 1874	Epidemic/Fire	Carr 1972: 50; Thompson 2006: 171-172; Cott 2012s; Utah State Historical Society 2012c; Sillitoe 1996: 82, 150

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EUREKA CITY	Juab	1870-1957	87	3,400	Mining - Silver	Warm summers/ Cool winters	6,452	Declining value of ore. Not completely abandoned.	Epidemic/Fires	Francaviglia 1991: 65, 88, 102-136; Nestor 2007: 227-229; Carr 1972: 88-89, 91, 94-95; Thompson 2006: 61; Groberg 1995; Whitley 2006: 21, 27, 31, 36, 43, 67, 73, 77, 119, 312-313, 335; Wolle 1953: 382-385; Manly and Litteral 1891-2: 214; Harris 1961; Robertson and Harris 1962: 90-109; Utah Mining Association 1967; Wilson et al., 1999: 98, 107, 108, 110, 119-120, 137, 157, 161, 167, 168, 169, 174, 178, 184, 222, 224
FISH SPRINGS	Juab	1899-1910	11	150	Mining - Silver/Lead	Hot summers/ Cold winters	4,357	Mine shafts flooded - unable to pump out the water	Crime	Carr 1972: 36; Whitley 2006: 85; Manly and Litteral 1891-2: 4, 17, 91; U.S. Fish and Wildlife Service 2012; Wilson et al., 1999: 57, 167, 292-293
FOREST CITY	Utah	1871-1880	9	2,000	Mining - Silver/Lead/ Gold/ Iron/Zinc	Warm summers/ Cool winters	6,391	Decreased volume of mineable ores	Epidemic/Severe winter weather/Railroad company removed tracks when town began to decline	Carr 1972: 51; Thompson 2006: 184; Shelley 1942; Utah Mining Association 1967; Holzapfel 1999: 137

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FRISCO	Beaver	1874-1929	55	800	Mining - Silver	Warm summers/ Cool winters	6,500	Mine collapse from which the town never recovered	Isolation/Crime/ Epidemics/Lack of Water/ Removal of the railroad	Murbarger 1956b: 154-158, 271, Plate 32; Carr 1972: 32, 99-100, 109-111; Thompson 2006: 128-129; Groberg 1995; Daughters of Utah Pioneers of Beaver County 1948; Bradley 1999a: 3, 10, 93, 115, 118-125, 130, 144, 157, 159; Whitley 2006: 43-44, 225, 359-376; Robertson and Harris 1962: 114-134; Manly and Litteral 1891-2: 3, 7-8, 20, 22; Carter 1971; Robertson and Harris 1962; Notarianni 1982; Osborn 1968; Puckett 2006, 2010, 2011; Southern Utonian 1881, 1882a; State of Utah 2008b; <i>The Daily Graphic: New York</i> 1879; <i>The Salt Lake Herald</i> 1902b; <i>The Salt Lake Tribune</i> 1885a, 1885b; United States Geological Survey 1911a, 1989; U.S. Census 1880b, 1900b, 1910a, 1920a, 1930a, 1930b, 1940; U.S. Department of the Interior, Heritage Conservation and Recreation Service 1982; Utah State Historical Society 1880; Utah State Historical Society 1918; Brown 1996; Callahan 1968; Christensen 1984; Culmer 1880; <i>Deseret News</i> 1882; <i>Deseret Evening News</i> 1903b; Hickman 2006; Library of Congress 1982; Hooker 1879; Horn Silver Mines, Inc. 1996; Weiser 2011; JCS Group 2009

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FRUITA - also Junction	Wayne	1876-1955	79	30	Mormon settlement - Way/supply station - Farming/ Orchards	Warm summers/ Cold winters	5,418	Land purchased by the National Park Service to enlarge Capitol Reef National Monument - now managed within the Park	Encroachment/Di splacement from tourists of nearby National Parks	Carr 1972: 118; Thompson 2006: 144; Jordan 2001: 92, 100, 108; Snow 1953; Robinson 2012a; Weiser 2008c; Wayne County, Utah Office of Tourism 2010; Capital Reef National Park 2012; Murphy 1999: 35-37, 123-127, 239-240, 359-361, 364-365
GARFIELD	Salt Lake	1905-1955	50	2,000	Mining - Copper	Warm summers/ Cool winters	4,240	Town dismantled for smelter and refinery expansion	Town inappropriately located downwind of the smelter/Over harvesting of trees for kilns	Allen 1966: 41; Carr 1972: 45-46; Whitley 2006: 33-37, 50-57, 101,102, 114, 124,-126, 130, 147, 157, 168, 173, 197, 211, 217, 225, 271, 327, 378-411, 429, 454; Manly and Litteral 1891-2: 2, 34-38, 137; Bingham Commercial Club 1909; Hulce 1964; Papanikolas 1965; State of Utah 2012b; Newell and Talbot 1998: 14-16, 15, 168-170, 209, 253-254; Robertson and Harris 1962: 64; Sillitoe 1996: 153, 213
GILES - also Blue Valley	Wayne	1883-1919	36	200	Mormon Settlement - Farming/ Orchards/ Beehives/ Dairy cattle	Hot summers/ Cool winters	5,250	Frequent flooding and dam breaking along the Fremont River that destroyed buildings and irrigation systems for farms	Fremont River could not be successfully controlled, which created an unreliable source of water	Murbarger 1956b: 271; Carr 1972: 120; Thompson 2006: 90; Manly and Litteral 1891-2: 17, 114; Carter 1970; Snow 1953; Robinson, Clay 2012b; Murphy 1999: 133-138, 235-236, 330

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GOLD HILL	Tooele	1892-1952	60	3,000	Mining - Gold/Silver/ Copper/ Lead/ Tungsten/ Arsenic/ Bismuth - Later railroad - World War I-era need for tungsten and arsenic to control the boll weevil in the southeastern US - World War II need for tungsten and arsenic	Hot summers/ Cold winters	5,300	This town re-invented itself several times, but the final boom during World War II ended with the governments declining need for tungsten	No potable water	Murbarger 1956b: 30, 129, 132, 186-193, 272, Plate 21; Nestor 2007: 229; Carr 1972: 36, 38-40, 59; Thompson 2006: 167; Whitley 2006: 11, 323; Carter 1971; Mercer 1961; Blanthorn 1998: 133-135, 200
GOLD SPRINGS	Iron	1897- 1910	13	75	Mining - Gold	Warm summers/ Cold winters	6,800	Currency Panic of 1907	Mine owners were overextended when the Panic of 1907 hit - banks could not extend credit	Thompson 2006: 137; 183, 216; Cott 2012t; Koschmann and Bergendahl 1968; Wynn 2012; Seegmiller 1998: 101, 171, 178, 313, 341-343, 382-383, 422



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GRAFTON	Washington	1864-1920	56	168	Mormon settlement - Farming/ Orchards/ Sheepherding	Warm summers/ Cool winters	3,665	Recurrent flooding	Indian attacks/ Blackhawk War	Head 2012; Washington County Historical Society 2011a; Askar 2009; Wiersdorf 2012; Murbarger 1956b: 272; Grafton Heritage Partnership Project 2009; Carr 1972: 133-135; Grafton Heritage Partnership 2012; Thompson 2006: 28; Carter 1970; Reid 1964: 107-108; Wadsworth 2011: 80-82; Bradshaw 1950: 119 ; Alder and Brooks 1996: 32-33, 45, 81-83, 153-154
GRASS CREEK	Summit	1854-1940	86	500	Mining - Coal	Warm summers/ Cold winters	6,348	Mines filled with water and collapsed	Croydon Cement plant (major user of the coal) shut down/Railroad removed track	Halverson 2012; Carr 1972: 56; Thompson 2006: 180; Carter 1971; Peterson and Pearson 1947; Hampshire et al., 1998: 24, 31, 48, 84-85, 147, 248, 285-288
HAMBLIN	Washington	1856-1890	34	50	Mormon settlement - Way station for immigrants between Utah and California/ farming/fort during the Blackhawk War	Warm summers/ Cold winters	5,800	Overgrazing/ Flooding/Erosion	To escape prosecution as a polygamist colony	Carr 1972: 148; Washington County Historical Society 2011b; Cott 2012u; Thompson 2006: 29; Whitley 2006: 215; Head 2012; Alder and Brooks 1996: 21-25, 135-137
HARPER - also Brock Saloon and Lee Station	Carbon	1880-1902	22	50	Stagecoach stop/Sheep ranch	Hot summers/ Cold winters	6,378	Gunfight killed owner/wife sold to large local rancher for his headquarters	Isolation (within 9-mile canyon)	Thompson 2006: 119; Carbon County School District 1930; UtahGenWeb 2012; Cott 2012v; Carbon County School District 1930; Carr 1972: 168

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HARRISBURG - also Cottonwood	Washington	1862-1910	48	200	Mormon settlement - Farming/Orc hards.	Hot summers/ Cool winters	3,041	First drought, then flooding from Quail and Cottonwood Creeks	Grasshopper plague/Indian raids	Murbarger 1956b: 272; Carr 1972: 137; Thompson 2006: 27; Washington County Historical Society 2011c; Whitley 2006: 257-261, 439; Cott 2012w; Mariger n.d.; Proctor 1953; Robertson and Harris 1962: 137; Bradshaw 1950: 120; Alder and Brooks 1996: 35-36, 76, 113, 125
HEBRON - also Shoal Creek	Washington	1862-1906	44	111	Originally a Mormon farming/ranching area and fort to protect settlers during the Blackhawk War. Later a Gentile supply town for the Nevada mining camps.	Warm summers/ Cool winters	5,476	Drought and damaging flash floods	Disaster/ Earthquake of 1902	Alder and Brooks 1996: 147-148; Murbarger 1956b: 272; Cott 2012x; Head 2012; Carr 1972: 147; Thompson 2006: 36; Whitley 2006: 256; Carter 1970
HIAWATHA - also Blackhawk	Carbon	1909-1992	83	1,421	Mining - coal	Warm summers/ Cool winters	7,264	Coal production dropped gradually beginning in the 1940s	Isolation	Cott 2012y; Allen 1966: 51, 83, 88; Carr 1972: 83; 129, 138-139, 232; UtahGenWeb 2012; The Church of Jesus Christ of Latter-Day Saints 2012a; Reynolds 1948; Watt 1997: 114-115, 127

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HOMANSVILLE	Utah	1872-1887	15	300	Water supply area for surrounding mining towns and smelters	Warm summers/ Cool winters	6,320	When the railroad was completed it could haul ore to more efficient smelters and mills in other areas	No other reason identified	Carr 1972: 88, 95; Thompson 2006: 69; Whitley 2006: 345-346; Wolle 1953: 384-385; Manly and Litteral 1891-2: 8; Carter 1971; Harris 1961; Murbarger 1956: 272; Holzapfel 1999: 141
IOSEPA	Tooele	1889-1917	28	228	Religious settlement Polynesian/ Mormon	Hot summers/ Warm winters	4,500	Hawaiian inhabitants unable to adapt to environmental conditions - deaths outnumbered births	Inability to adjust to harsh climate/Outbreak of leprosy in mid 1890s/completion of first Mormon temple in Hawaii	Murbarger 1956b: 200-203, 272, Plate 18; Carr 1972: 35-36; Jordan 2001: 100; Carter 1970; Mercer 1961; Miley 2008a, 2008b, 2010; Blanthorn 1998: 275-281
IRONTOWN - also Old Irontown and Iron City	Iron	1868-1890	22	97	Smelter town for iron production	Warm summers/ Cool winters	5,900	Iron import from the east coast cheaper than local manufacture. Town became a historic site in 1948	No other reason identified. The only reason this town was built was to support iron production	Francaviglia 1991: 88; Murbarger 1956b: 77-80, 272; Carr 1972: 94, 149-150; Thompson 2006: 131, 151; Whitley 2006: 129, 203-204, 433; Carter 1971; Seegmiller 1998: 82, 173

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JACOB CITY - also Gisborn (towns merged)	Tooele	1865-1885	20	300	Mining - Lead/Silver	Warm summers/ Cool winters	8,500	Decreased ore volume-increased operating costs due to extreme climate	Isolation and terrain. This town was built along the walls of an extremely narrow, steep canyon. Another town (Gisborn) was built lower down the mountain and many moved there as it was easier to live and work.	Nestor 2007: 229; Carr 1972: 23; Thompson 2006: 16; Mercer 1961; Carter 1971.
JOHNSON - also Spring Canyon Ranch	Kane	1871-1910	39	50	Mormon settlement - Farming/Ranching	Hot summers/ Cold winters	5,240	Drought - insufficient water to support town and grass for livestock	No other reason identified	Carr 1972: 128; Thompson 2006: 75; Carter 1970; Robinson 1970
JOY - also Detroit	Juab	1872-1919	47	200	Supply point for miners and ranchers	Hot summers/ Cold winters	5,940	Cost of hauling supplies to the isolated region	Isolation	Carr 1972: 107; Thompson 2006: 160; Wilson et al., 1999: 50, 51, 55-56, 112
KEETLEY - also Camp Florence	Wasatch	1861-1953	90	75	Pony express station. Later mining/lumbering. Voluntary World War II Japanese internment camp	Warm summers/ Cold winters	6,600	Decreased lumber value and volume	Isolation	Allen 1966: 88; Embry 1996: 151-152, 186, 214-216, 222, 297

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KELTON - also Indian Creek	Box Elder	1869-1942	73	135	Originally a stagecoach and freight line stop. Later railroad shipping point (cattle and other supplies) . Major shipping point between mines and open range.	Hot summers/ Mild winters	4,229	Railroad company removed track during World War II to support the need for steel.	Lack of water/Earthquake 1934	Carr 1972: 11; Thompson 2006: 144; Forsgren 1937; Robertson and Harris 1962: 44; Huchel 1999: 240-241, 357-358
KIMBERLY - also Snyder City	Piute	1891-1910	19	500	Mining - Gold	Mild summers/ Cold winters	8,970	Currency Panic of 1907. The town had a brief revival between 1931-1938 and then folded for good.	Purchased by a British company with little experience in mining/Crime	Nestor 2007: 230; Carr 1972: 99, 114-115, 160; Thompson 2006: 186; Whitley 2006: 27; Carter 1971; Sutton 1949: Pace 1967: 112-120; Newell 1998: 176, 180-85, 205, 241, 256, 265
KIZ	Carbon	1906-1930	24	50	Farming	Hot summers/ Cool winters	5,987	Climate/Drought /Insufficient water supply	No other reason identified	Carr 1972: 82; UtahGenWeb 2012; Thompson 2006: 120; Carter 1971; Reynolds 1948; Watt 1997: 65-66

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
KNIGHTSVILLE	Utah	1896-1940	44	1,000	Mining - Silver	Warm summers/ Cool winters	6,780	Decreased ore volume-increased operating costs	Jesse Knight was unpopular with other mine owners because he paid his workers more. As a result, many of the other mine owners refused to mill the ore from his mines and the railroad refused to haul his ores.	Murbarger 1956b: 272; Nestor 2007: 230; Carr 1972: 76, 90, 95-96; Thompson 2006: 70; Whitley 2006: 347; Wolle 1953: 385; Carter 1971; Harris 1961; Robertson and Harris 1962: 92; Holzapfel 1999: 164
LA PLATA - also "Liberty Pole"	Cache	1890-1894	4	1,500	Mining - Silver/Galena	Warm summers/ Very cold winters	10,000	Shallow ore veins. Decrease in the value of silver.	Brutally cold climate/Isolation	Murbarger 1956b: 272-273; Carr 1972: 18; Thompson 2006: 177; Whitley 2006: 90; Thompson 1969: 11-13, 39; Manly and Litteral 1891-2: 7, 158, 214, 218; Utah Mining Association 1967; Peterson 1997: 89, 183-184
LA SAL	San Juan	1878-1901	23	50	Farming/ Ranching	Warm summers/ Cold Winters	6,978	Extended periods of drought and periodic flash floods	Indian raids and cattle rustlers	Carr 1972: 68, 154; McPherson 1995: 96, 180-182, 222, 257, 281-284, 302
LARK	Salt Lake	1866-1977	111	800	Mining - Copper	Warm summers/ Cool winters	5,460	Nearby non-copper mines closed. Mine owners sold the land, which subsequently went into foreclosure.	No other reason identified	Whitley 2006: 30, 335; Carr 1972: 159; Sandstrom 1978: Robertson and Harris 1962: 64; Sillitoe 1996: 153



Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
LUCIN - also Pilot Peak	Box Elder	1903-1936	33	200	Railroad construction camp and supply center for the railroad and local farms and ranches. Later some mining - Gold/Silver/Copper	Warm summers/ Cold winters	4,472	Railroad track removed during World War II to support the war effort.	Isolation	Carr 1972: 11; Thompson 2006: 142; Manly and Litteral 1891-2: 20; Huchel 1999: 358-359
LUND - also Modena	Iron	1899-1969	70	52	Railroad junction. Supply center for regional homesteaders	Hot summers/ Cold winters	5,516	Railroad fell into disuse after Interstate 15 was completed. This town always had a small population and it declined slowly over time.	Harsh and arid climate. Freak flood in 1922	Whitley 2006: 205; Seegmiller 1998: 101, 175
MAMMOTH - also Robinson and Upper Town	Juab	1870-1930	60	2,800	Mining - Silver	Warm summers/ Cool winters	6,026	Decreased ore volume-increased operating costs	Disaster/Fire	Francaviglia 1991: 88; Nestor 2007: 230; Carr 1972: 90-94; Thompson 2006: 63; Wolle 1953: 382-383; Manly and Litteral 1891-2: 7-9, 24, 54, 126; Carter 1971; Harris 1961; Robertson and Harris 1962: 90-109

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
MANNING	Utah	1890-1937	47	6,000	Water supply for Mercur - Gold processing (cyanide)	Warm summers/ Cold winters	6,500	When the town of Mercur burned down, Manning, as the source of water for Mercur, was abandoned as well. The railroad track was also removed to Manning and salvaged for scrap.	Isolation	Murbarger 1956b: 273; Nestor 2007: 230; Carr 1972: 25, 29; Alder 1961: 33-44; Butler et al., 1920: 383-384, 427; Holzapfel 1999: 21, 141; Robertson and Harris 1962: 111
MERCUR - also Lewiston	Salt Lake	1869-1913 (Mercur has rebuilt and restarted several times, but 1913 ended its most active boom town years.)	44	10,000	Mining - Silver; Gold; Cinnabar. Stagecoach stop.	Warm summers/ Mild winters	6,700	This town was destroyed by fire and rebuilt twice. The primary cause of abandonment was the decline of gold prices during World War II.	Fire burned the town to the ground in 1895, but it was rebuilt and destroyed by fire again in 1902. Lack of potable water.	Murbarger 1956b: 30, 168, 273; Nestor 2007: 230-231; Carr 1972: 22, 24-28, 43; Thompson 2006: 20; Whitley 2006: 29-31, 35, 42-43, 226-227; Robertson and Harris 1962: 110-113; Alder 1961: 31-44; Mercer 1961
MINERS BASIN - also Basin	Grand	1898-1908	10	80	Mining - Gold/Copper	Cool summers/ Very cold winters	10,000	Decline in Gold prices after the currency Panic of 1907	Extremely harsh climate and terrain(10,000 foot elevation)	Carr 1972: 155; Thompson 2006: 122; Firmage 1996: 138, 170, 199

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
MOHRLAND	Emery	1896-1938	42	1,000	Mining - Coal/Sawmill /Railroad stop	Mild summers/ Cold winters	7,185	Coal became unprofitable to mine and the owners closed the mines suddenly. The Great Depression of 1929 was a contributing factor.	Isolation	Carr 1972: 84; Thompson 2006: 101; Whitley 2006: 129, 139, 174; McElprang 1949; Geary 1996: 7, 208-211, 233, 260, 263, 273, 291, 296
MYTON - also "The Bridge"	Duchesne	1905-1930	25	700	Originally an Indian Trading Post - then a supply center for local farmers and ranchers	Warm summers/ Cool winters	5,085	The Great Depression of 1929	Fire (arson)	Carr 1972: 62-63; Whitley 2006: 386; Dillman 1948
NATIONAL - also Consumers	Carbon	1926-1939	13	300	Mining - Coal	Cool summers/ Cold winters	7,300	Declining price for coal. The Great Depression of 1929.	No other reason identified	Carr 1972: 80-81; Thompson 2006: 97; UtahGenWeb 2012; Whitley 2006: 129; Reynolds 1948

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
NEWHOUSE	Beaver	1871-1931	60 [12 as explained in Thesis]	1,000	Mining - Copper; Gold; Silver	Hot summers/ Cold winters	5,180	Decreased ore volume-increased operating costs	Owner mismanagement/ Isolation/harsh climate and rocky soils/removal of the railroad/loss of water supply	Murbarger 1956b: 273, Plate 24; Nestor 2007: 231; Carr 1972: 42, 109; Thompson 2006: 129; Groberg 1995; Daughters of Utah Pioneers of Beaver County 1948; Bradley 1999a; 19, 111, 113, 125-126, 159, 189, 191, 193, 235, 238, 241; Carter 1971; Bassett 2010; Beaver County Utah, County Recorder 1930; Daughters of Utah Pioneers 1908a.; <i>Deseret Evening News</i> 1903a; HDR, Inc. 1980; <i>Inter-Mountain Republican</i> 1906a, 1906b; 1907a, 1907b; <i>Los Angeles Times</i> 1955; Lundell 1973; Powell 1994; Rudd 1979: 291-207; <i>Southern Utonian</i> 1908f-h; 1912a-r; 1913a-j, 1914; The Church of Jesus Christ of Latter-day Saints 1905-1915; <i>The Desert News</i> 1904, 1906a-c; <i>The Los Angeles Examiner</i> 1912; <i>The New York Times</i> 1903, 1904, 1930; <i>The Salt Lake Herald</i> 1902a-b, 1903a-b, 1905a-b; <i>The Salt Lake Mining Review</i> 1900a-b, 1901a-c; 1902a-b, 1903a-f, 1904a-g, 1905a-c, 1906a-f, 1970a-b, 1909a-c, 1910, 1911, 1913, 1923; <i>The Salt Lake Telegram</i> 1902a-i, 1908, 1930, 1951; <i>The Salt Lake Tribune</i> 1899a-d, 1930; Thompson 2006; Tripp 2000; United States Geological Survey 1980; U.S. Census 1910b, 1920b; Utah Antiquities Site Form 1980; Utah State Archive 1980a-b, n.d.a, n.d.b; Utah State Historical Society 1908a-f, 1909, 1910, 1960; Utah State University 1904, 1905; Wintch 2008a-b; Robertson and Harris 1962: 61, 133

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
OPHIR	Tooele	1865-1930 Ophir has a small population in 2009, but 1928 ended its most active boom town years.	63	6,000	Military settlement to mine silver for bullets. Later lead and zinc.	Warm summers/ Cold winters	6,600	Decreased ore volume-increased operating costs. The Great Depression of 1929	No other reason identified. Small-scale re-processing of some of the old tailings from the boom era continues.	Murbarger 1956b: 23-26, 30, 168, 273; Nestor 2007: 230; Nestor 2007: 231-232; Carr 1972: 20-22, 24, 27-28; Thompson 2006: 17; Whitley 2006: 10-12, 27-32, 69, 80, 89, 215, 259; Wolle 1953: 374-378; Manly and Litteral 1891-2: 7-17, 110; Mercer 1961; Carter 1971; Baker 2004; Robertson and Harris 1962: 64, 108; Blanthorn 1998: 27, 201; Watt 1997: 121
OSIRIS - also Henderson	Garfield	1910-1930	20	300	Originally a creamery for the cattle ranches in Widsoe and Henderson - later a grain processing plant.	Warm summers/ Cold winters	6,722	Lack of water and frequent frost that killed crops	No other reason identified.	Carr 1972: 123; Thompson 2006: 87; Newell and Talbot 1998: 277-278
PAHREAH - also Paria	Kane	1870-1929	59	110	Mormon Settlement - Farming - nuts, grapes, vegetables/Cattle ranching. Short period of gold mining.	Very hot summers/ Mild winters	4,747	Frequent flash flooding	Hot, arid summers/ Isolation/Hiding place for polygamists in the 1880s.	Murbarger 1956b: 273; Carr 1972: 126-127; Thompson 2006: 73; Jordan 2001: 96; Carter 1970; Robinson 1970; Bradley 1999b: 98-100, 277-278, 355

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PEERLESS	Carbon	1917-1955	38	300	Mining - Coal	Warm summers/ Cool winters	6,477	Mine owners closed mines and relocated operations to a different location (Price Canyon).	Residents preferred to live in nearby Helper where there were more services.	Carr 1972: 76; Thompson 2006: 102; UtahGenWeb 2012; Whitley 2006: 129, 138; Carter 1971; Reynolds 1948; Watt 1997: 119, 129-130
PINTO - also Pinto Creek, Painter Creek	Washington	1856-1916	60	100	Originally a Mormon missionary settlement. Later a way station and supply center along the Spanish Trail.	Warm summers/ Cool winters	6,058	Very isolated - many moved to nearby communities where the land was more arable	No other reason identified.	Carr 1972: 148; Thompson 2006: 31; Whitley 2006: 204, 211; Head 2012; Carter 1970; Larson 1961; Bradshaw 1950: 125
RAINS	Carbon	1915-1958	43	500	Mining - Coal	Warm summers/ Cool winters	7,106	Decreasing value of coal - increasing production costs.	No other reason identified.	UtahGenWeb 2012; Allen 1966: 83; Carr 1972: 76, 79; Thompson 2006: 105; Whitley 2006: 138; Reynolds 1948
ROCKPORT - also Crandall, Enoch	Summit	1860-1950	90	200	Early fort to protect settlers from Indians/Farming/ Rock quarry/	Warm summers/ Cool winters	5,955	Entire town purchased and submerged to create the Rockport Reservoir.	Extremely harsh winter climate.	Carr 1972: 55; Thompson 2006: 13; Hampshire et al., 1998: 22, 71-73, 153, 177, 250-54, 332
ROUND VALLEY	Rich	1863-1930	67	300	Farming/Ranching	Warm summers/ Cool winters	6,224	Extended period of drought/Locust plague.	Lack of potable water.	Carr 1972: 15; Thompson 2006: 46; Parson 1996: 4, 73, 75, 78, 249
SCOFIELD	Carbon	1879-1922	43	2,000	Residential and business center for surrounding coal mines	Warm summers/ Cool winters	7,739	Miners strike that crippled the mines.	Declining coal prices.	Carr 1972: 70, 73-74; Whitley 2006: 44-46, 128-139, 173, 232; Jordan 2001: 68; UtahGenWeb 2012; Manly and Litteral 1891-2: 20; Carter 1971; Reynolds 1948



<b>Town Name</b>	<b>County Name</b>	<b>Most Active Years of Operation</b>	<b>No. of Active Years</b>	<b>Population</b>	<b>Community Type</b>	<b>Climate</b>	<b>Feet above Sea Level</b>	<b>Historically Noted Reason for Abandonment</b>	<b>Other Factors Contributing to Abandonment Based on this Research</b>	<b>Data Sources</b>
SCRANTON	Tooele	1908-1918	10	100	Mining - Lead, Zinc	Warm summers/ Cool winters	6,608	Decrease in the volume of mineable ore.	Isolation	Nestor 2007: 232; Carr 1972: 33; Butler 1920; Blanthorn 1998: 129-130
SEGO - also Webster City	Grand	1910-1947	37	500	Mining - Coal	Warm summers/ Mild winters	5,712	Costs to mine the ore greater than profit. Decreased demand for coal as the railroad transitioned to diesel.	Fires/Flash floods/Lack of potable water	Carr 1972: 153-154; Thompson 2006: 110; Reynolds 1948; Firmage 1996: 231-232, 251, 256-257, 267
SHAUNTIE - also Shaunty, Shaunty Springs, Moscow, Talisman	Beaver	1870-1920	50	300	Mining - Silver	Warm summers/ Cold winters	6,102	Decrease in the volume of mineable ore.	Lack of water/Fires	Carr 1972: 161, 169; Thompson 2006: 134; Bradley 1999a: 110-111, 126, 143; Whitley 2006: 257
SILVER CITY	Juab	1868-1930	62	1,500	Mining - Silver	Warm summers/ Cold winters	6,158	Declining price of silver. Declining costs for freight services made it more economical to send ore to Salt Lake City for smelting.	Water in the mine shafts	Francaviglia 1991: 88; Nestor 2007: 232-233; Carr 1972: 88, 90, 94; Thompson 2006: 65; Whitley 2006: 42, 343-345, 358; Wolle 1953: 382-384; Manly and Litteral 1891-2: 8, 17, 99, 126; Carter 1971; Harris 1961; Murbarger 1956: 273; Robertson and Harris 1962: 90-109; Wilson et al., 1999: 97, 98, 100, 102, 103, 104, 111, 120, 137, 157, 184, 222

Town Name	County Name	Most Active Years of Operation	No. of Active Years	Population	Community Type	Climate	Feet above Sea Level	Historically Noted Reason for Abandonment	Other Factors Contributing to Abandonment Based on this Research	Data Sources
SILVER REEF	Washington	1871-1910	39	1,800	Mining - Silver	Hot summers/ Cold winters	3,796	Drop in the price of silver/mine workers strike	Social conflict/water in the mine shafts; no access to railroad/repeated fires	Alder and Brooks 1996: 86-89, 113-117, 332-333, 351; Silverberg 1988:182-188; Murbarger 1956b: 59, 162-167, 274, Plate 15; Nestor 2007: 233; Carr 1972: 88, 100, 138-142; Thompson 2006: 26; Groberg 1995; Whitley 2006: 321, 325, 329; Wolle 1953: 10, 366, 385-91; Robertson and Harris 1962: 135-145; Manly and Litteral 1891-2: 18-22; Carter 1971; Mariger n.d.; Robertson and Harris 1962: 135-145; Utah Mining Association 1967; Culmer 1880; Jenson 1879; Kun 2009; Library of Congress 1968; Mariger n.d.; Northern Utah Prospectors Association 2006; Proctor and Shirts 1991; Schuyler 1984, 1996, 1988, 1991, 2009; Sherratt Library, Southern Utah University 1875, 1890, 1949a-i; <i>Silver Reef Miner</i> 1881; Silver Reef Museum 2006; Silverberg 1988; Smith 1968; <i>Southern Utonian</i> 1882a-b, 1921; Spendlove 1966; St. George Biz 2009; St. Ann's Chapel 2010; State of Utah 2012a; Stenhouse & Co. 1893; Stucki 1966; <i>The Salt Lake Tribune</i> 1878; Topping 2011; Town of Leeds, Utah 2004; U.S. Census 1880a; U.S. Department of the Interior, Head 2012; National Park Service 1971; Utah State Historical Society n.d.a-c; Utah State Historical Society 1960; Utah Valley State College 2009; Washington County, Utah 1998; Wells Fargo and Express Company 2012; Anderson 1994; Baird and Glazier 1980; Beal 1987; Brooks 1961: 281-288; Bradshaw 1950: 126

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SOLDIER SUMMIT	Wasatch	1919-1930	11	319	Railroad maintenance location for helper engines that pulled freight trains over the summit.	Warm summers/ Cool winters	7,440	Relocation of the railroad maintenance facilities.	Change from steam (coal fired) to diesel engines/Severe cold climate/Isolation	Carr 1972: 71-72; Thompson 2006: 176; Whitley 2006: 128; Athearn 1959; Carter 1971; Chappell and Hauck 1970; Robertson and Harris 1962: 65; Embry 1996: 1, 116, 140-143, 147, 150, 157, 162-163, 260-261, 306-308
SPRING CANYON - also Storrs	Carbon	1912-1954	42	1,000	Mining - Coal	Warm summers/ Cold winters	6,634	Decrease in the demand for and value of coal in the 1950s	No other reason identified	Carr 1972: 76-77, 90; Thompson 2006: 103; Whitley 2006: 74, 77, 129-138, 347, 430; Reynolds 1948; Watt 1997: 3, 9-10, 87
STANDARD-VILLE - also Standard	Carbon	1912-1955	43	550	Mining - Coal	Warm summer/ Cool winters	6,739	Easily available coal mined out.	Mine explosion, mine worker strike, crime.	Allen 1966: 88, 91; Carr 1972: 76, 77-79, 98; UtahGenWeb 2012; Thompson 2006: 104; Whitley 2006: 129, 136-138; Reynolds 1948; Watt 1997: 4, 117, 122, 124, 153-154
STATELINE	Iron	1896-1910	14	300	Mining - Gold and Silver	Hot summers/ Cold winters	5,900	Shallow ore veins.	Crime (outlaw hideout)	Carr 1972: 163; Thompson 2006: 138; State of Utah, Utah Preservation Officer 2003; Seegmiller 1998: 101, 183-184, 195, 341
SUNSHINE	Tooele	1893-1910	17	150	Mining - Mercury-laden Gold	Mild summers/ Cold winters	6,125	Decreased ore volume-no longer profitable to mine.	Isolation	Carr 1972: 28; Thompson 2006: 22
TERRACE	Box Elder	1869-1903	34	1,000	Central Pacific Railroad maintenance and repair camp	Hot summers/ Cold winters	4,551	Railroad company relocated the maintenance shops, which were the sole support of the town.	Fire	Carr 1972: 12; Thompson 2006: 143; Whitley 2006: 225; Huchel 1999: 405-406

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THISTLE	Wasatch	1883-1983	100	473	Railroad siding for produce and livestock loading. Farming and ranching.	Warm summers/ Cool winters	5,033	Railroad streamlined operations and most of the facilities and personnel were moved.	Disaster/A few residents remained until 1983, when a mud slide dammed the river and flooded the town with 165 feet of water. After the water subsided only ruins were left.	Carr 1972: 71-72; Thompson 2006: 176; Whitley 2006: 32; Jordan 2001: 8; Manly and Litteral 1891-2: 4, 7, 27; Athearn 1959; Carter 1971; Chappell and Hauck 1970; Sumsion 1983
TOPAZ	Millard	1942-1945	4	8,800	World War II American-born Japanese Internment Camp.	Hot summers/ Cold winters	4,573	End of World War II.	No other reason identified.	Murbarger 1956b: 274; Carr 1972: 104, 106-107; Thompson 2006: 162; Whitley 2006: 165-166; Carter 1971; Lyman and Newell 1999: 320-324
TOPLIFF	Tooele	1875-1937	62	250	Quarry - limestone for used as flux in smelters.	Warm summers/ Cool winters	5,118	Mines and smelters closed and there was no requirement for limestone. Railroad track removed.	Isolation	Carr 1972: 33; Thompson 2006: 22; Sutton 1949
UTAHN	Duchesne	1905-1920	15	200	Farming - primarily hay.	Warm summers/ Cool winters	5,869	Homesteading/farming life discouraged residents and most moved to Duchesne.	Isolation/ Environmental	Carr 1972: 62; Dillman 1948; Barton 1998: 187

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VERDURE	San Juan	1887-1902	15	50	Mormon settlement - Farming	Warm summers/ Cold winters	6,765	Residents moved to nearby Monticello for better access to goods and services	No other reason identified.	Carr 1972: 156; Carter 1970; McPherson 1995: 107, 110, 184, 221
VICTOR	Emery	1910-1920	10	50	Farming	Warm summers/ Cool winters	5,525	Insufficient water.	Sand dunes drifted and buried crops.	Carr 1972: 85; Thompson 2006: 112; 395, 434-436; McElprang 1949; Carter 1970; Geary 1996: 178-79, 260, 308
WAHSATCH [Wasatch]	Summit	1868-1930	62	300	Initially a Union Pacific construction camp for the Echo tunnel. Later a railroad division point and sheep/wool off/on loading point.	Warm summer/ Cool winters	6,824	After the tunnel was complete most activity and residents moved to Evanston, Wyoming.	Crime - some racially based.	Carr 1972: 58-59; Thompson 2006: 153; Whitley 2006: 42; Athearn 1968: 291-314; Best 1969; Carter 1971; Hampshire et al., 1998: 85-86, 167, 266
WATSON	Uintah	1911-1920	9	75	Railroad terminus for homesteaders going to the Uintah Basin - Ore (gilsonite) shipping point.	Hot summers/ Cool winters	5,354	Railroad extended - Watson no longer a destination.	No other reason identified.	Carr 1972: 65-66; Thompson 2006: 108; Burton 1996: 96, 97-98, 132, 202, 205

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WATTIS	Carbon	1916-1965	49	250	Mining - Coal	Warm summers/ Very cold winters	7,457	Company owners sold the entire property after the coal slump of the 1950s.	Isolation/Severe winter climate.	Carr 1972: 83; UtahGenWeb 2012; Thompson 2006: 99; Whitley 2006: 138, 177
WIDTSOE - also Widtsoe Junction, Adair, Adairsville, Houston, and Winder	Garfield	1910-1936	26	1,100	Mormon settlement - Farming/ Ranching/ Sawmill	Hot summers/ Warm winters	7,605	Cyclic drought; land could no longer support farming.	Bought out by the Federal Resettlement Administration because the land was unproductive due to altitude and lack of water.	Murbarger 1956b: 274; Carr 1972: 122-123; Thompson 2006: 86; Carter 1970
WILLOW SPRINGS - also Callao	Juab	1870-1936	66	100	Pony Express and Overland Stage Station/Way station/ Supply center for ranchers and prospectors.	Warm summers/ Cold winters	4,337	Gold Hill	Extended periodic droughts.	Carr 1972: 36; Fike and Headley 1979: 80-85; Thompson 2006: 11; Wilson et al., 1999: 57
WINTER QUARTERS - also Winter	Carbon	1875-1928	53	3,750	Mining - Coal	Hot summers/ Cold winters	8,029	Inferior grade of coal that was not profitable to mine - increasing transporting costs	Severe winter/Mine explosion/After the explosion, which killed 200 miners, many (particularly the Finns and Cornish) were too superstitious to enter the mines and moved away.	Allen 1966: 13, 42, 132; Carr 1972: 70, 73-75; UtahGenWeb 2012; Thompson 2006: 95; Whitley 2006: 128-138, 173; Carter 1971; Reynolds 1948; Watt 1997: 4, 109, 134, 146-149, 161, 203, 252, 348



## **APPENDIX D**

### **Cemetery Records and Photographs**



### **Newhouse, Utah, Cemetery in Relationship to Town Features**

By road, the cemetery (red box photograph lower left) is approximately 1 mile from the town center and encompasses approximately .7 acres. For orientation, Marker 3 is the Train Depot; Marker 4 is the Reservoir and Pump Station; Marker 7 is the Town Park; Marker 8 is the Concentrator Building.  
(Base Photograph Google Earth 2010)



### **Newhouse Cemetery**

The only visible remains of the Newhouse cemetery in 2012 are a few fence posts and remnants of barbed wire. View to Northwest.  
(Photograph by Author, April 2008)

**Newhouse, Utah, Cemetery - Known Graves\***

	<b>Deceased</b>	<b>Occupation</b>	<b>Birth Place</b>	<b>Father</b>	<b>Mother</b>	<b>Birth Date</b>	<b>Death Date</b>	<b>Age at Death</b>	<b>Cause of Death</b>
1	Behlert, Dora	Unknown	Newhouse	Behlert, Helman	Hornig, Paulena	9/12/1907	9/12/1907	1 hour	"Anencephalus (Brainless Monster) in utero"
2	Davey, May	Unknown	Newhouse	Davey, Andrew	Workman, Adelia	5/2/1912	5/2/1912	1 day	Unknown
3	Eltz, Evelene Elsie	Unknown	Newhouse	Eltz, Frank	Zednik, Annie	3/19/1910	3/30/1912	1 year	Spinal fever
4	Franklin, Infant	Unknown	Newhouse	Franklin, George	Unknown	3/9/1905	3/9/1905	10 hours	Premature birth
5	Helsten, Arthur Arvid	Unknown	Newhouse	Helsten, Moses	Watson, Henricka	3/13/1907	8/5/1907	4 mos	Enterocolitis/Meningitis
6	Helsten, Infant Boy	Unknown	Newhouse	Helsten, Moses	Watson, Henricka	5/7/1911	5/8/1911	7 days	Premature birth
7	Helsten, Oscar	Unknown	Newhouse	Helsten, Moses	Watson, Henricka	9/14/1914	4/1/1915	6 mos	Unknown
8	Johansen, Gustav	Miner	Finland	Unknown	Johansen, Leski Helena	abt. 1868	7/24/1907	39	Injuries to spine over the heart. Accident in the Cactus Mine
9	Johnson, Charlie	Unknown	Newhouse	Johnson, Charles C.	Miller, Georgia	7/15/1907	7/15/1907	6 hours	Pre-natal cyanosis
10	Mehta, Infant Boy	Unknown	Newhouse	Mehta, John	Saponkoski, Lytia	12/27/1907	12/27/1907	0	Stillborn/Protracted and difficult labor at birth
11	Mehta, Lytia S.	Housewife	Finland	Saponkoski, Matt	Unknown	9/4/1883	12/28/1907	24	Heart failure from exhaustion from protracted labor at childbirth
12	Paolucci, Giovanni	Miner	Sassoferato, Italy	Unknown	Unknown	abt. 1875	6/1/1907	32	Brain Hemorrhage/Rocks fell on his head in the Cactus Mine

**Newhouse, Utah, Cemetery - Known Graves\***

	<b>Deceased</b>	<b>Occupation</b>	<b>Birth Place</b>	<b>Father</b>	<b>Mother</b>	<b>Birth Date</b>	<b>Death Date</b>	<b>Age at Death</b>	<b>Cause of Death</b>
13	Reese, Ellen	Unknown	Newhouse	Reese, Willard A.	Pierce, Elizabeth	8/11/1908	8/13/1908	2 days	Premature birth/"Insufficient vitality"
14	Taylor, Infant	Unknown	Newhouse	Taylor, George	Rossen, Mary	12/7/1905	12/7/1905	0	Stillborn

Source: State of Utah Death Records



### **Frisco, Utah, Cemetery Location**

The red boundary approximates the cemetery fenceline. The cemetery encompasses approximately 1.5 acres as of 2012; however, terrain scars indicate that the original cemetery was likely closer to 2 acres in size.

(Base Photograph Google Earth 2010)



### **Frisco, Utah, Cemetery, Gravestone of Hans Roth 1866-1905**

According to the 1900 Beaver County, Utah, Census, Hans Roth was a miner that immigrated from Denmark. This gravestone is one of only four adult grave markers and one of only a few in the cemetery remaining upright and intact.

(Photograph by Author, April 2008)





**Frisco, Utah, Cemetery, Head and Footstone of Henry J. Barrett 1883-1884**

Henry Barrett was the son of James and Mattie Barrett. He died 12 days before his first birthday. Although most of the cemetery is in poor conditions, several grave rails (fences) of varying materials remain in 2012.

(Photograph by Author, April 2008)



**Frisco, Utah, Cemetery, Headstone of Leroy S. Sackett 1905-1906**

Leroy Sackett was the son of Hugh B. Sackett, one of the Frisco sheriffs. The famous western author, Louis L'Amour wrote extensively about the Sackett family and is known to have visited the Frisco area. Whether or not this particular Sackett family is the subject of his books is not verified.

(Photograph by Author, April 2008)



### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
1	Bailie, Samuel	Miner	County Down, Ireland	Unknown	Unknown	5/17/1866	9/27/1894	28	Unknown	1
2	Barrett, Burton	Infant	Frisco, Utah	Barrett, William Henry	Turlie Elsie Elizabeth	5/7/1896	5/10/1896	3 days	Unknown	2
3	Barrett, George E	Infant	Frisco, Utah	Barrett, William Henry	Turlie, Elsie Elizabeth	4/8/1902	4/22/1902	14 days	Unknown	2
4	Barrett, Gladys	Infant	Frisco, Utah	Barrett, William Henry	Turlie, Elsie Elizabeth	12/8/1897	1/28/1898	51 days	Unknown	2
5	Barrett, Henry J.	Infant	Frisco, Utah	Barrett, James	Barrett, Mattie	1/31/1883	1/19/1884	353 days	Unknown	2
6	Baudino, Peter Tony	Child	Scofield, Utah	Baudino, Martin	Yano, Mary	7/30/1902	5/13/1918	16	Typhoid	2
7	Belingheri, Bortolo	Millman	Colere, Italy	Belingheri, Paolo	Belingheri, Bartolamea	3/9/1878	1/9/1914	35	Mill accident, struck in the bowels by a bolt. Peritonitis from the injury.	1
8	Blakemore, Page Preston	Mining Engineer, Director of the Horn Silver Mines, Inc. for 25 years	Tennessee	Blakemore, Page Blanton	Blakemore, Virginia Sights	1/3/1919	9/1/1997	78	Unknown	3 Salt Lake Tribune
9	Blakemore, Ella Harriet Remsen	Wife of Page Preston Blakemore, Horn Silver Mine and Frisco Town Owner	Lincoln County, Georgia	Remsen, Walter Murray	Bessman, Zita	8/5/1916	8/7/1998	82	Unknown	3 Salt Lake Tribune

### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
10	Cavelini, Severino Pietro	Miner	Italy	Cavelini, Giovanni	Pasqualetti, Caroline	9/25/1881	7/3/1914	33	Accidental drowning	1
11	Cotter, Daniel P	Miner	Ireland	Unknown	Unknown	1840	9/28/1895	58	Died in Butte, Montana	1
12	Crowley, Patrick	Miner	Ireland	Unknown	Unknown	ca. 1880	1/19/1913	32	Acute alcoholism	1
13	Erickson, John	Hotel Keeper	Finland	Unknown	Unknown	ca. 1881	8/7/1908	27	Murdered at Newhouse. Bled to death from severed carotid artery and jugular vein	3 American Eagle News
14	Giacomo, Abati	Miner	Colere, Italy	Giacomo, Giovanni Antonio	Sazzarani, Caterina	3/15/1885	6/11/1913	28	Falling rock in the Horn Silver Mine	1
15	Foot, Carrie Emma	Infant	Frisco, Utah	Foot, C.C.	Foot, Mary Thompson	3/9/1891	6/9/1891	3 mo	Unknown	2
16	Godsey, Ralph	Infant	Salt Lake City, Utah	Godsey, Edward R.	Nelson, Maude	8/29/1897	12/1/1908	2 mo	Meningitis	1
17	Griffiths, Earl E.	Child	Adamsville, Utah	Griffiths, James Lloyd	Slaughter, Clara Elizabeth	1/28/1895	2/22/1898	3	Unknown	2
18	Hall, Arlin Thomas	Child	Utah	Hall, Edgar	Stinger, Helen A.	9/9/1908	12/29/1917	9 years 3 mo	Dyptheritic laryngitis	1
19	Helsten, Hilga	Child	Utah	Helsten, Moses	Kunebula, Henrika	1/15/1906	8/21/1906	6 mo, 6 days	Hydroencephalitis, enteric colitis	1
20	Hopkins, Roswell Whitney	Unknown	San Bernardino, California	Hopkins, Richard Rockwell	Crandell, Ruth	7/9/1852	6/5/1879	27	Unknown	2

**Frisco, Utah, Cemetery - Known Graves\***

	<b>Deceased</b>	<b>Occupation</b>	<b>Birth Place</b>	<b>Father</b>	<b>Mother</b>	<b>Birth Date</b>	<b>Death Date</b>	<b>Age at Death</b>	<b>Cause of Death</b>	<b>Source*</b>
21	Hultgreen, Andrew	Miner	Unknown	Unknown	Unknown	1852	9/27/1916	64	Accidental death caused by falling head foremost into a pile of rocks while under the influence of liquor	1
22	Jacometti, Peter	Miner	Italy	Jacometti, Luigi	Mariaua, Ruggironi	12/1866	4/16/1910	44	Crushed by cage and timbering in the King David Mine ((broken neck)	1
23	James, Rachel	Child	Port Wine, California	James, William	Powell, Ann	12/17/1872	3/6/1883	11	Unknown	2
24	James, Tommy	Child	Frisco, Utah	James, Thomas	Phillips, Ann	6/2/1882	4/12/1883	10 mo	Unknown	Gravestone
25	Johansen, Christian	Miner	Denmark	Unknown	Unknown	1834	7/27/1914	80	Unknown	1
26	Johansen, Christie Alvira	Child	Newhouse, Utah	Johnansen, Ola Pete	Thompson, Anna M.	4/28/1912	6/7/1912	1 mo, 15 days	Unknown/Unreadable of Death Certificate	3 Southern Utonian
27	Jones, Edna	Child	Frisco, Utah	Jones, Evan E.	Jones, Lucretia Walters	Unknown	Unknown	7	Unknown	2
28	Jones, Leroy	Child	Frisco, Utah	Jones, Evan E.	Jones, Lucretia Walters	Unknown	Unknown	14 mo	Unknown	2
29	Julius, Danielle	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	2
30	Julius, Frederick Richard	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	2 and partial gravestone
31	Julius Tatia	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	2

### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
32	Lucci, Lorenzo	Miner	Italy	Unknown	Unknown	ca. 1883	4/24/1907	24	Electrocution in Cactus Mine (wet feet, neck contact with trolley)	1
33	McAulay, Christy Belle	Child	Frisco, Utah	McAulay, John	Osborn, Thomascene	3/27/1896	1/11/1897	10 mo	Unknown	2 and gravestone
34	McAulay, Ernest M.	Child	Frisco, Utah	McAulay, Alexander D.	Watkins, Elizabeth A.	8/27/1901	8/29/1904	3	Meningitis	4
35	McKeon, Bourke Maron (possibly Aaron)	Child	Frisco, Utah	McKeon, P.B.	McKeon, Mary A.	5/11/1880	1881	1	Unknown	2 and gravestone
36	McKeon, James	Infant	Frisco, Utah	McKeon, P.B.	McKeon, Mary A.	Unknown	Unknown	Infant	Unknown	2
37	Miller, Johanna	Housekeeper	Finland	Hazzblon, John	Hazzblon, Madeline	9/14/1866	1/23/1912	45	Stomach cancer	1
38	Nelson, Mike	Miner	Finland	Nelson, Oscar	Nelson, Eusteva	2/3/1878	3/25/1912	34	Electrocution in Utah Mine	1
39	Norvald, Myrtle C.	Infant	Unknown	Unknown	Unknown	12/9/1899	2/10/1900	32 days	Unknown	2 and gravestone
40	Oates, William	Miner	New Jersey	Unknown	Unknown	1854	1/28/1882	28	Died in iron mine at Wah Wah	3 Deseret News
41	O'Dell, Charles K.	Unknown	Poughkeepsy [sic], New York	Unknown	Unknown	10/19/1841	11/21/1898	57	Unknown	2 and gravestone

### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
42	Osborn, Gerald Samuel	Child	Frisco, Utah	Osborn, Frank Lorin	Slaughter, Edith Ellen	4/4/1906	12/17/1906	9 mo	Unknown	2 and gravestone
43	Peterson, Magnus	Child	Beaver, Utah	Peterson, Mont.	Peterson, Datie	ca. 1888	4/22/1905	17	Heart disease (mitral valve prolapse and dropsy)	1
44	Pierce, Charles H.	Tin and Coppersmith	England	Unknown	Unknown	1876	4/24/1906	30	Suffocation from fire/smoke in cabin	1
45	Pietro, Bendotti	Miner Machine- man	Italy	Bendotti, Emilio	Bettineaelli, Filomena	8/5/1885	10/25/1913	28	Falling rock in a chute in the mine – accidental, instantaneous death	1
46	Reese, George M.	Child	Frisco, Utah	Reese, Matthew Leyshon	Denton, Annie Marie	9/4/1881	8/12/1882	11 mo	Unknown	2 and gravestone
47	Reeves, Bishop Bennet	Child	Unknown	Unknown	Unknown	Unknown	9/30/1881	Unknown	Unknown	2
48	Rehnstrom, August Fredrick	Child	Frisco, Utah	Rehnstrom, Johan August	Nielsen, Boletta Sophia	1882	1/1885	3	Influenza epidemic	2
49	Rehnstrom, Charlotte	Child	Salt Lake City, Utah	Rehnstrom, Johan August	Nielsen, Boletta Sophia	1875	1/1885	10	Influenza epidemic	2
50	Rehnstrom, Gundra	Child	Frisco, Utah	Rehnstrom, Johan August	Nielsen, Boletta Sophia	1884	1888	4	Unknown	2
51	Rehnstrom, Hilda	Child	Salt Lake City, Utah	Rehnstrom, Johan August	Nielsen, Boletta Sophia	1877	1/1885	8	Influenza epidemic	2

### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
52	Rehnstrom, John Barnhart	Child	Salt Lake City, Utah	Rehnstrom, Johan August	Nielsen, Boletta Sophia	1871	1/1885	14	Influenza epidemic	2
53	Rosich, Steve	Miner	Austria	Unknown	Unknown	1886	1/2/1907	21	Froze to death in Wah Wah Valley during a severe blizzard	1
54	Roth, Ane (inscription carved on back of Hans Roth gravestone)	Child	New Jersey	Roth,, Hans Jensen	Roth, Anna Marie Fynsk	1891	8/27/1905	14	Unknown	2 and gravestone
55	Roth, Hans Jensen	Foreman Horn Silver Mine	Lojt Kirkeby, Aa-Sndr, Denmark	Roth, Johannes Jensen	Fynsk, Anna Andersen	6/12/1866	8/27/1905	39	Crushed in cave in Lulu Mine	3 Emery County Progress (Utah State News)
56	Roth, Thora	Child	Frisco, Utah	Roth,, Hans Jensen	Roth, Anna Marie Fynsk	1895	1890s	Under 5 years	Unknown	2 and gravestone
57	Sackett, Clyde Milton	Child	Frisco, Utah	Sackett, Frank Edwin	Ellison, Ettie May	2/21/1909	11/14/1915	6	Unknown	2 and gravestone
58	Sackett, Hugh John	Child	Frisco, Utah	Sackett, Hugh B.	Slaughter, Annie	1/29/1901	7/7/1901	5 mo, 8 days	Unknown	2 and gravestone
59	Sackett, LeRoy S.	Child	Frisco, Utah	Sackett, Hugh B.	Slaughter, Annie	6/15/1905	12/27/1906	18 mo, 14 days	Unknown	2 and gravestone
60	Sackett, Willie	Child	Frisco, Utah	Sackett, Theodore N.	Sackett, P.E.	10/22/1881	3/23/1882	5 mo	Unknown	2 and gravestone



### Frisco, Utah, Cemetery - Known Graves\*

	Deceased	Occupation	Birth Place	Father	Mother	Birth Date	Death Date	Age at Death	Cause of Death	Source*
61	Smyth, John A.	Ranchman	Ireland	Unknown	Unknown	1824	5/25/1882	58	Inflicted mortal gunshot wounds on wife and then took his own life	3 Salt Lake Tribune
62	Smyth, Susanna	Unknown	Ireland	Unknown	Unknown	1826	5/25/1882	56	Murdered by husband	3 Salt Lake Tribune
63	Staples, _____y	Child	Unknown	Unknown	Unknown	8/25/1880	12/27/1881	1 year 4 mo	Unknown	2 and gravestone
64	Stone, Charles	Unknown	Denver, Colorado	Colonel Stone	Unknown	Unknown	2/1882	Unknown	Shot in front of Frisco saloon	3 Southern Utonian
65	Swenson, Isaac	Miner	Sweden	Unknown	Unknown	ca. 1863	5/20/1908	45	Fell down Cactus Mine chute	1
66	Taylor, Mary Jane Blackner Morgan	Unknown	Unknown	Blackner, James Henry	Blackner, Jane Allen		1905	Unknown	Unknown	2
67	Thompson, Carrie Emma	Child	Frisco, Utah	Thompson, Charles Christian	Jensen, Ingre Marie	3/9/1891	6/9/1891	3 mo	Unknown	Gravestone

\*Source of death information:

1- Utah State Death Record (Death Certificate)

2-Utah Cemeteries and Burials Database, which is based on an inventory of the gravestones.

3-Newspaper notice/Other

4-Utah Death Register 1847-1966

Note: The Frisco, Utah, cemetery has been heavily disturbed by decades of vandalism, looting, and erosion. As reflected in the cemetery records, most of the existing gravestones are for children. Many more internments are believed to be present in the Frisco Cemetery, but the exact number is unknown. For many years, Frisco, Utah, was a town plagued by crime. When a sheriff was finally hired to curb the criminal activities, many were killed and buried in either unmarked graves or mass graves (more than one per plot). Because of this, the Frisco cemetery is a true "Boot Hill," an American West term for criminals that were killed and buried with their boots on.



### **Silver Reef, Utah, Protestant, Catholic, and Chinese Cemetery Locations**

The red boundary indicates the Protestant Cemetery, which is approximately 0.9 acres in size. The blue boundary indicates the Catholic Cemetery, which is approximately 0.3 acres in size. The location of the Chinese Cemetery is unconfirmed, but based on historical records and terrain scars, it is believed to be adjacent to and east of the Catholic Cemetery (green boundary) and about 0.3 acres in size.

(Base Photograph Google Earth 2010)



### **Silver Reef, Utah, Protestant Cemetery**

(Photograph by Author, April 2008)



**Silver Reef, Utah, Protestant Cemetery, View of Cemetery to Northeast**

There are very few headstones remaining in the modern cemetery landscape. Wood crosses mark the locations of graves, but there are no records indicating the deceased.  
(Photograph by Author, June 2009)



**Silver Reef, Utah, Protestant Cemetery, Gravestone of Michael Carbis 1832-1880**

According to various historical records, Michael Carbis was a Cornish miner. Carbis was murdered in Silver Reef by an Irish miner in 1880. A belt buckle that may have belonged to Carbis was found among the artifacts in the Silver Reef Museum collection (see thesis Figures 3-53 and 3-54).  
(Photograph by Author, April 2008)





**Silver Reef, Utah, Catholic Cemetery**  
(Photograph by Author, April 2008)



**Silver Reef, Utah, Catholic Cemetery**

As with the Silver Reef Protestant cemetery, most of interred are unknown and there are very few original permanent gravestones. Markers at both cemeteries have been placed by volunteers and local genealogists.

(Photograph by Author, April 2008)



**Silver Reef, Utah Catholic Cemetery, Marble Obelisk Monument to Henry C. Clark 1853-1878**

According to historical records, Henry C. Clark was a miner with a “strong penchant for gambling” (Proctor and Shirts 1991:135). Clark was killed at the age of 25 during a shoot-out in Cassidy’s Silver Reef Saloon after an argument over a Faro card game. (Photograph by Author, April 2008)



**Silver Reef, Utah Catholic Cemetery, Concrete Crypt of Park Morehous 1877-1878**  
(Photograph by Author, April 2008)

**Known Graves – Silver Reef Protestant and Catholic Cemeteries\***

	<b>Deceased</b>	<b>Occupation</b>	<b>Birth Place</b>	<b>Father</b>	<b>Mother</b>	<b>Birth Date</b>	<b>Death Date</b>	<b>Age at Death</b>
<b>Protestant Cemetery</b>								
1	Bailey, ?	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
2	Bailey, Han--- B.	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown	Unknown
3	Bailey, Samuel	Unknown	Cornwall, England	Unknown	Unknown	12/25/1840	8/11/1887	47
4	Beal, David Glenn	Unknown	Unknown	Unknown	Unknown	10/18/1911	5/3/2002	91
5	Beal, Wilma Cox	Unknown	Unknown	Unknown	Unknown	2/1/1915	9/2/1999	84
6	Callaway, Clarence L.	Child	Unknown	Unknown	Unknown	12/31/1880	5/26/1883	3
7	Carbis, Michael	Miner	Cornwall, England	Unknown	Unknown	1832	10/3/1880	48
8	Harding, Augusta	Unknown	Unknown	Unknown	Unknown	9/1862	1/1884	22
9	Huston, James H.	Unknown	Unknown	Unknown	Unknown	1887	4/2/1889	2 years, 10 mo
10	Lemon, Joseph W.	Unknown	Unknown	Unknown	Unknown	1812	9/23/1873	61
11	Meik, Mary Anne Francis	Child	Unknown	Meik, Joseph Francis	Hutchinson, Ann	4/23/1885	9/22/1885	5 mo
12	Myers, Relph	Child	Unknown	Myers, William H.	Myers, Sarah J.	4/21/1883	10/31/1888	5
13	Rickards, Ada Grace	Child	Unknown	Rickards, James	Rickards, Julia Ann Halthon	11/17/1881	7/17/1882	8 mo
14	Rickards, Julia	Unknown	Unknown	Rickards, James	Rickards, Julia Ann Halthon	11/23/1851	4/4/1883	32
15	Shelton, William	Child	Unknown	Shelton, S. W.	Shelton, Nettie	Unknown	Unknown	Unknown
16	West, Baby	Infant	Unknown	Unknown	Unknown	11/28/1879	11/28/1879	1 day



**Known Graves – Silver Reef Protestant and Catholic Cemeteries\***

	<b>Deceased</b>	<b>Occupation</b>	<b>Birth Place</b>	<b>Father</b>	<b>Mother</b>	<b>Birth Date</b>	<b>Death Date</b>	<b>Age at Death</b>
17	West, William Shelton	Child	Unknown	Unknown	Unknown	1/28/1883	10/9/1888	5

There are additional unknown/unmarked graves in this cemetery.

The Utah cemetery database indicates that there may have been as many as 60 graves.

<b>Catholic Cemetery</b>								
1	Clark, Henry C.	Miner	New York			3/13/1853	12/1/1878	26
2	Clark, John Richard	Unknown	Unknown	Unknown	Unknown	1820	1880	60
3	Grim, James D. F.	Unknown	Unknown	Unknown	Unknown	1/10/1934	9/2/2008	74
4	Morehous, Park	Child	Unknown	Unknown	Unknown	5/18/1877	8/14/1878	15 mo
5	Spencer, Dale Byron	Unknown	Unknown	Unknown	Unknown	9/24/1934	12/3/2001	67

There are additional unknown/unmarked graves in this cemetery. The exact number is unknown.

\* All data is from the Utah Cemeteries and Burials Database, which is based on an inventory of the gravestones. There are no known records for the Chinese cemetery.

## **APPENDIX E**

### **Types of Businesses Recorded at Frisco between 1879 and 1928**

#### **Data from Historic Utah Directories and Gazetteers**

(Cullmer 1880: 327-329; Graham 1883: 248; Stenhouse & Co. Publishers 1893: 73;  
Graham 1884: 305; R. L Polk & Co. 1904: 136-137; 1915 and 1928)

**Types of Businesses Recorded at Frisco between 1879 and 1928**

<b>Proprietor or Business Name</b>	<b>Profession</b>	<b>Type of Business</b>
<b>1879-1880</b>		
Atkins, M.	Mining Agent	Frisco Smelting Co.
Barrett, John	Butcher	Meat Market
Boatright, Wm.	Wheelwright	Wheelwright
Bowen, H.	Livery	Stable
Burke, J.M.	Bank Cashier	Frisco Banking Co.
Campbell, Cullen & Co	Store	General Merchandise
Dodd Bros.	Butcher	Meat Market
Easley & Turley	Livery	Stable
Godbe, F.	Assayer	Assay
Godbe, W.S.	Mining Manager	Frisco Smelting Co.
Grant, J.F.	Store	General Merchandise
Hagar, R.T. & Co.	Store	Grocers
Hampton, B.Y.	Mining Superintendent	Frisco Smelting Co.
Hopkins, R.R.	Store	Frisco Store, General Merchandise
Humphrey & Kelly	Saloon	Saloon
Kelly, E.	Restaurant	Restaurant
Kelly, S.D.	Saloon	Saloon
Lindsay & Co.	Saloon	Saloon
Lipscomb, R.S.	Lawyer	Justice Of The Peace
McKay & Grace	Blacksmith	Blacksmith
Meek, W.H.	Pharmacy/Doctor	Druggist
Mulloy, P.A.	Saloon	Saloon
Norton, Thomas	Pharmacy/Doctor	Physician
Olsen & Forgie	Baker	Grain And Provisions
Ormand & Lovett	Press	Stationers
Ormand, M.	Saloon	Saloon
Pattie & Goldstein	Store	General Merchandise
Raht, W.L. (manager)	Mining	Frisco Reduction Works
Richardson, J.S.	Saloon	Saloon
Ryan, P.	Saloon	Saloon
Savior & Co.	Saloon	Brewery
Simpson, E.	Assayer	Assayer
Stoddard, M.	Restaurant	Restaurant
Terrell, J.J.	Proprietor, Boarding/Lodging	International Hotel
Vail, D.D.	Hair/Barber	Hair Dresser
West, C.W.	Saloon	Saloon
<b>1883-1884</b>		
Anthony, C.	Proprietor, Restaurant	Frisco Restaurant
Barnes, E.H.	Boarding/Lodging	Hotel

**Types of Businesses Recorded at Frisco between 1879 and 1928**

<b>Proprietor or Business Name</b>	<b>Profession</b>	<b>Type of Business</b>
Barnes, H. (proprietor)	Proprietor, Boarding/Lodging	Horn Silver Boarding House
Barrett & Bowen	Butcher	Meat Market
Bennett, Holbrook & Co	Store	General Merchandise
Bigelow, C.D.	President Mine	Frisco Mining & Smelting Co
Boatright & Carver	Livery	Livery & Sale Stable
Boatwright, W.	Blacksmith	Blacksmith & Wagon Shop
Bowen, W.	Livery	Livery Stable
Burke, R.H. & Co.	Pharmacy	Drugstore
Burlingame, E.	Press	Job Printer
Burnison, W.H.	Mining	Mine Manager
Campbell, Allan G.	President, Mine	Cactus Mining Company
Ching, Wo Hing	Laundry	Laundry
Clarke, J.W.	Saloon	Saloon
Dodds Bros.	Butcher	Stock Dealers, Butchers
Duggan, Mrs. L.C.	Baker	Bakery
Duggans, S.M.	Baker	Flour
Fenney, Daniel	Saloon	Saloon
Fitzgerald & Ryan	Saloon	Saloon
Fordonski, David	Hair / Barber	Tonsorial Artist
Grace, Richard	Blacksmith	Blacksmith & Wagon Shop
Graham, J.M.	Saloon	Saloon
Grant, J.F. & Co	Store	General Merchandise
Grant, J.F.	Secretary, Mining Company	Italian Marble Co.
Hagan, R.T. & Co.	Sewing / Tailor	Notions
Hanafin, Mrs. John	Laundry	Laundry
Haynes, W.	Saloon	Saloon
Haynes, Wm. (proprietor)	Boarding/Lodging	St. James Hotel
Hill, H.C.	Manage, Mine	Horn Silver Mining Co.
Hing, Sam	Laundry	Laundry
James & Angel	Butcher	Meat Market
Jones, Miss B.E.	Sewing / Tailor	Milliner And Dress Maker
Kelley, S.D.	Saloon	Saloon
Kennedy, A.	Hair / Barber	Tonsorial Artist
King, Charles S.	Post Office	Postmaster
King, Chas S. & Co	Store	General Merchandise, Cigars, Tobacco And Stationery
King, Chas. S. & Co.	Press	Southern Utah Times (Publishers)
Lammersdorf, C.	Mining	Precious Stones

**Types of Businesses Recorded at Frisco between 1879 and 1928**

<b>Proprietor or Business Name</b>	<b>Profession</b>	<b>Type of Business</b>
Latimer, T.H.	Assayer	Assayer
Lee, Hop	Laundry	Laundry
Lipscomb, R.S.	Lawyer	Justice Of The Peace & US Commissioner
Lochrie, P.	Lawyer	Attorney-At-Law
Mahoney, M.	Saloon	Saloon
Mahoney, M.	Proprietor, Boarding/Lodging	Southern Hotel
Malloy, P.A.	Saloon	Saloon
Meyerfield, Chas.	Saloon	Saloon & Shoe Shop
Minard, J.B.	Watchmaker	Watchmaker
Mow, C.	Proprietor, Restaurant	LaFayette Restaurant
Murray, S.	Saloon	Saloon
n/a	Boarding/Lodging	Cactus Boarding House
n/a	General Merchandise Store	Horn Silver Mining Co.
Naglor, R.	Watchmaker	Watchmaker
Orrick, Wm.	Blacksmith	Blacksmith & Wagon Shop
Orth, P.L.	Insurance	Life & Fire Insurance
Orth, P.L.	Cashier, Bank	Frisco Banking Co
Raht, Wm. L.	Assayer	Assay
Reher, J.C.	Saloon	Saloon
Rehnstrom, John	Sewing/Tailor	Merchant Tailor
Rehr, John	Proprietor, Saloon	St. Louis Brewery
Reilly, H.	Proprietor, Boarding/Lodging	Carbonate Boarding House
Riley, A.	Boarding/Lodging	Boarding House
Ryan & Co.	Saloon	Saloon
Ryan, P.	Manager, Mine	First South Extension, Horn Silver Mine Company
Savior, John	Saloon	Saloon
Schmidt, J.	Saloon	Saloon
Schmitt, C.	Shoes	Shoemaker
Schwartz, P.	Store	General Store
Schwartz, P.	Saloon	Saloon
Smith, John	Livery	Livery Stable
Staples, J.R.	Store	Furniture
<b>1884</b>		
Adsit, A.M.	Doctor	Physician
Barnes, H.	Proprietor, Boarding/Lodging	Boarding House
Bennett, Holbrook & Company	Store	General Merchandise Store
Bigelow, A.M.	Superintendent, Mine	Frisco Mining & Smelting Co

**Types of Businesses Recorded at Frisco between 1879 and 1928**

<b>Proprietor or Business Name</b>	<b>Profession</b>	<b>Type of Business</b>
Boatright, William	Blacksmith	Blacksmith
Burns, T.C.	Lawyer	Attorney-At-Law
Carver, O.S.	Livery	Stable
Christensen, L.	Shoes	Shoemaker
Clark, J.W.	Saloon	Saloon
Cummins, E.	Sewing / Tailor	Tailor
Galvin, John	Saloon	Saloon
Grace & Richards	Blacksmith	Blacksmiths
Grant, J.F.	Secretary, Mining Company	Italian Marble Co.
Hardy, George	Shoes	Shoemaker
Hawkes, J.R.	Boarding/Lodging	Hotel
Holmes, G.	Shoes	Shoemaker
Horn Silver Mining Co.	Store	General Store
Ivy, H.S.	Hair/Barber	Barber
James, Thomas	Butcher	Butcher
Kimple, P.M.	Boarding/Lodging & Saloon	Hotel and Saloon
King, C.S.	Newspaper	Southern Utah Times (Publishers)
King, C.S. and Co	Pharmacy	News dealers and Druggists
Lammersdorf, C.	Saloon	Saloon
Lochrie, P.	Lawyer	Attorney-At-Law
Malloy, P.A.	Saloon	Saloon
Murray, Simon	Saloon	Saloon
Nagle, R.	Watchmaker	Watchmaker
Ormond, M.	Saloon	Saloon
Raht, W.L.	Assayer	Assayer
Reber, John C.	Ice	Ice Dealer
Rehnstrom, John	Sewing / Tailor	Tailor
Sackett, T.N.	Livery	Livery
<b>1892-1893</b>		
Dotson & Son	Store	General Merchandise
Horn Silver Mining Co.	Store	Mines And General Merchandise
Lammersdorf, Chas.	Saloon	Saloon
Lawrence, N.C.	Saloon	Saloon
Lipscomb, R.S.	Saloon	Saloon
Osborn & Sons	Butcher	Butcher
Sacket, Mrs. T.N.	Boarding/Lodging	Hotel
Smithson, D.W.	Saloon	Saloon
<b>1903-1904</b>		



**Types of Businesses Recorded at Frisco between 1879 and 1928**

<b>Proprietor or Business Name</b>	<b>Profession</b>	<b>Type of Business</b>
Andrews, Wm.	Saloon	Saloon
Ball, J. W.	Superintendent, Imperial Mine	Mining
Brady, Guy W.	Proprietor, Restaurant	Restaurant
Evans, F. J.	Manager, Blackbird Mercantile Co.	General Store
Farnsworth, W. H.	Superintendent, Horn Silver Mining Co.	General Merchandise
Grace, Richard	Blacksmith	Blacksmith
Haines, Lewis L.	Railroad, Express and Telephone Agent	Agent - Various
James, John P.	Proprietor, Hotel	Hotel
Johnson, M. M.	Superintendent, Cactus Mine	Mining
Martin & Sackett	Proprietors, Saloon	(C. Thomas Martin and Charles N. Sackett)
Olsen, Mrs. Matilda	Postmaster	Post Office
Olsen, Nels N.	Proprietor, Store	General Store
Pellier, F. X.	Superintendent, Comet Mine	Mining
Rush & Brown	Saloon	(Clement R. Rush And John E. Brown)
Rush, Wesley	Barber	Barbershop
Sackett, Theodore N.	Hotel and Blacksmith	Hotel and Blacksmith
Skeggs, James	Carpenter	Carpentry
Slaughter, Samuel N.	Store	General Merchandise Store (Hay, Grain, Feed, Produce)
True, M. J.	Manager, Blackbird Mine	Mining
<b>1915</b>		
Williams, G.L.	Saloon	Saloon
Johansen, Mrs. Chris	Sewing/Tailor	Notions
Griffith, J.L.	Store	General Store
Horn Silver Mining Co.	Store	General Store & Mining
<b>1928</b>		
Moebis, S.W.	Automobiles	Secondhand automobiles

Sources: Cullmer 1880: 327-329; Graham 1883: 248; Stenhouse & Co. Publishers 1893: 73; Graham 1884: 305; R. L Polk & Co. 1904: 136-137; 1915 and 1928).

## **APPENDIX F**

### **Sample Pages from Artifact Catalogue**

**and**

**List of Artifacts Found at the Newhouse and Frisco Loci and within the Silver  
Reef Museum**

## Sample Page from Artifact Catalogue - Newhouse

Case Study Area	Accession No.	Feature	Catalog No.	Lot No.	Artifact Group	Artifact Category	Artifact Type	Artifact Description	Material	% Complete	Mark	Maker	Begin Date	End Date	References	Origin	Remarks	Whole CL	Frag CL	MNI	Condition	Collected
Newhouse	NH6	Cactus Café	195	NH06	Domestic	Food Prep/Consumption	Tableware	Crock	Stoneware	<25%	None	attributed to Western Stoneware - Monmouth Pottery	1906	1985	Lage 2004	Monmouth, Illinois	Stoneware crock shard with dark blue embossed floral pattern - white glaze on interior	0	1	1	Fragment	Yes
Newhouse	NH6	Cactus Café	196	NH06	Domestic	Food Prep/Consumption	Tableware	Crock	Porcelain	<25%	None	Unknown	Unknown	Unknown	n/a	Unknown	Porcelain plate rim shard - Oriental pattern - fish scale and possible birds	0	1	1	Fragment	Yes
Newhouse	NH6	Cactus Café	197	NH06	Domestic	Furnishings	Furniture	Knob	Metal	>75%	None	Unknown	1901	1931	Histories	Unknown, probably Sears Roebuck or Montgomery Ward	Small metal disk with center hole (for screw attachment) - probably drawer or cabinet knob face	0	1	1	Complete/Fragment	Yes
Newhouse	NH6	Cactus Café	198	NH06	Domestic	Food/Food Storage	Closure	Jar Lid	Metal and Glass	100%	BOYD'S GENUINE PORCELAIN LINED CAP 26 9 H / 4	Lewis Boyd	1869	1941	Munsey 1970; Society for Historical Archaeology 2010	New York, New York	Zinc Mason jar cap with Boyd's white glass liner	1	0	1	Complete	Yes
Newhouse	NH6	Cactus Café	199	NH06	Domestic	Food	Shell	Oyster	Shell	100%	n/a	n/a	1901	1931	Dixon 2002	Pacific Coast	Seven oyster shell halves	7	0	4	Complete	No
Newhouse	NH6	Cactus Café	200	NH06	Domestic	Food/Food Storage	Container	Bottle Stopper	Green Glass	100%	LEA & PERRINS - embossed	Lea & Perrins	1849	1940s	Munsey 2009; Society for Historical Archaeology 2010	Worcester, England	Glass bottle stopper from early Lea & Perrins Worcestershire Sauce	1	0	1	Complete	Yes
Newhouse	NH6	Cactus Café	201	NH06	Domestic	Food/Food Storage	Container	Bottle Cap	Metal	<25%	---H	Unknown	Unknown	Unknown	n/a	Unknown	Metal bottle cap - top portion only - due to deterioration, embossed letters are illegible	0	1	1	Fragment	Yes
Newhouse	NH6	Cactus Café	205	NH06	Domestic	Food/Food Storage	Closure	Bottle Cap	Metal	>75%	None	Unknown	1960s	Present	n/a	Unknown	Intrusive artifact - oxidized metal center pressure-type twist off cap (10 lug) - 1 1/4" diameter - probably gallon jug or small food jar - seal missing	0	0	0	Complete	Yes
Newhouse	NH6	Cactus Café	209	NH06	Domestic	Food Prep/Consumption	Container	Jar	White Glass	<25%	None	Griffith Laboratories	1939	1950s	Griffith Laboratories 2010	Chicago, Illinois	White glass jar neck fragment (1 1/2 inch diameter). Griffith spice jar.	0	1	1	Fragment	Yes

## Sample Page from Artifact Catalogue – Frisco

Case Study Area	Accession No.	Feature	Catalog No.	Lot No.	Artifact Group	Artifact Category	Artifact Type	Artifact Description	Material	% Complete	Mark	Maker	Begin Date	End Date	References	Origin	Remarks	Whole CL	Frag CL	MNI	Condition	Collected
Frisco	FR4	HSM Store	095	04	Activities	Writing	Writing	Pencil Eraser Socket	Metal	100%	None	Unknown	1853	Present	Early Office Museum 2010	Unknown	Metal eraser socket from wood pencil.	0	1	1	Complete	No
Frisco	FR4	HSM Store	097	04	Activities	Hardware	Fastener	Railroad Spike	Iron	100%	None	Unknown	1880	1937	Strack 2007	Union Pacific Railroad	Iron railroad spike - Union Pacific Railroad line through Frisco. Line laid in 1880, abandoned in the 1930s, and completely removed in 1943.	1	0	1	Complete	No
Frisco	FR4	HSM Store	077	04	Domestic	Food Prep/Consumption	Tableware	Plate	Ceramic	25-50%	Black and White - CHINA / DGWOOD & Co	Wedgwood & Co (Ltd)	1860	1965	Birks 2010	North Staffordshire, Tunstall, England	White ceramic fragments (2) with partial black and white makers mark. t true Wedgwood.	0	2	1	Fragment	No
Frisco	FR4	HSM Store	078	04	Domestic	Food	Animal	Animal	Bone	25-50%	n/a	n/a	modern	modern	n/a	local wildlife	n-butchered animal bone - lower leg - probably intrusive - possibly coyote.	0	1	1	Fragment	No
Frisco	FR4	HSM Store	079	04	Domestic	Food	Indeterminant	Indeterminant	Amethyst Glass	25-50%	None	Unknown	1880	1916	Zimmerman 1964; Munsey 1970; Berge 1980; Fike 1987	Unknown	Partial drinking glass or bottle base - amethyst color (sun affected) - impressed fluted pattern	0	1	1	Fragment	No
Frisco	FR4	HSM Store	080	04	Domestic	Food Prep/Consumption	Tableware	Bowl	Ceramic	25-50%	None	Unknown	1870s	1920s	Histories	Unknown	Plain white, steep-sided bowl - probably soup, rice, or mixing.	0	1	1	Fragment	No
Frisco	FR4	HSM Store	081	04	Domestic	Social Drugs - Alcohol	Container	Beer Bottle	Stoneware	50-75%	None	Unknown	1850	1920s	Society for Historical Archaeology 2010	Unverified - England, Australia, United States	Stoneware bottle bottom - likely ginger beer. The manufacture of stoneware bottles was largely discontinued in the United States after 1895 due to weight, closure, and sanitation limitations.	0	1	1	Fragment	No

## Sample Page from Artifact Catalogue – Silver Reef

Case Study Area	Accession No.	Feature	Catalog No.	Lot No.	Artifact Group	Artifact Category	Artifact Type	Artifact Description	Material	% Complete	Mark	Maker	Begin Date	End Date	References	Origin	Remarks	Whole Ct.	Frag Ct.	MNI	Condition	Collected
Silver Reef	SRM	Museum Collection	404	SR1	Domestic	Food/Food Storage	Closure	Jar Top	Colorless Glass	100%	BALL / TO OPEN INSERT KNIFE UNDER RUBBER	Ball Jar Corporation	1892	n/a	Toulouse 1971	Muncie, Indiana	Ball glass jar top embossed with directions for opening the jar - script lettering.	1	0	1	Complete	No
Silver Reef	SRM	Museum Collection	405	SR1	Domestic	Food/Food Storage	Closure	Jar Top	Colorless Glass	100%	BALL / GLASS TOP	Ball Jar Corporation	1892	n/a	Toulouse 1971	Muncie, Indiana	Colorless glass Ball jar top (script lettering)	1	0	1	Complete	No
Silver Reef	SRM	Museum Collection	407	SR1	Domestic	Clothing	Fastener	Safety Pins	Metal	>75%	None	Unknown	1849	Present	Wulffson 1981	Unknown	Two metal safety pins with decorative heads	1	1	2	Complete	No
Silver Reef	SRM	Museum Collection	351	SR1	Industrial	Misc. Containers	Container	Assay Crucibles	Fired Clay	N/A	None	Unknown	1871	1910	Hartshome 1881	Unknown	Twenty assay crucibles of varying sizes used for assaying various ores	20	0	20	Complete	No
Silver Reef	SRM	Museum Collection	376	SR1	Industrial	Materials	Container	Retorting Mold	Cast Iron	100%	None	Unknown	1871	1910	Francaviglia 1991	Unknown	Rectangular cast iron retorting mold for producing silver bars.	1	0	1	Complete	No
Silver Reef	SRM	Museum Collection	393	SR1	Industrial	Misc. Containers	Container	Retorting Pot and Ladle	Earthenware and Metal	100%	None	Unknown	1871	1910	Francaviglia 1991	Unknown	Fired clay retorting pot with metal bail and metal ladle	1	0	1	Complete	No
Silver Reef	SRM	Museum Collection	394	SR1	Industrial	Tools	Construction	Oil Can	Metal	100%	None	Eagle Manufacturing Company	1894	ca 1920	Eagle Manufacturing Company 2010	Wellsburg, West Virginia	Eagle brand 33 Large metal trigger pull type oil can ca. 1890s.	1	0	1	Complete	No
Silver Reef	SRM	Museum Collection	406	SR1	Industrial	Grooming	Sheep Industry	Wire Brush	Wood and Metal	100%	THE ONLY GENUINE / OLD WHITEMORE PATENT CO. / IMPROVED / No. 8 / WOOL CARDING BRUSH	L. S. Watson & Company	1874	early 1900s	Ecowool 2010	Leicester, Massachusetts	Two wood, leather, and wire tooth sheep grooming brushes	2	0	2	Complete	No
Silver Reef	SRM	Museum Collection	409	SR1	Industrial	Tools	Lamp	Carbide Lamp	Brass	>75%	Shanklin	Shanklin Manufacturing Company	1914	1930s	Clemmer 1987	Springfield, Illinois	Small (3 1/2 inches tall) brass "Guy's Dropper" brand carbide miner's head lamp	0	2	2	Complete/Fragment	No

## LIST OF ARTIFACTS

See also Thesis Table 5-1 and the various locus tables, charts, descriptions, and artifact counts in Chapter 5.

### NEWHOUSE ARTIFACTS

#### **Locus 1: Bank**

- Brick
- Ceramic Sherds (Ironstone, porcelain)
- Glass Shards (window)
- Nails (hand wrought and wire)
- Stucco
- Tin Cans (food)
- Wire Mesh (stucco binding surface)

#### **Locus 2: Cactus Inn (Single Miner's Boarding House)**

- Bucket (enamelware)
- Bullet Casing (38-caliber)
- Button (metal collar closure)
- Brick
- Bucket (small galvanized)
- Ceramic Sherds (porcelain, earthenware)
- Glass Shards (bottle, window)
- Metal Slide (probably for a bolo tie)
- Machinery Belt (woven fabric with steel fastener)
- Nails (hand wrought and wire)
- Oyster Shell
- Shoe/Boot (leather upper)
- Stucco
- Tin Cans (food, tobacco)
- Wash Tub (large galvanized)
- Wire Mesh (stucco binding surface)
- Wood (milled lumber)

#### **Locus 3: Train Depot**

- Barrel Hoops (metal)
- Brick
- Ceramic Sherds (earthenware, porcelain)
- Door Knobs (porcelain)
- Electrical Switches (ceramic)
- Fastener (clothing – metal clasp)
- Gauge (liquid petroleum gas gauge)
- Glass Shards (bottle, window, lamp globe, milk glass jar liner)
- Grate (iron)
- Latch (iron)
- Mattress Springs (metal)



Nails (hand wrought and wire)  
Oyster Shell  
Pipe (clay and iron)  
Railroad Ties and Spikes  
Tin Cans (food, fuel, fly spray, tobacco)  
Unidentified Item (enamelware – possible stove or kitchen sink)  
Wood (milled lumber, railroad ties, foundation supports)

**Locus 4: Reservoir and Pump Station**

Bolts (iron)  
Brick  
Concrete Foundations  
Glass Shards (bottle)  
Nails (hand wrought)  
Pipe (large diameter concrete)  
Tin Cans (food, tobacco)  
Wood (milled lumber)

**Locus 5: Town Center Dwelling**

Barrel (wood lid)  
Barrel Hoops (metal)  
Bed Frame and Mesh Mattress (metal)  
Brick  
Bucket (galvanized)  
Caps and Lids (bottle and jar)  
Ceramic Sherds (earthenware, stoneware, porcelain)  
Clockwork (brass)  
Door and Hinge Plate (metal)  
Glass Shards (bottle, jar, window, fancy, drinking)  
Mattress Springs (metal)  
Nails (hand wrought)  
Pipe (galvanized water)  
Sink Strainer (metal)  
Stove Door (cast iron)  
Stucco  
Tin Cans (food, tobacco)  
Unidentified Items (perforated metal – possible drain)  
Wash Tub (galvanized)  
Wire Mesh (stucco binding surface)  
Wood (milled lumber)

**Locus 6: Cactus Café (Boarding House)**

Barrel (wood lid)  
Barrel Hoops (metal)  
Bed Frame and Mesh Mattresses (metal, single and double)  
Bone (cut – cow)  
Bottle Stopper (glass, Lea & Perrin's)

Brick  
Buttons (two- and four-hole)  
Caps and Lids (bottle, jug, jar)  
Ceramic Sherds (porcelain, earthenware, stoneware)  
Charcoal (burned bits of the building foundation framing)  
Clothespin Spring (metal)  
Electrical Switch (ceramic)  
Furniture Knob (metal)  
Glass Shards (bottle, window, milk glass container)  
Hot Water Heater Parts  
Jug (stoneware)  
Light Bulb Parts (glass bulb and zinc base)  
Nails (hand wrought and wire)  
Oyster Shell  
Padlock (heavy bronze) and Chain  
Pipe (clay and iron)  
Stove or Heater Parts (cast iron)  
Stucco  
Tin Cans (food, tea, tobacco)  
Unidentified Items (perforated metal – possible drain; iron cleat or brace)  
Wire Mesh (stucco binding surface, window screen)  
Wood (milled lumber)

**Locus 7: Park**

Buckle (belt or harness)  
Buggy Grip (metal)  
Ceramic Sherds (earthenware)  
Flask or Canteen (metal with *Kork-N-Wire* closure)  
Glass Shards (bottle, bottle stopper)  
Jug (stoneware)  
Light Bulb Fragments (glass bulb and zinc base)  
Lock Box (metal – door or gate)  
Machinery Gear (metal)  
Pan or Basin (enamelware)  
Posts (metal fence)  
Sheep Shearing Comb (metal)  
Spring (metal – possible gate spring)  
Tin Cans ( food, tobacco)  
Tree or Fence Tie-Downs (metal)  
Unidentified Items (perforated forked metal item – possible tool)  
Wire (fencing – smooth wire)  
Wood (lath fencing material, some with industrial red paint)

**Locus 8: Miner's Cabins (North Newhouse)**

Barrel Hoops (metal)  
Bed Frame (metal, including mesh mattress – single only)  
Bucket (enamelware, galvanized)

Cartridge Casing (brass and synthetic shotgun)  
Caps and Lids (bottle)  
Coffee Pot (enamelware)  
Glass Shards (bottle)  
Key (door)  
Lock Box (metal – door)  
Nails (hand wrought and wire)  
Railroad Spikes  
Stove Parts (iron)  
Tin Cans (food, tobacco)  
Unidentified Items (sheet metal)

**Locus 9: Rock House (possible church)**

Barrel Hoops (metal)  
Basin (concrete, possible baptismal font; enamelware)  
Bottle Closure (metal)  
Brick  
Bucket (galvanized)  
Ceramic Sherds (earthenware)  
Fastener/Clasp (woman's metal hosiery)  
Glass Shards (bottle, jar, window)  
Latch (heavy-gauge wire)  
Miniature (cup or teapot handle)  
Nails (hand wrought and wire)  
Pan or Basin (metal)  
Rock  
Spring (iron, unidentified purpose)  
Stove or Heater Part (cast iron)  
Tin Cans (food, tobacco, milk, talcum powder)  
Wash Tub (large galvanized)  
Wood (milled lumber)

**Locus 10: North Newhouse Dwelling (*Dog House*)**

Barrel Hoops (metal)  
Bed Frame (metal, single and double)  
Bottle Closure (metal)  
Bucket (galvanized)  
Caps and Lids (bottle and can)  
Ceramic Sherds (earthenware, porcelain)  
Generator Switch (ceramic)  
Glass Shards (bottle, jar)  
Glass Shard (9mm thick grooved – unidentified purpose)  
Machinery Belt (woven fabric with steel fastener)  
Nails (hand wrought and wire)  
Tin Cans (food, tobacco)  
Unidentified Items (sheet metal; perforated metal – possible drain)  
Wash Tub (large galvanized)

Wood (milled lumber)

## **FRISCO ARTIFACTS**

### **Locus 1: Miner's Cabin**

Barrel Hoops  
Bed Springs (metal, single-size)  
Ceramic Sherds (earthenware, porcelain)  
Glass Shards (bottle)  
Nails (hand wrought and wire)  
Pipe (clay and iron)  
Shoe/Boot Sole (leather)  
Stone  
Stove Pipe Collar (metal)  
Tin Cans (food, tobacco)  
Wire (fencing – barbed and smooth)  
Wood (fencing material)

### **Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House (White House)**

Barrel Hoops (metal)  
Bed Frame and Springs (metal)  
Bone (cut – cow and probably sheep)  
Boot/Shoe Sole (leather)  
Ceramic Sherds (earthenware, porcelain)  
File (metal – probably farrier's rasp)  
Glass Shards (bottle, telegraph insulator, window)  
Jug (glazed earthenware)  
Nails (hand wrought, wire, roofing)  
Stove or Heater Parts (cast iron)  
Strap (leather – possibly harness)  
Tin Cans (food, tobacco)  
Unidentified Items (iron bar with loop handle – possible fire poker or branding iron; sheet metal)  
Wire (fencing – smooth)  
Wood (milled lumber)

### **Locus 3: Saloon and/or Brothel**

Boot/Shoe Sole and Upper (leather)  
Bone (cut – cow)  
Brick  
Ceramic Sherds (earthenware, porcelain)  
Furniture Knob (metal)  
Glass Shards (bottle, jar, window)  
Nails (hand wrought)  
Sink Strainer (metal)

**Locus 4: Horn Silver Mines Store**

Bone (uncut –probably coyote)  
Boot/Shoe (leather)  
Bowl (enamelware)  
Bucket or Pail (graniteware)  
Button (scalloped – shell)  
Ceramic Sherds (ironstone, porcelain, stoneware)  
Foundation (stone and mortar)  
Glass Shards (bottle, drinking glass, fancy (beaded), window plate glass)  
Hair Comb (Excelsior – plastic)  
Key (iron)  
Nails (hand wrought, wire)  
Pan or Basin (enamelware)  
Pencil Eraser Socket (metal)  
Railroad Spike  
Rock  
Shoe Soles and Uppers (leather)  
Sink (bathroom or kitchen porcelain rim sherd)  
Stove or Heater Parts (cast iron)  
Tin cans (food, milk, tobacco)  
Unidentified Items (iron bar with holds for bolts or screws)  
Wash Tub (galvanized)  
Wood (milled lumber)

**SILVER REEF MUSEUM ARTIFACTS**

Ammunition  
Assay Crucibles  
Bolo Tie and Slide  
Boot Spurs  
Bottle Stoppers  
Bottles (alcohol, condiment, milk, medicine, cosmetic)  
Bowls (tableware)  
Buckles (belt and harness)  
Buckles and Slides  
Buttons (shell, glass)  
Cameo Broach with Pearls  
Cans (food, industrial, fuel, milk, oil)  
Carbide Lamps  
Chinese Scrip  
Clothing Fluter (crimper for collars and cups)  
Coins  
Dice  
Dolls  
Dolls Legs  
Door Knobs  
Door Lock Boxes  
Drinking Glasses

Frying Pans/Cake Pan  
Handguns and Rifles  
Insulators (Telegraph)  
Iron (clothing)  
Jars, Jar Lids and Glass Liners  
Jugs (stoneware)  
Kerosene/Oil Lanterns  
Keys (skeleton)  
Miniatures (gardening tools, frying pans, white glass teapot)  
Nails (hand wrought and wire)  
Padlocks  
Pipe (smoking)  
Retorting Mold, Pot, and Ladle  
Safety Pins  
Shaving Mug (ceramic)  
Sheep Shearing Carding Brushes  
Strong Box (Wells Fargo and Express Company)  
Tea Kettle (copper)  
Tin Tags from Plug Tobacco  
Water Pitcher  
Wide Mouth Food Bottles  
Wire Brush

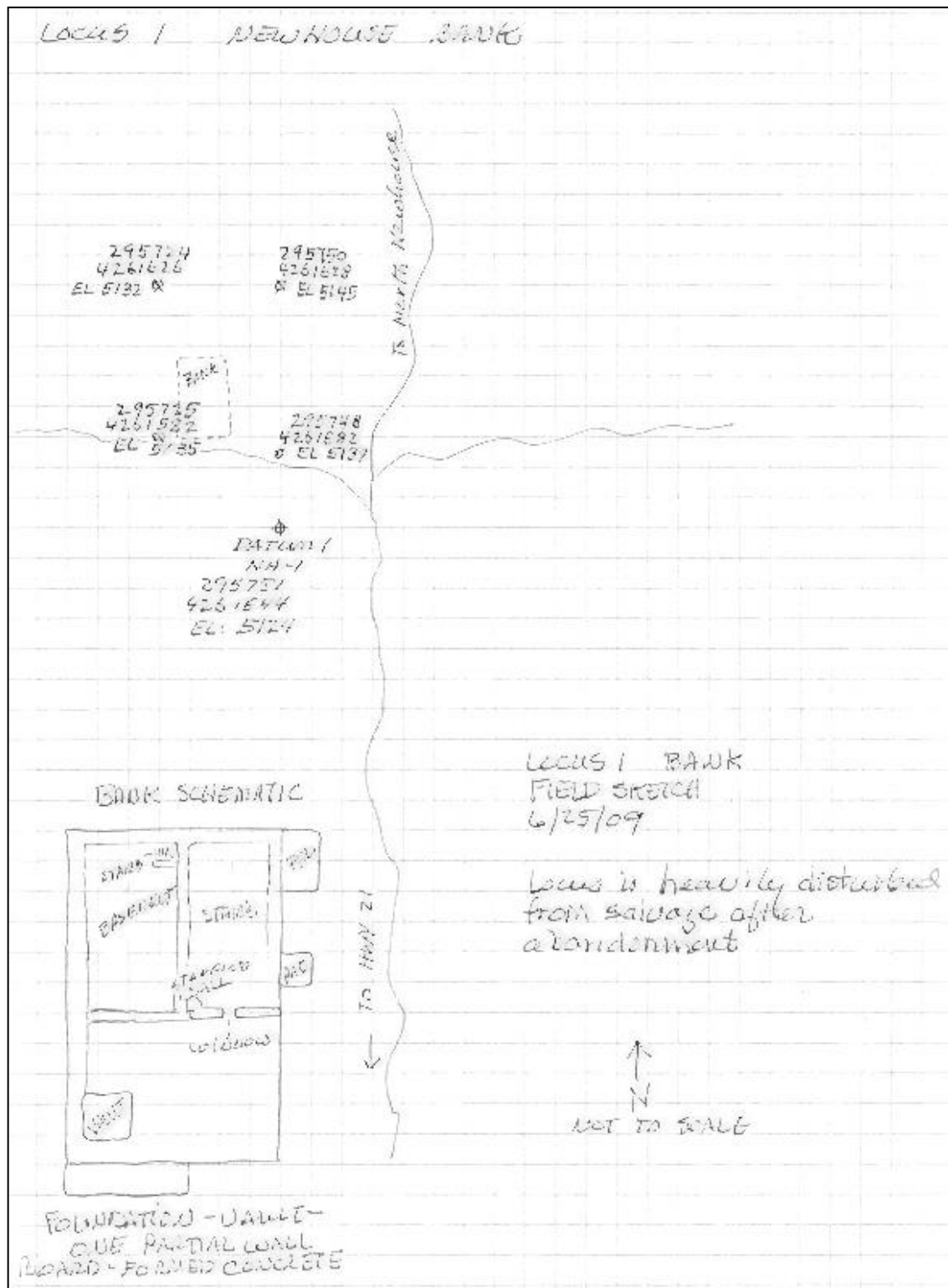


## **APPENDIX G**

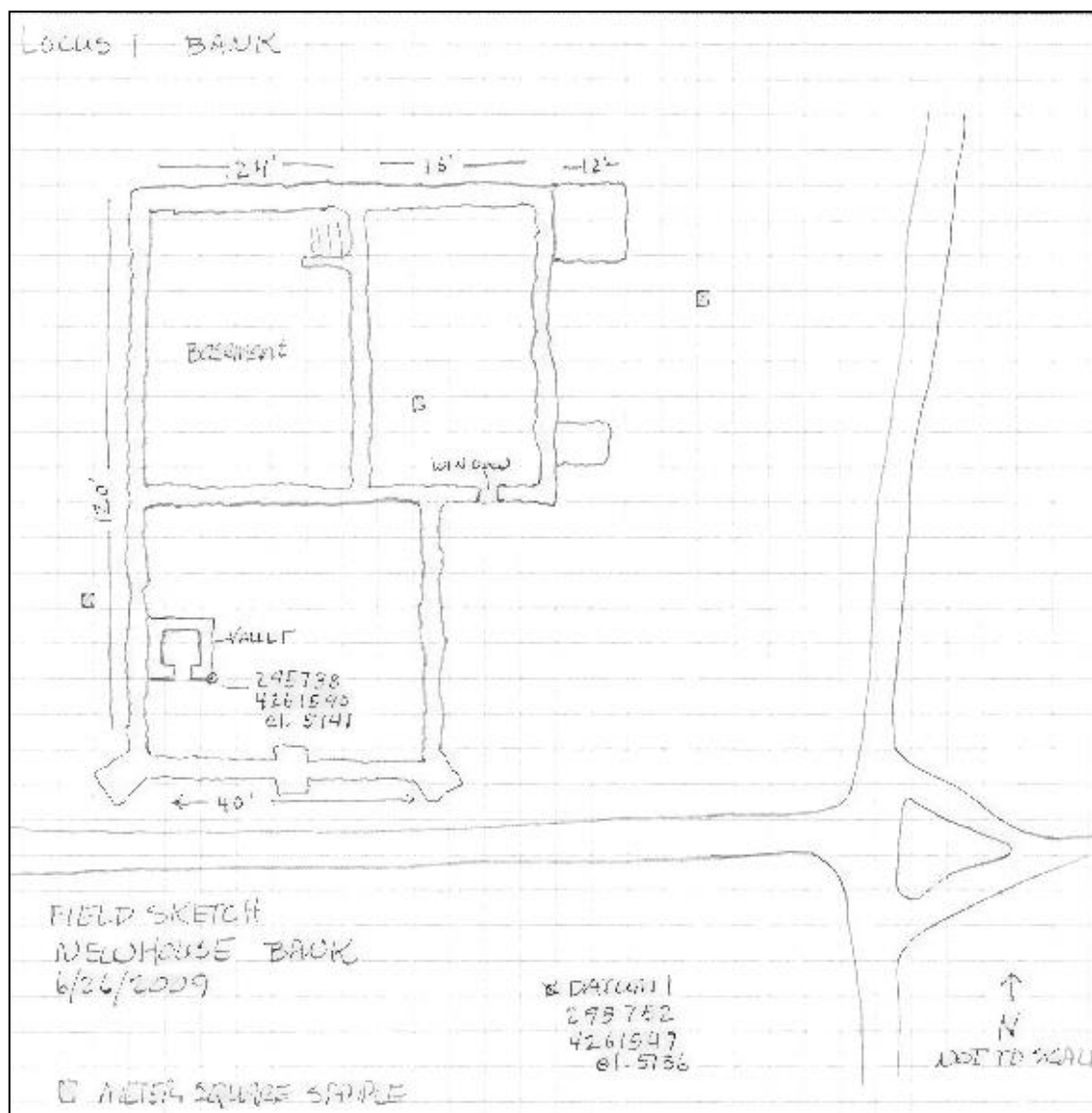
**Field Sketches and Photographs  
Newhouse, Utah and Frisco, Utah  
June 2009**

### **Newhouse Field Sketches and Photographs**

Except where noted, all photographs by author.



**Locus 1: Bank. Field Sketch 1**  
(June 2009)



**Locus 1: Bank. Field Sketch 2**  
(June 2009)



**Locus 1: Bank. View to Northwest**  
(June 2009)



**Locus 1: Bank. View to South**  
(June 2009)



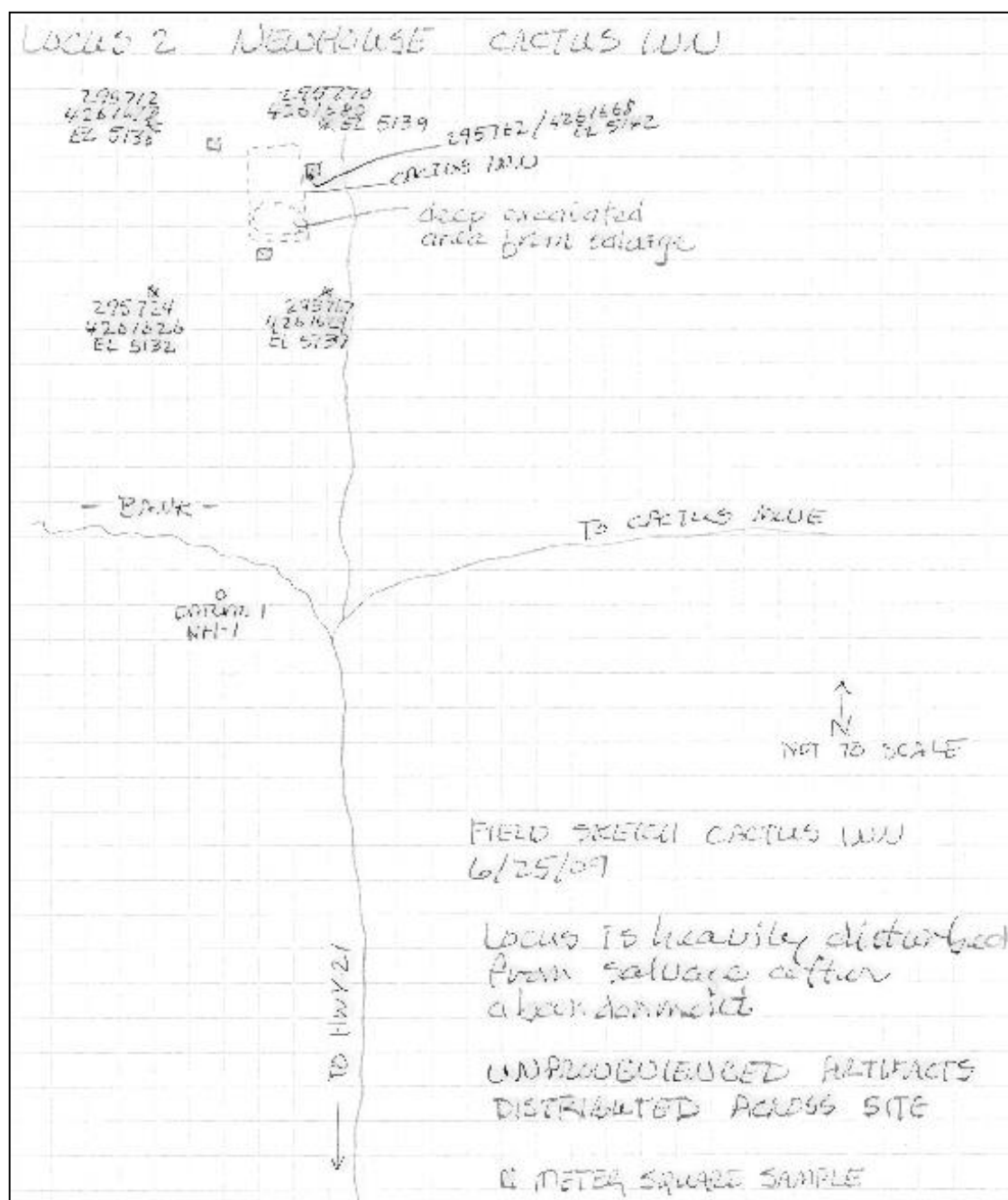
**Locus 1: Bank - Window Glass Scatter**

The bank also housed the post office, company store, and a diner for the Cactus Inn/Boarding House. The primary (south) façade of the building had large fixed glass windows.  
(June 2009)

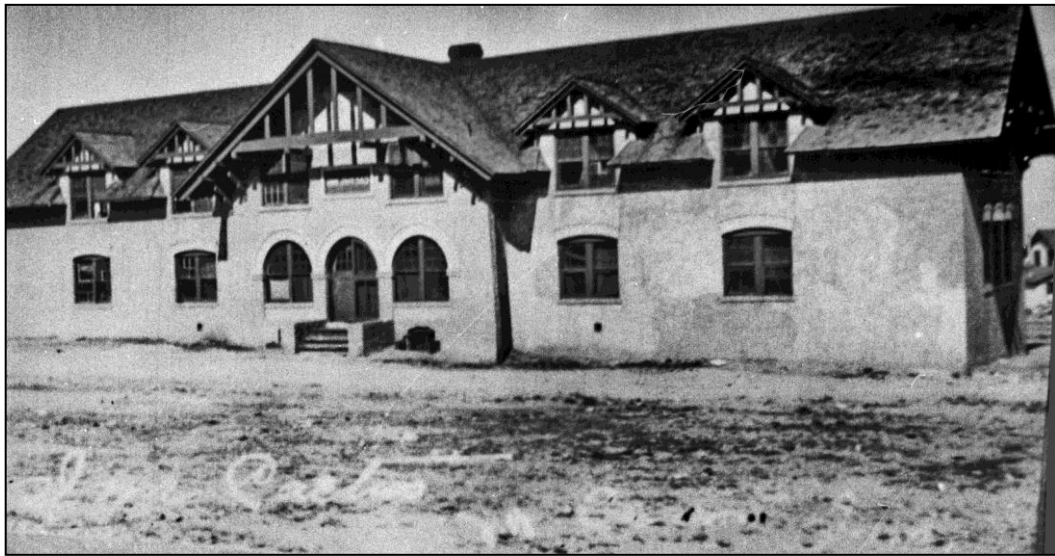
**Locus 1: Bank – Flow Blue Floral Ironstone Shard**

China fragment used in the Cactus Inn diner (ca. 1880s-early 1900s)  
(June 2009)





**Locus 2: Cactus Inn. Field Sketch**  
(June 2009)



**Locus 2: Cactus Inn Miner's Boarding House 1908. View to Southwest**  
(Utah State Archives)



**Locus 2: Cactus Inn Miner's Boarding House. View to Northwest**  
(June 2009)



**Locus 2: Cactus Inn Miner's Boarding House. View to Southeast**  
(June 2009)



**Locus 2: Cactus Inn Miner's Boarding House - Metal Collar Stud**

Metal collar studs were used to secure starched (usually white) detachable collars, which were popular for both men and women at the turn of the 20<sup>th</sup> century. In 1901, their popularity declined in favor of winged collars (Maginnis 2008: 7).  
(June 2009)



**Locus 2: Cactus Inn Miner's Boarding House**

.38 Caliber Smith and Wesson Revolver Casing. This brass casing/ammunition was manufactured by the Winchester Repeating Arms Company (W. R. A. Co., New Haven, Connecticut). The headstamp reads W. R. A. Co./ .38 S. & W. The cartridge was first manufactured in 1880.

(June 2009)

**Locus 2: Cactus Inn Miner's Boarding House**

Large (No. 3 size) Galvanized Metal Washtub

(June 2009)







**Locus 3: Train Depot. View to Southeast.**

Meter Square used to calculate artifact density is in the photograph center.  
(June 2009)



**Locus 3: Train Depot. Platform (left) and Foundation (Center) - View to South.**

(June 2009)





**Locus 3: Train Depot. Large Can and Artifact Scatter Down Slope (West) of Depot - View to South**  
(June 2009)



**Locus 3: Train Depot. Depot Restroom Location South of Depot - View to North**  
This photograph shows how features were ripped from their foundations and the materials salvaged. A historic view of the building is shown in Figure 3-9. This feature has also been looted.  
(June 2009)



**Locus 3: Train Depot. Remnant of Stone Steps Leading to Depot from Town Center - View to East**  
(June 2009)



**Locus 3: Train Depot. Remnant of Railroad Bed - View to North**  
(June 2009)





**Locus 3: Train Depot. Railroad Spike**  
(June 2009)



**Locus 3: Train Depot. Buckle for Railroad Engineer's Coverall Straps**  
(June 2009)





**Locus 3: Train Depot. Small Clear Glass Bottle Neck**

This small machine-made bottle has a continuous external thread – ca. 1905-1920s. Bottles of this design were often used for bitters and tonics (Fike 1987).  
(June 2009)



**Locus 3: Train Depot.**

Bryant Porcelain Surface Mount Rotary Light Switch Base (1889-1901)  
(*Antique Light Sockets* 2010)  
(June 2009)







**Locus 4: Reservoir. View to Southwest.**

Rebar projecting from the foundation indicates that the reservoir originally had a shelter constructed over it to shield the water supply from debris and dirt.

(June 2009)



**Locus 4: Reservoir Pump Station. View to West.**

(June 2009)





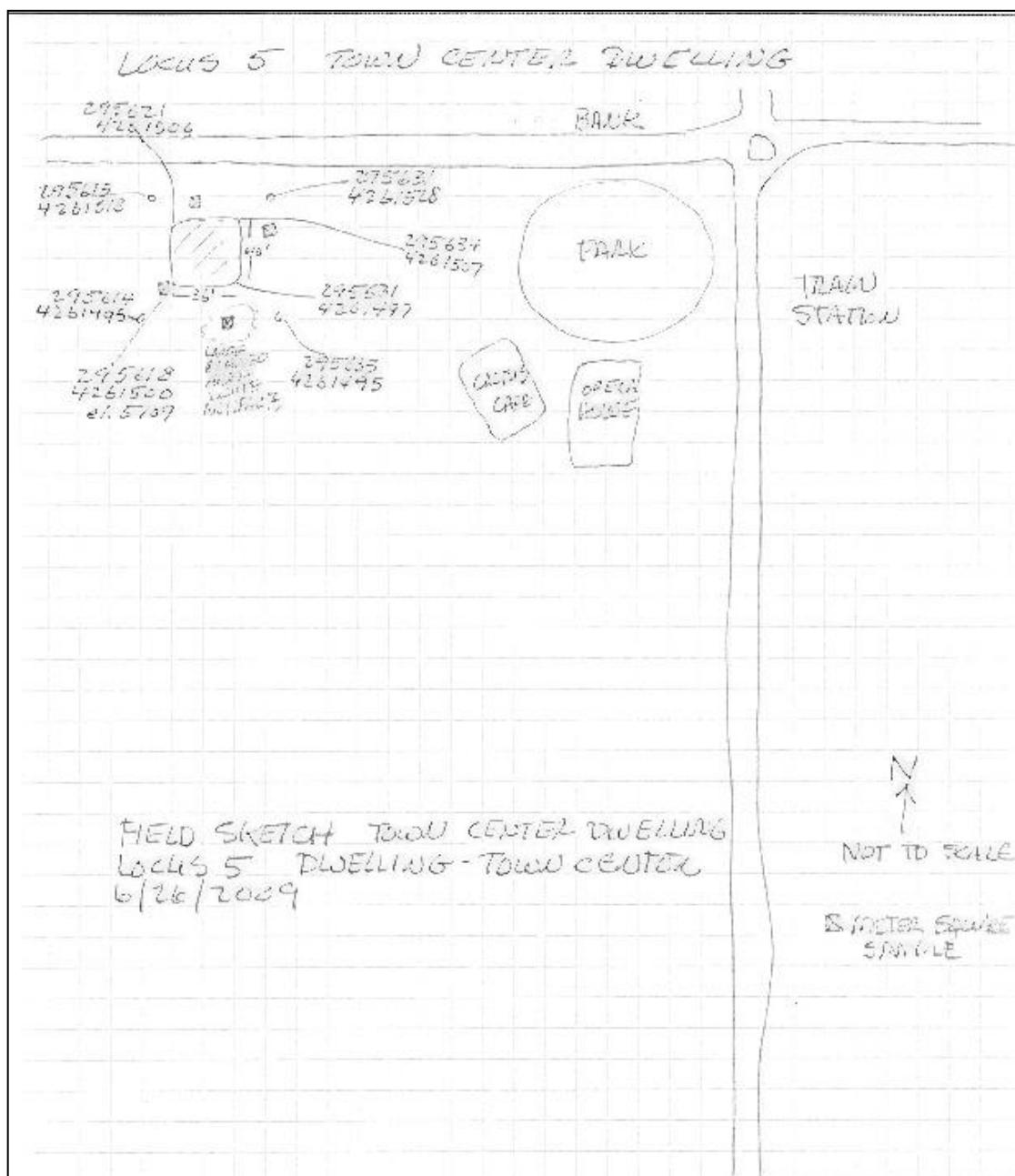
**Locus 4: Reservoir and Pump Station. Concrete Water Pipe**  
(June 2009)



**Locus 4: Reservoir and Pump Station**

Pump station area with food can scatter, lath, window and bottle glass, and a privy area that has been looted.

(June 2009)



**Locus 5: Town Center Dwelling. Field Sketch**  
(June 2009)





**Locus 5: Town Center Dwelling. View to Northeast**  
(June 2009)



**Locus 5: Town Center Dwelling. View to Southwest**  
(June 2009)





**Locus 5: Town Center Dwelling.**  
Remnant of Water Line Servicing the Residences.  
(June 2009)



**Locus 5: Town Center Dwelling.** “Plain White” China Sugar Bowl Top  
(June 2009)





**Locus 5: Town Center Dwelling. Towles Log Cabin Syrup Tin (ca. 1910-1914)**  
(June 2009)

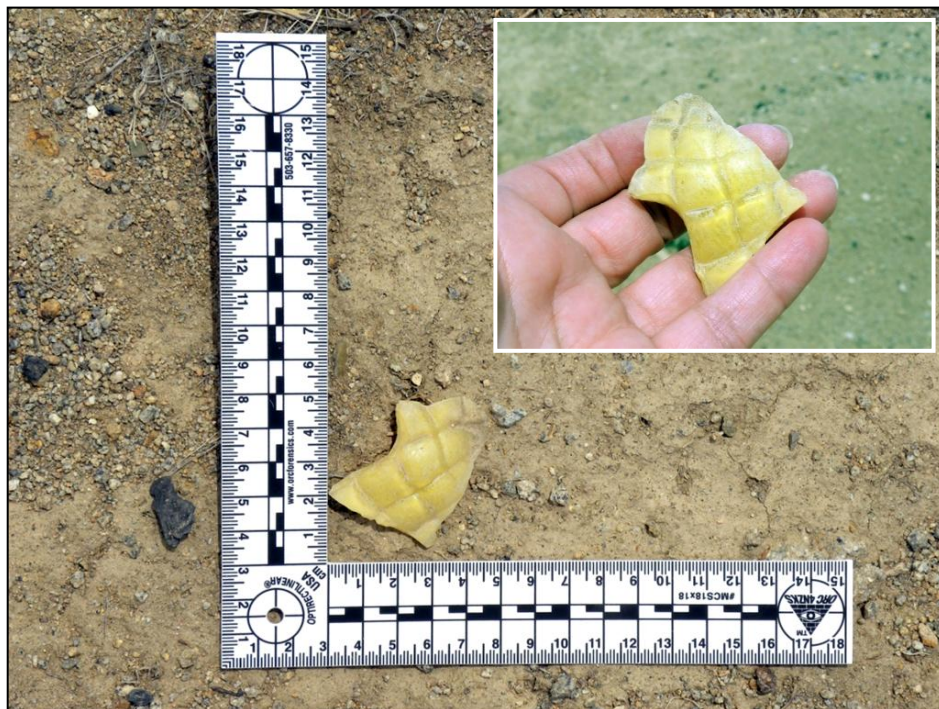


**Locus 5: Town Center Dwelling. Clockwork**  
(June 2009)





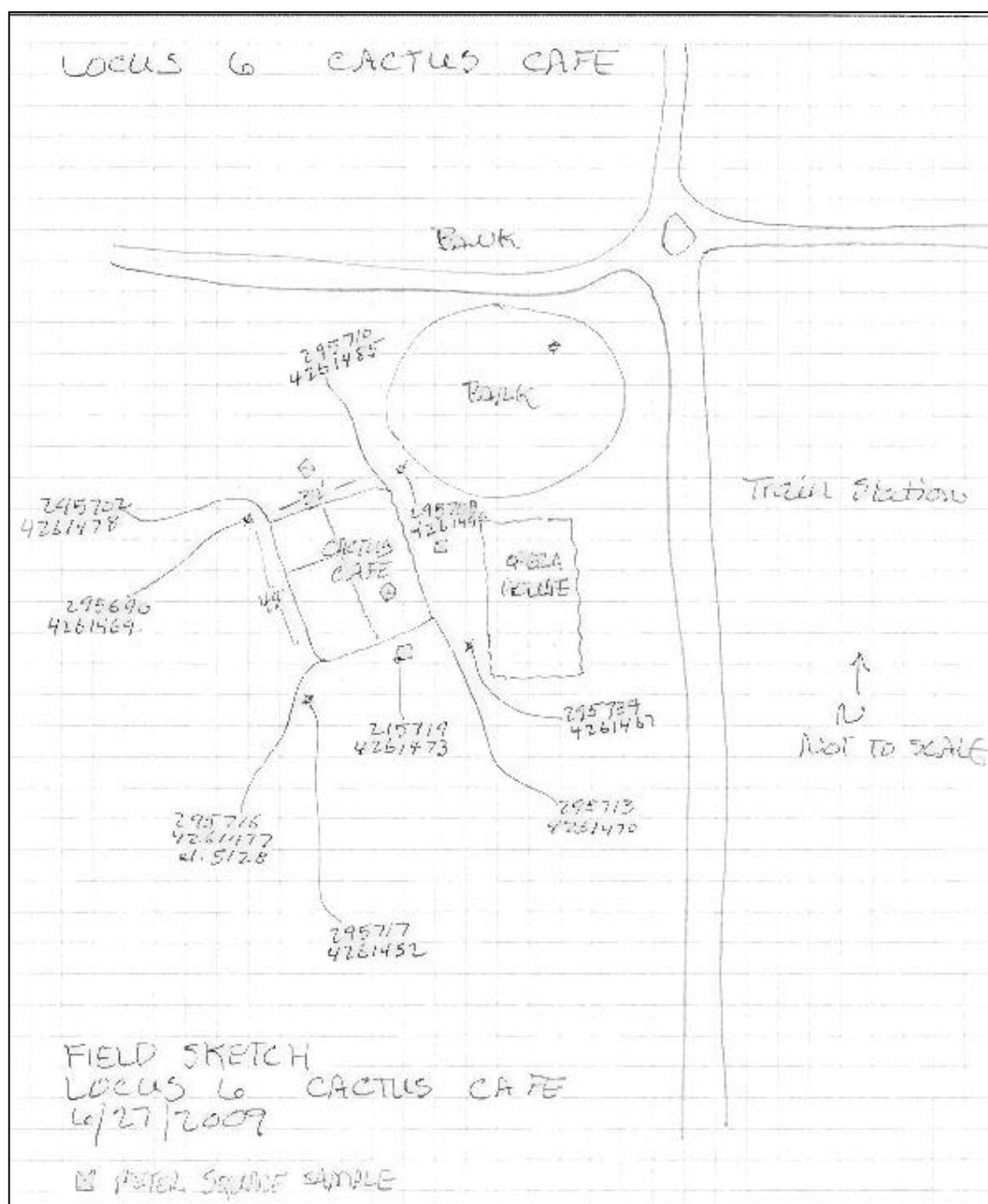
**Locus 5: Town Center Dwelling. Kitchen Sink Strainer**  
(June 2009)



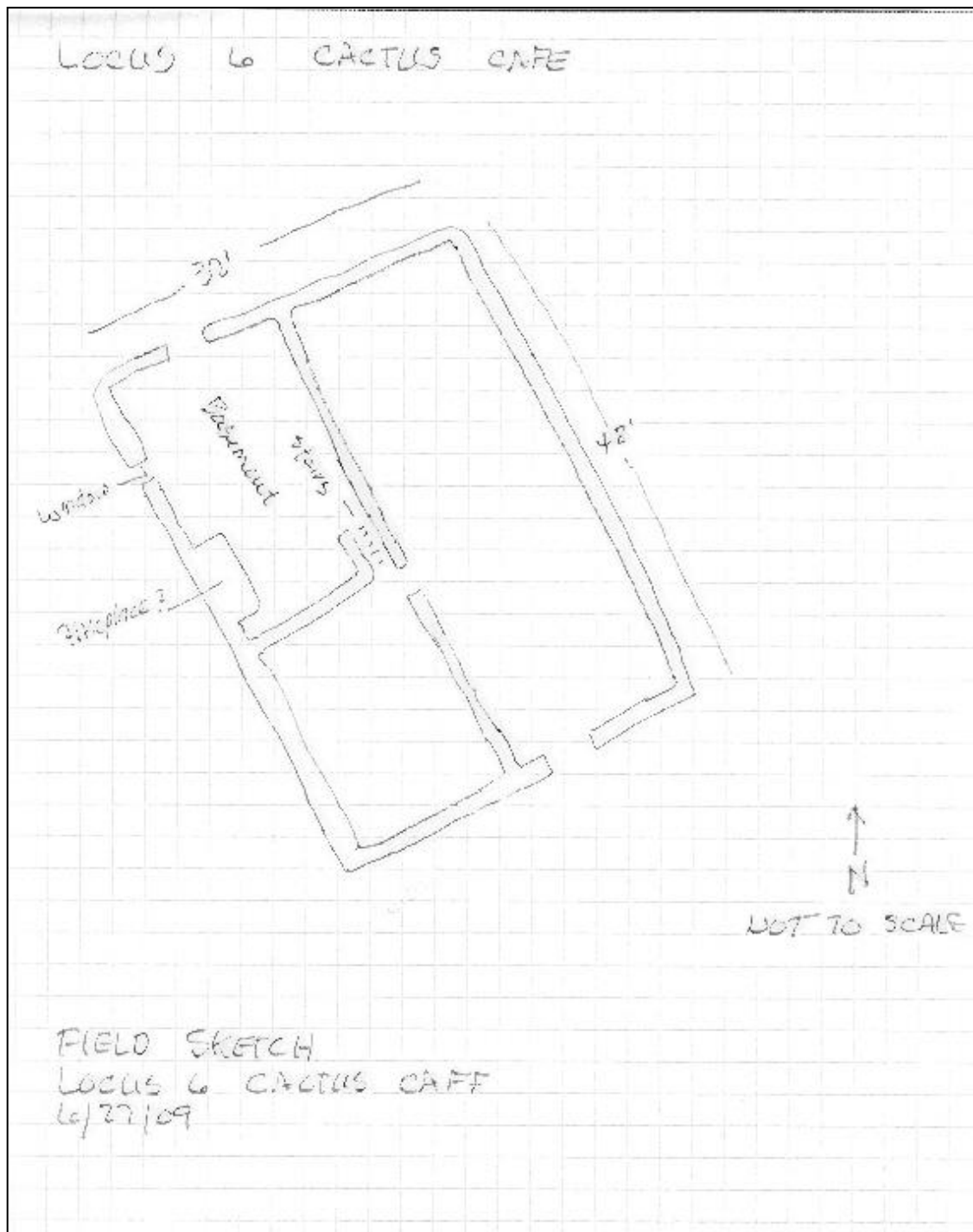
**Locus 5: Town Center Dwelling**

Fragment of Frosted Yellow Pressed Glass Bowl or Vase – Waffle Pattern.  
This type of “fancy” glass was popular between 1850s and 1910, when its popularity  
was replaced by crystal (George 2010: 2).  
(June 2009)





**Locus 6: Cactus Café and Boarding House. Field Sketch 1**  
(June 2009)



**Locus 6: Cactus Café and Boarding House. Field Sketch 2**  
(June 2009)



**Locus 6: Cactus Café and Boarding House. View to East.**  
Looter's pit in foreground; three other large pits surround the feature.  
(June 2009)



**Locus 6: Cactus Café and Boarding House. View to Southeast**  
Foundation and construction remains.  
(June 2009)





**Locus 6: Cactus Café and Boarding House. Section of Burned Wood Foundation**  
The Cactus Café burned in 1921.  
(June 2009)



**Locus 6: Cactus Café and Boarding House.**  
Single-width Wire Mattress and Frame. Wire mesh mattress beds were common in mining camps between the 1870s and early 1900s. They were often referred to as “slave” or “mother-in-law” beds (Sagstetter 1998: 177).  
(June 2009)





**Locus 6: Cactus Café and Boarding House.**

Lea & Perrins Worcestershire Sauce Green Glass Bottle Stopper. This glass bottle stopper was in use between 1849 and 1940s.

(June 2009)

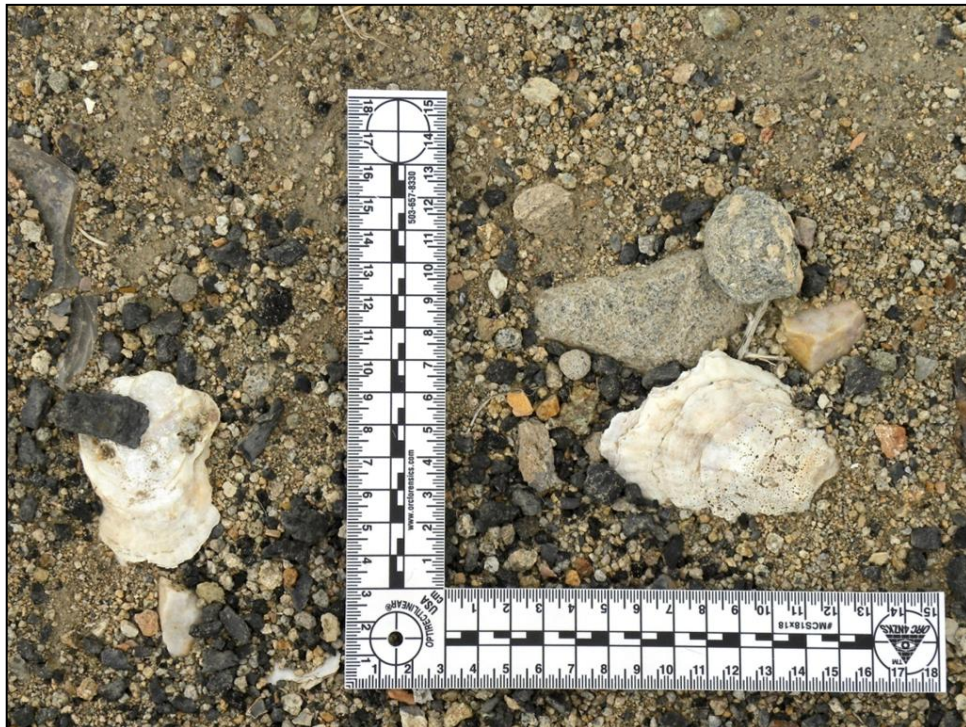


**Locus 6: Cactus Café and Boarding House**

Boyd's Porcelain Lined Zinc Fruit Jar Cap. Although the name indicates that the liner was made of porcelain, they were made of milk glass. The purpose of the liner was to prevent the fruit from reacting with the zinc cap. Zinc caps and liners were in use between 1869 and 1941 (Munsey 1970: 146).

(June 2009)





**Locus 6: Cactus Café and Boarding House. Oyster Shell**  
Oyster shells in mining sites usually indicate a level of affluence  
(Dixon 2002: 167-172).  
(June 2009)



**Locus 6: Cactus Café and Boarding House. Ceramic Shards – Various Patterns**  
(June 2009)





**Locus 7: Park. View to Southwest.**

The faint circular trace of the park's southern edge is visible in the left of the photograph.  
(June 2009)

**Locus 7: Park. View to North.**

Meter Square used to calculate artifact density is in the photograph foreground. Site Datum 1 (adjacent to water pipe) is in the center right of the photograph (white circle).  
(June 2009)





**Locus 7: Park. Metal Canteen with *Kork—N-Seal* Wire Closure.**

This type of closure was used starting in 1911.

(June 2009)



**Locus 7: Park. Bronze Metal Padlock and 10 inch Chain (shackle missing)**  
(Sears Roebuck & Company 1897: 101). The lock may have been used to secure the fence around the Park.

(June 2009)



**Locus 7: Park. Light Bulb Base**

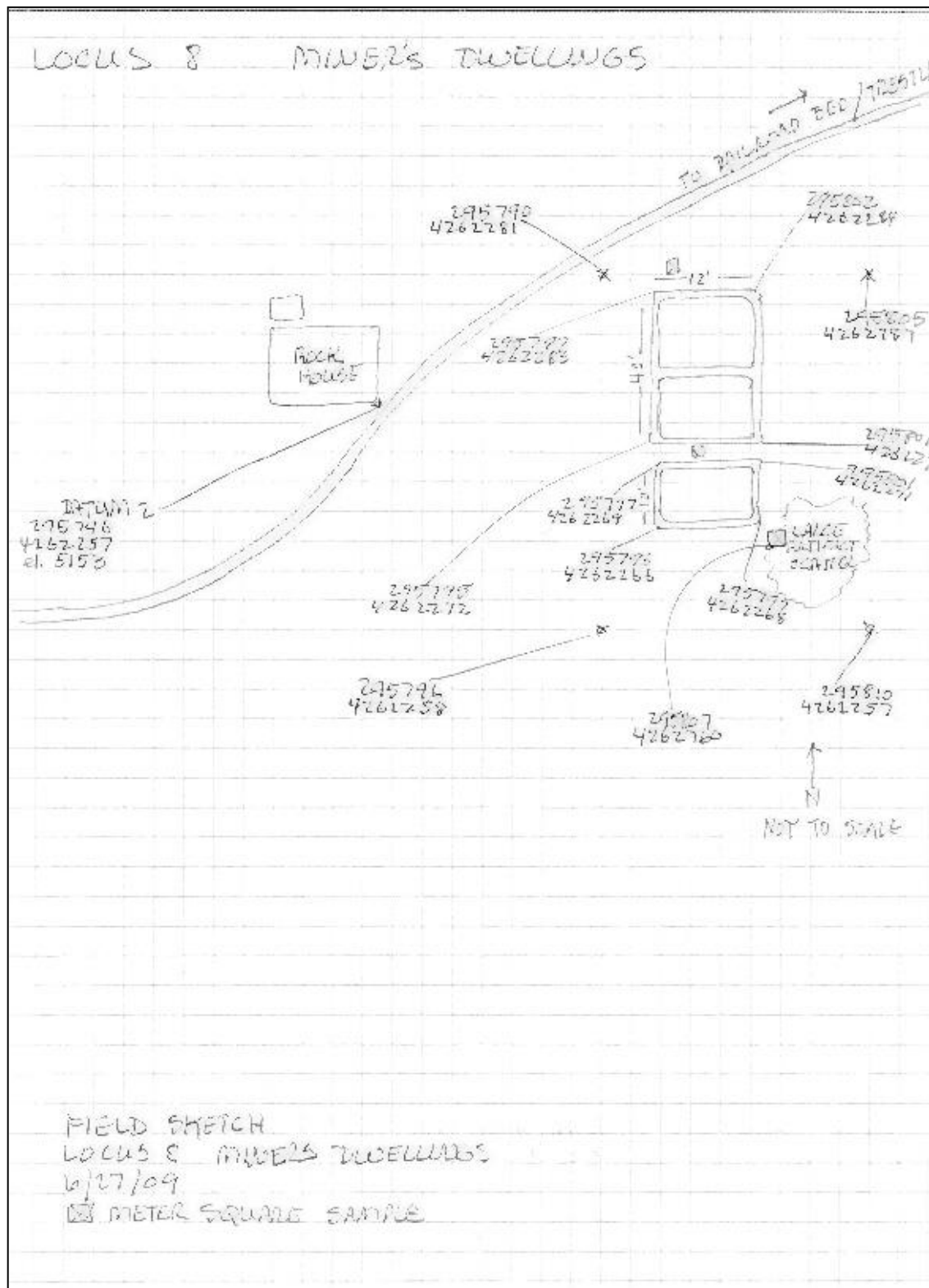
Edison Carbon Filament Bulb (1879-early 1900s). Along with the rest of the company town area of Newhouse, the park had electric lights.

June 2009

**Locus 7: Park. Pictorial Whisky Flask Body**

The male profile on the flask is unknown.

(June 2009)



**Locus 8: Miner's Cabins. Field Sketch**  
(June 2009)





**Locus 8: Miner's Cabins. View to Southwest.**  
(June 2009)



**Locus 8: Miner's Cabins. View to Northeast**  
Dense artifact scatter southeast of the foundation.  
(June 2009)





**Locus 8: Miner's Cabins. Crown Bottle Caps Nailed to Dwelling Siding.**

This effort to improve the appearance of buildings also appears at the E. N. Smyth Residence, Restaurant, and Boarding House at Frisco (Locus 2). Inset: Crown bottle cap attached to brown glass beer bottle. The Crown Cap was patented in 1892. (June 2009)



**Locus 8: Miner's Cabins.**

Blue-Gray Enamelware (also known as Graniteware) Coffee Pot Bottom. Enamelware was first produced in the United States in the 1860s (Casteel 2009). (June 2009)



**Locus 8: Miner's Cabins**

Good Luck Stove & Range Co. Stove Mark ca. 1890-1916. This type of stove could be used with either gas or coal.  
(June 2009)

**Locus 8: Miner's Cabins**

Red Curved Old English Curve Cut Pipe Pocket Tobacco Tin (1899-1908)  
(June 2009)

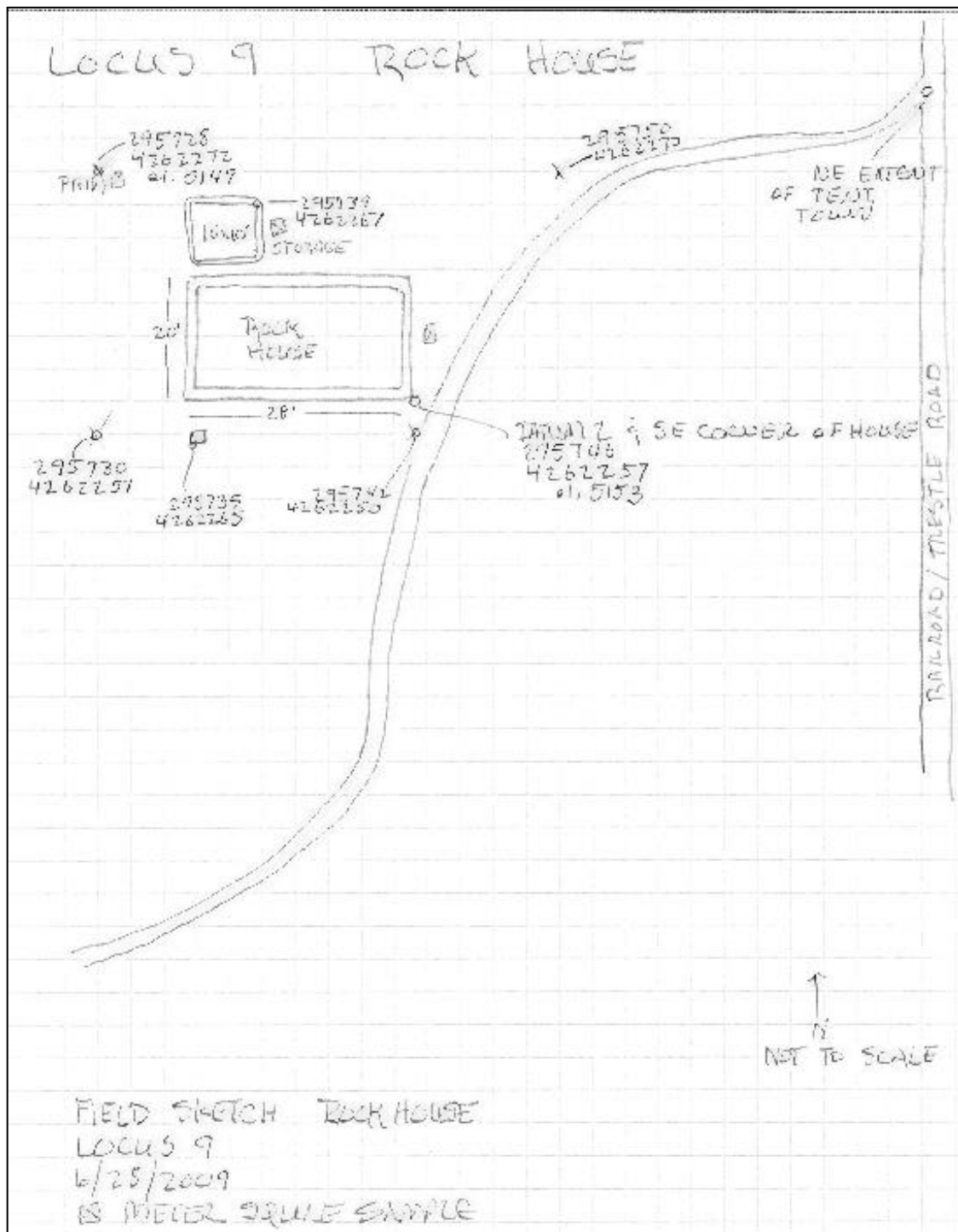




**Locus 8: Miner's Cabins. Wrought Iron Door Key and Lock Box**  
(June 2009)



**Locus 8: Miner's Cabins. Sardine or Fish Key-wind Can and Key**  
This can design was first manufactured in 1866 (Rock 1981: 8)  
(June 2009)



**Locus 9: Rock House. Field Sketch**  
(June 2009)





**Locus 9: Rock House (interpreted to be a church). View to Southeast.**  
(June 2009)



**Locus 9: Rock House (interpreted to be a church). View to Northwest.**  
Site Datum 2 is at the Southeast corner of the building (white circle).  
(June 2009)





**Locus 9: Rock House (interpreted to be a church). View to South.**  
Wall Construction Technique.  
(June 2009)



**Locus 9: Rock House (interpreted to be a church). View to South. Window Detail.**  
(June 2009)



**Locus 9: Rock House (interpreted to be a church)**  
Paved Patio or Path Area near Southwest Corner.  
(June 2009)



**Locus 9: Rock House (interpreted to be a church). Possible Baptismal Font.**  
(June 2009)





**Locus 9: Rock House (interpreted to be a church)**  
Cast Iron Stove or Heater Part (incomplete mark).  
(June 2009)



**Locus 9: Rock House (interpreted to be a church).**  
Dense cut nail scatter, probably left from the salvage of the buildings milled lumber roof.  
(June 2009)

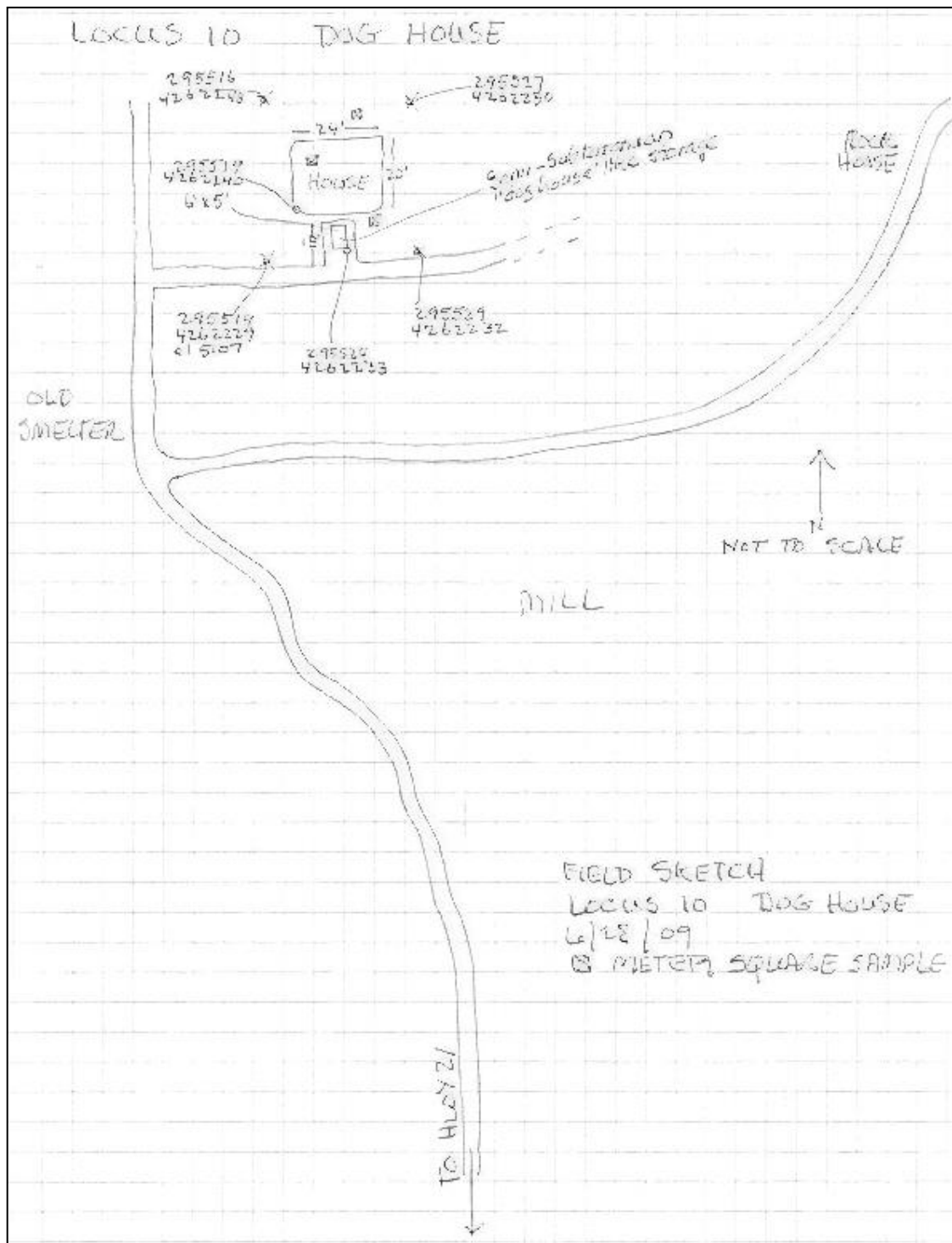




**Locus 9: Rock House (interpreted to be a church). Borden Evaporated Milk Can**  
Evaporated milk was first canned in 1892 (Filippone 2010).  
(June 2009)



**Locus 9: Rock House (interpreted to be a church).**  
Large Barrel Hoop, probably for water.  
(June 2009)



**Locus 10: North Newhouse Dwelling ("Dog House"). Field Sketch**  
(June 2009)





**Locus 10: North Newhouse Dwelling (“Dog House”). View to Northeast.**  
(June 2009)



**Locus 10: North Newhouse Dwelling (“Dog House”). View to Southeast.**  
The dwelling remains are in the foreground. The “Dog House” is a small food storage building (“root cellar”) in the rear center of the photograph.  
(June 2009)





**Locus 10: North Newhouse Dwelling (“Dog House”)**  
Dwelling root cellar or storage building – View to Northwest.  
(June 2009)



**Locus 10: North Newhouse Dwelling (“Dog House”)**  
Root Cellar/Storage Building – Roof and Vent Detail  
(June 2009)





**Locus 10: North Newhouse Dwelling (“Dog House”)**

Milk bottle cap adapted for alternate use, perhaps to sprinkle laundry with water before ironing, or to season food with sugar or salt.

(June 2009)



**Locus 10: North Newhouse Dwelling (“Dog House”)**

Small rectangular medicine bottle neck with beveled shoulder. Double collar neck finish (7/8 inch/2centimeter diameter).

(June 2009)



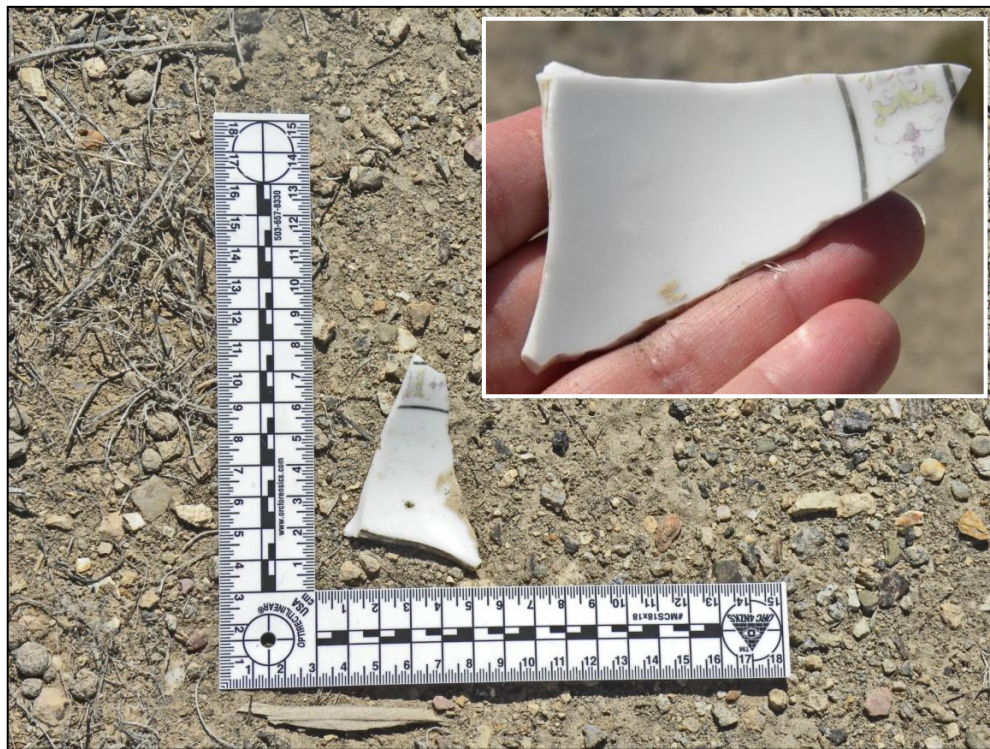


**Locus 10: North Newhouse Dwelling (“Dog House”)(  
Double Wire Mesh Bed/Mattress  
(June 2009)**



**Locus 10: North Newhouse Dwelling (“Dog House”). Window Glass Scatter.  
(June 2009)**





**Locus 10: North Newhouse Dwelling (“Dog House”)**  
Porcelain teacup with banded, floral pattern.  
(June 2009)



**Locus 10: North Newhouse Dwelling (“Dog House”)**  
Brown Glazed Pottery Bowl or Pot  
(June 2009)



**Frisco Field Sketches and Photographs**

**Except where noted, all photographs by author.**





**Locus 1: Miner's Cabin Foundation. View to South.**  
(June 2009)



**Locus 1: Miner's Cabin. View to North.**  
(June 2009)



**Locus 1: Miner's Cabin**

A. Booth's Oysters tin can/pail (A. Booth & Company in business 1876-1908).  
(June 2009)

**Locus 1: Miner's Cabin**

Pocket-style tobacco tin (tin type patented in 1907)  
(June 2009)



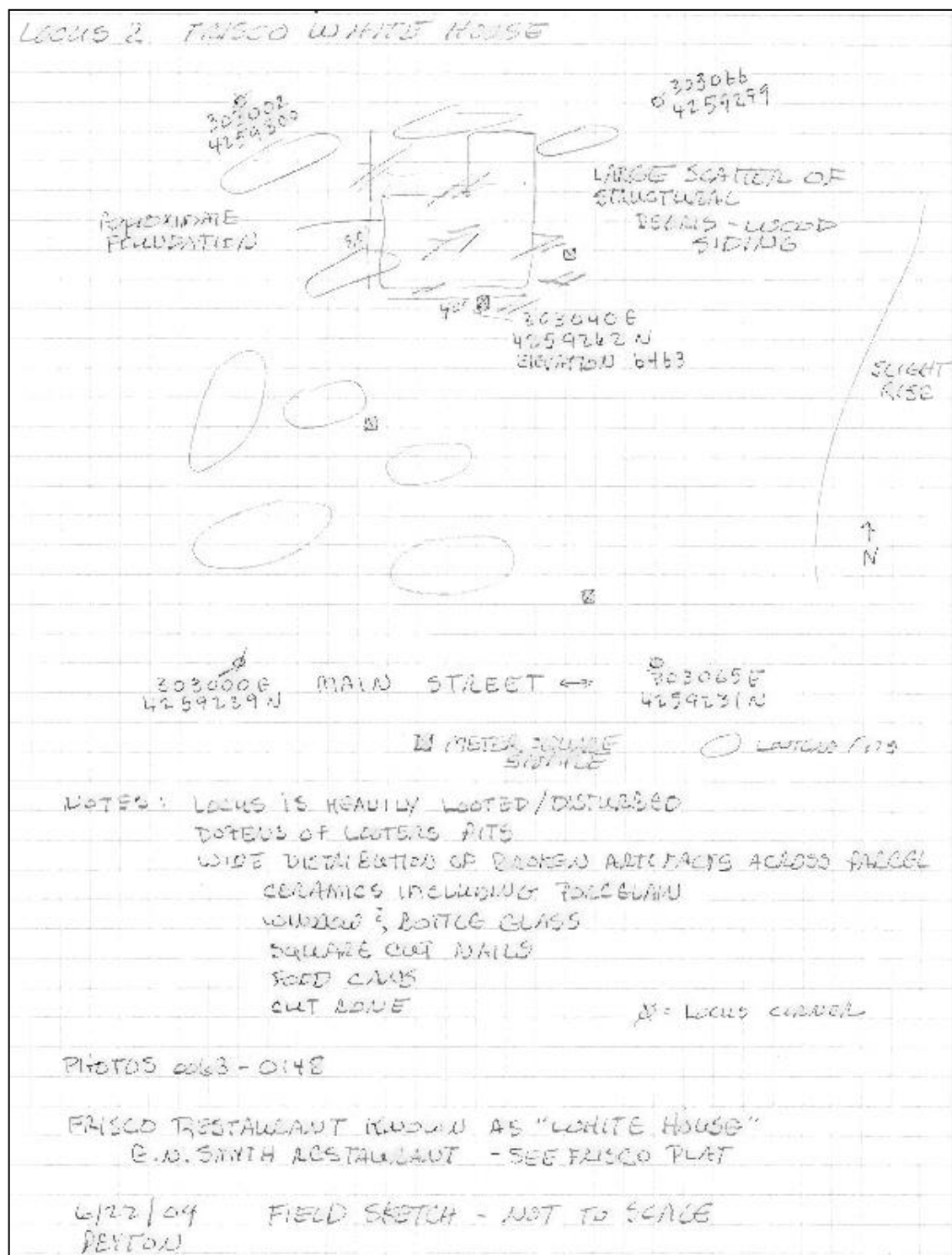
**Locus 1: Miner's Cabin**

Impressed pottery jug or bowl fragment – mottled brown glaze (both sides)  
(June 2009)

**Locus 1: Miner's Cabin**

Bedsprings  
(June 2009)





**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House. Field Sketch**  
 (June 2009)



**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House, ca. 1920s.**  
View to East. This is one of only a very few historic photographs of Frisco's buildings.  
(Courtesy Dr. Harold "Hal" Hickman)



**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House. View to North.**  
(June 2009)





**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House**  
Cut bone and restaurant china – broken dinner plate.  
(June 2009)



**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House**  
Man's boot bottom, hand cut nails, wood siding, window glass.  
(June 2009)

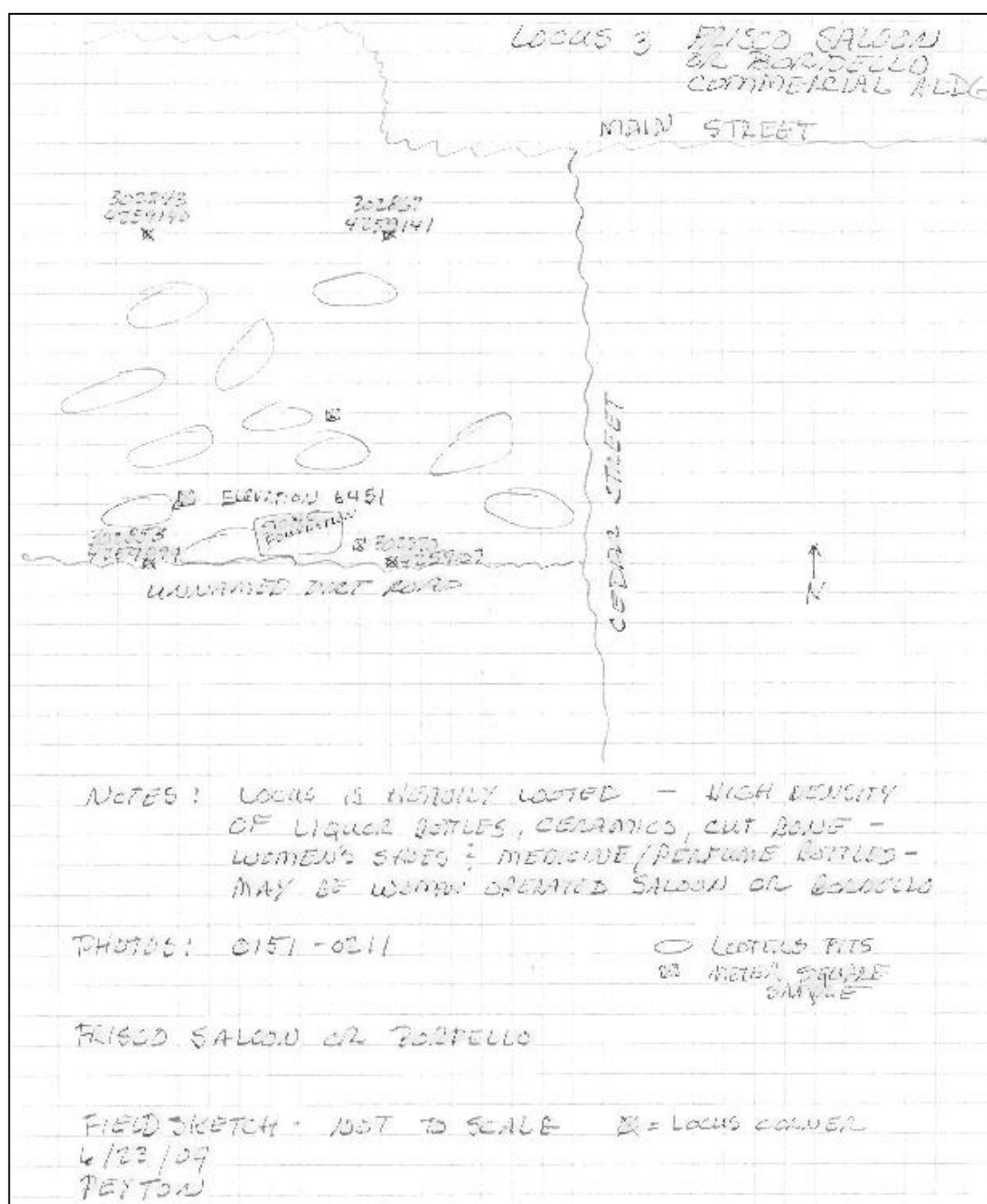




**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House**  
Dense scatter of fragments of china (fancy and restaurant), brown beer bottle glass, clear bottle glass, charcoal, window glass, wire, leather, and bone.  
(June 2009)



**Locus 2: E. N. Smyth Residence, Restaurant, and Boarding House**  
Small pail or bucket, probably lard for cooking.  
(June 2009)



### Locus 3: Town Center Commercial Building (interpreted as a saloon or brothel).

Field Sketch

(June 2009)





**Locus 3: Town Center Commercial Building (interpreted as a saloon or brothel).**  
**View to Northwest.**  
(June 2009)

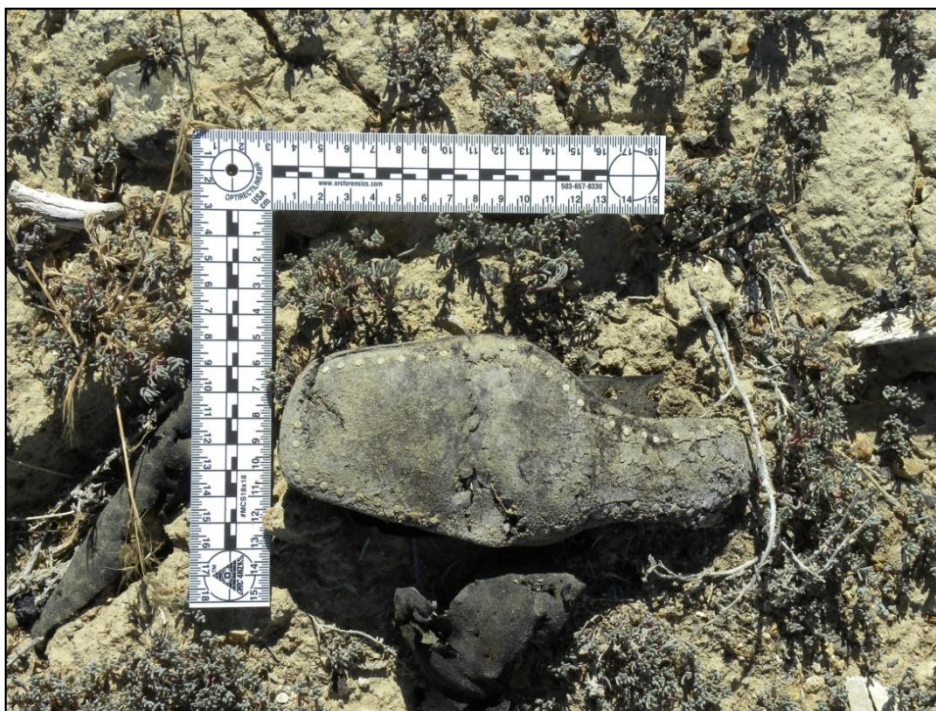


**Locus 3: Town Center Commercial Building (interpreted as a saloon or brothel).**  
**Beer and liquor bottle and cut bone scatter.**  
(June 2009)

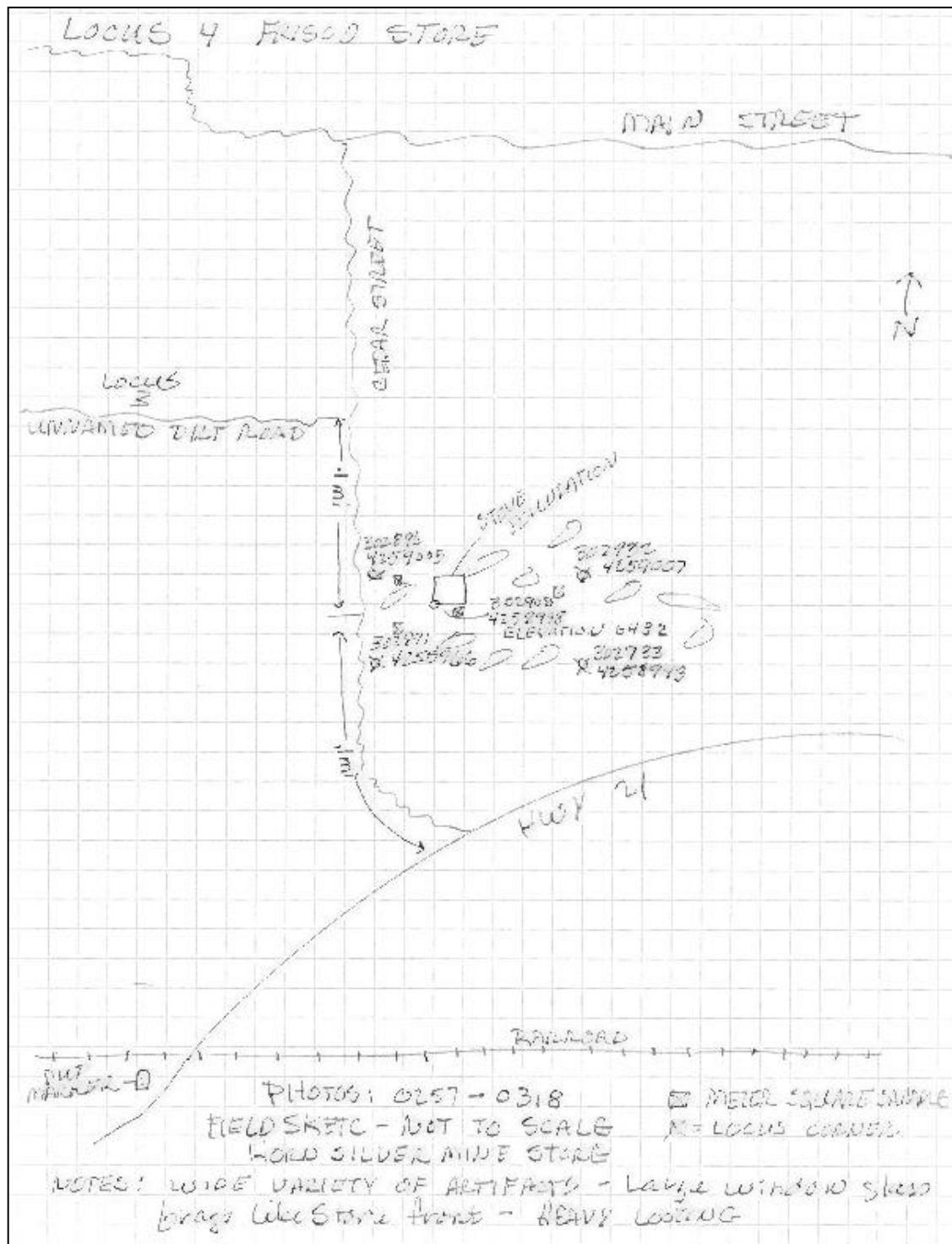




**Locus 3: Town Center Commercial Building (interpreted as a saloon or brothel).**  
Small clear glass medicine bottle bottom embossed with “Chicago” (post 1906 based on color) (Fike 2002: 14). Contents unknown.  
(June 2009)



**Locus 3: Town Center Commercial Building (interpreted as a saloon or brothel).**  
Woman’s leather high-button [nailed] shoe sole (left foot) (1880-1933)  
(Berge 1980: 275-286).  
(June 2009)



**Locus 4: Horn Silver Mine General Store. Field Sketch**  
(June 2009)





**Locus 4: Horn Silver Mine General Store. View to Northeast.**  
(June 2009)



**Locus 4: Horn Silver Mine General Store. View to Southeast.**  
(June 2009)



**Locus 4: Horn Silver Mine General Store**

Ceramics, bottle glass fragments, dinnerware (cup and bowl fragments), and lath.  
(June 2009)

**Locus 4: Horn Silver Mine General Store**

Enamelware pot/pan handle.

(June 2009)





**Locus 4: Horn Silver Mine General Store**  
Stoneware stout bottle back impressed with  
H. KENNEDY/BARROWFIELD/24/POTTERY/GLASGOW  
(Manufactured 1880-1926)  
(June 2009)



**Locus 4: Horn Silver Mine General Store**  
"Plain White" everyday bowl fragment imprinted (beneath glaze) with  
CHARLES MEAKIN/BURSLEM ENGLAND (Manufactured between 1883-1889)  
(June 2009)



**Locus 4: Horn Silver Mine General Store**  
Fancy, scalloped, mother-of-pearl button.  
(June 2009)



**Locus 4: Horn Silver Mine General Store**  
Fancy, scalloped, mother-of-pearl button.  
(June 2009)





**Locus 4: Horn Silver Mine General Store**  
Woman's leather shoe sole.  
(June 2009)



**Locus 4: Horn Silver Mine General Store**  
Cast iron stove leg.  
(June 2009)

## **APPENDIX H**

### **Utah Antiquities Site Form – Newhouse, Utah**

UTAH ANTIQUITIES SITE FORM

developed by cooperative agreement by: Bureau of Land Management  
Division of State History  
University of Utah Archeological Center

Page 1 of 1

1. Site No. [I/1-10] 42-BE-862

2. County 3 Beaver

3. Temp. No. MX-54-20-H1 (44)

4. Class: Prehistoric ☒ Historic ☒ Paleontologic

5. Cultural Site Type (interpreted function): Newhouse Mining Town

6. Paleontological Site Type: Invertebrate; ☐ Vertebrate; ☐ Flora

7. Elevation [I/11-15] 5100-5250 ft. X.3048= 1554-381 m.  
elevation source: Bench Marko (USGS) and contour

8. UTM Grid: [I/16-30] zone 12 ; 296000 m E; 4261300 m N

9. [II/1-16] of of NW of Section 8 T. 27S, R. 13W

10. Map Reference: Frisco Series: 15 Date: 1959

11. Aerial Photo Data:

12. Site Location: Newhouse is located about 2.5 miles north of Highway 21, on west flank of the San Francisco Mts.

13. Land Owner [II/17-18]: BLM

BLM District/Forest [II/19]: Cedar City

14. Site Name/Previous Designations: Old Newhouse

15. Description of Site: A large site, former inhabitants numbered nearly 400 at its early 1900's peak. Consist of numerous mill foundations and rail tracks. Possible houses and dugouts on north side. Ceramics, glass, metal and masonry cover the area. Tailings sands have silted over and flooded the down-hill (west) portion of the housing area. Tailings have been partially removed and reworked. There are some 25-30 foundations/depressions. Old road to Wah Wah Ranch drops directly below the west side of site - principle ore was copper, lead, gold and silver.

16. Artifacts: Artifacts CLASS TYPE QUANTITY

should be described/drawn on a continuation sheet and their locations plotted on the site map.

Ceramics [III/10-21]			
Proj Pnt [III/1-9]			
Gnd Stn [II/22-29]			
Glass [II/22-29]		various	+100
Metal [II/22-29]		sheet, nail, rebar	+100
Debitage [III/30]		nails	+100
Bifaces [III/1-9]		cans	+100
Scrappers [III/1-9]		wood	+100
Utilized Flakes		other	+100

Description: Historic material widely scattered with China marks of 1870's, purple glass, ironware, stoneware, nails, spikes, cans, metal parts of various uses.

17. Non-Structural Features: (describe and locate on site map) [III/22-27]

<input checked="" type="checkbox"/> beach/firepit (BE)	<input checked="" type="checkbox"/> rubble mound (RM)	<input checked="" type="checkbox"/> earthen mound (EM)	<input type="checkbox"/> trail/road (TR)
<input checked="" type="checkbox"/> midden (MD)	<input type="checkbox"/> stone circle (SC)	<input type="checkbox"/> burial (BU)	<input checked="" type="checkbox"/> RR grade (RG)
<input checked="" type="checkbox"/> depression (DE)	<input checked="" type="checkbox"/> rock alignment (RA)	<input type="checkbox"/> pictograph (PI)	<input type="checkbox"/> tram way/road (TW)
<input checked="" type="checkbox"/> water control (WC)	<input checked="" type="checkbox"/> mine tailings (MT)	<input type="checkbox"/> petroglyph (PE)	<input type="checkbox"/> other (OT)

Description: Numerous depressions, rubble and rail grades cover the area. Recent flooding has covered good sized areas of the town.

UT8100-1(6/80)



Site No. MA-29-20-H1

18. Structural Features: (describe and locate on site map) [III/28-IV/6]

CLASS	MATERIAL	QUANTITY	CLASS	MATERIAL	QUANTITY
Single rm			Tower		
Multiple rm	<u>concrete, stone, wood +25</u>		Cairn		
Granary			Corral		
Cist			Dugout	<u>xx</u>	<u>6</u>
Pithouse			Kila		
Kiva			Monument		
Well			Mine	<u>xx</u>	<u>uphill</u>

Description: The mill foundations are of concrete, stone and rebar. Several depressions leave ovals in them. Foundations vary from 10 X 20 m to 2 X 2 m. Most of the small (possible houses) foundations are on the north side of the site.

19. Cultural Affiliation [IV/7-14]: historic  
How Determined? Cultural remains, personal communication w/former residents

20. Site Dimensions: 600 m X 400 m; Area [IV/17-21]: sq m

21. Were surface artifacts collected? Yes; xx No; [IV/22] If yes, attach a continuation sheet describing sampling method used.

22. Estimated depth of fill [IV/23]: 2-3 m in some areas  
Subsurface test? Yes; xx No (include location of test on site map)

Description:

23. Site Condition [IV/25]: Excellent; Good; Fair; xx Poor  
Agent of Impact: erosion, vandalism, flooding, dismantling

24. Nat. Register Potential [V/1]: xx Significant (C); Non-Significant (D)  
Justification: Old historic town of 1880's-1924. Location of significant historic value. Many early Utah immigrants from N-Europe came here. Mining district to east in mountains.

25. Research Potential: Yes, check old houses, outhouses, records, etc.

26. Recommended Mitigation: preserve remains.

27. Direction/Distance to Permanent Water [V/5-10]: west / 8 km  
Type/Name of Water Source [V/11]: Old Wah Wah Springs  
Distance to nearest other Water Source [V/2-4]: unknown  
Type of other water source: unknown  
Distance to Cultivable Soil [V/12-14]: on site

28. Topographic Location (check one under each heading) [V/15-18]

PRIMARY LANDFORM	POSITION ON LANDFORM	DEPOSITIONAL ENVIRONMENT	SECONDARY POSITION
<u>mountain spine(A)</u>	<u>top/crest/peak(A)</u>	<u>xx fan(A)</u>	<u>marsh(L)</u>
<u>hill/butte(B)</u>	<u>edge(B)</u>	<u>xx talus(E)</u>	<u>lands/ slide/slump(H)</u>
<u>tableland/mesa(C)</u>	<u>slope(C)</u>	<u>dune(G)</u>	<u>delta(N)</u>
<u>ridge(D)</u>	<u>top/foot/bottom(D)</u>	<u>stream terrace(D)</u>	<u>island(O)</u>
<u>xx valley(E)</u>	<u>saddle/pass(E)</u>	<u>playa(F)</u>	<u>cliff(P)</u>
<u>plain(F)</u>	<u>xx bench/ledge(F)</u>	<u>shore feature</u>	<u>outcrop(Q)</u>
<u>canyon(G)</u>	<u>rimrock(G)</u>	<u>extinct lake(I)</u>	<u>stream bed(R)</u>
	<u>interior(H)</u>	<u>extant lake(G)</u>	
		<u>xx alluvial plain(H)</u>	
		<u>coluvium(I)</u>	
		<u>mountain(J)</u>	
		<u>flood plain(K)</u>	
			<u>detached monolith</u>
			<u>interior(G)</u>
			<u>step(N)</u>
			<u>riser(I)</u>
			<u>port. geo. feature</u>
			<u>spring mound/bog(S)</u>
			<u>cave(M)</u>
			<u>alcove/shelter(N)</u>
			<u>patterned ground</u>

Description: Located on alluvial fan of a large canyon draining the west and south side of Indian Grave Mt. Several erosion channels on the site. Soils are rocky, with a coarse granular gray sand.

29. Degree/Aspect of slope [V/19-23]: west at 15%

UT8100-1(6/80)

SITE NO. PA-04-20-114

30. Vegetation COMMUNITY and association [V/24-25]:

<input type="checkbox"/> ALPINE GRASSLAND(AA)	<input type="checkbox"/> YELLOW PINE-OAK(D2)	<input type="checkbox"/> COLD DESERT SHRUB(F2)	<input type="checkbox"/> SALT DESERT SHRUB(G2)	<input type="checkbox"/> WARM DESERT SHRUB(H2)
<input type="checkbox"/> PINE FIR(B2)	<input type="checkbox"/> ponderosa pine(BA)	<input type="checkbox"/> sagebrush(FA)	<input type="checkbox"/> greasewood(GA)	<input type="checkbox"/> desert saltbrush(HA)
<input type="checkbox"/> sumbolz(BA)	<input type="checkbox"/> oakbrush(DB)	<input type="checkbox"/> small sagebrush(FB)	<input type="checkbox"/> greasewood-shadscl(GB)	<input type="checkbox"/> creosote bush(HB)
<input type="checkbox"/> white fir-spruce(BB)	<input type="checkbox"/> mountain brush(DC)	<input checked="" type="checkbox"/> little rabbitbrush(FC)	<input type="checkbox"/> seepweed(GF)	<input type="checkbox"/> creosote/bur sage(HC)
<input type="checkbox"/> ASPEN DOUGLAS FIR(CE)	<input type="checkbox"/> maple(DD)	<input checked="" type="checkbox"/> shadscale(FD)	<input type="checkbox"/> pickleweed/samphire(GD)	<input type="checkbox"/> joshua tree(HD)
<input type="checkbox"/> limber pine(CA)	<input type="checkbox"/> streamside(DE)	<input type="checkbox"/> horsebrush(FE)	<input type="checkbox"/> saltgrass(GE)	<input type="checkbox"/> MARSH COMMUNITY(IA)
<input type="checkbox"/> douglas fir(CB)		<input type="checkbox"/> winter-fat(FG)	<input type="checkbox"/> alkali sacaton(GF)	
<input type="checkbox"/> lodgepole pine(CC)	<input type="checkbox"/> PLAINS/PRAIRIE(E2)	<input type="checkbox"/> hop-sage/blackbrush(FG)	<input type="checkbox"/> rabbitbrush(GG)	<input type="checkbox"/> ALKALI FLATS/HUD
<input type="checkbox"/> bristlecone pine(CD)	<input type="checkbox"/> grasslands(EA)	<input type="checkbox"/> bud sagebrush(FH)		<input type="checkbox"/> FLATS/DRY LAKE/
<input type="checkbox"/> aspen(CE)	<input type="checkbox"/> pinyon-juniper(EB)	<input type="checkbox"/> mat saltbrush(FI)		<input type="checkbox"/> WASTELAND(K2)
<input type="checkbox"/> streamside(CD)	<input type="checkbox"/> streamside(EC)	<input type="checkbox"/> grey molly(FJ)		
<input type="checkbox"/> meadow grassland(CG)		<input type="checkbox"/> streamside(FK)		<input type="checkbox"/> CULTIVATED LAND(J2)

(Check COMMUNITY only if association cannot be determined)

Description: Rabbitbrush and ephedra: growing in recent alluvial areas -  
thistle in disturbed areas. Some snakeweed, flaming stars, cacti and  
shadscale. Thistly wheat and cheat grasses in disturbed places likely  
post-abandonment.

31. Next nearest plant association/distance: Shadscale/horsebrush 1 km W P-2 2km

32. Photograph Numbers [V/26] : SJ B/W 7-4-8 SJ color 6-13-15 eas:

33. Recorded by: Nielson

Survey Org. [V/27-28]: UUAC-AS Date: 7-19-80

Assisting Crew Members: Steve James, Lori Webster, John Sneed and  
Jack Oviatt

34. Sponsoring Agency: HDR Contract No. \_\_\_\_\_

35. Encoding Form: (all entries are right justified)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
I																															
II																															
III																															
IV																															
V																															
VI																															

Form must be accompanied by a site map; photocopy of U.S.G.S. topo map with T., R., scale, and quad name; photographs of the site; and artifact sketches (if applicable).

UT8100-1(6/80)

**CONTINUATION FORM**

PAGE 5

Antiquities Section Division of State History

Feature No. Survey SITE MX 54-20(88)P2 DATE July 19-1980

Wah Wah Ranch

Wah Wah Valley

Mosala

0-2 MILES

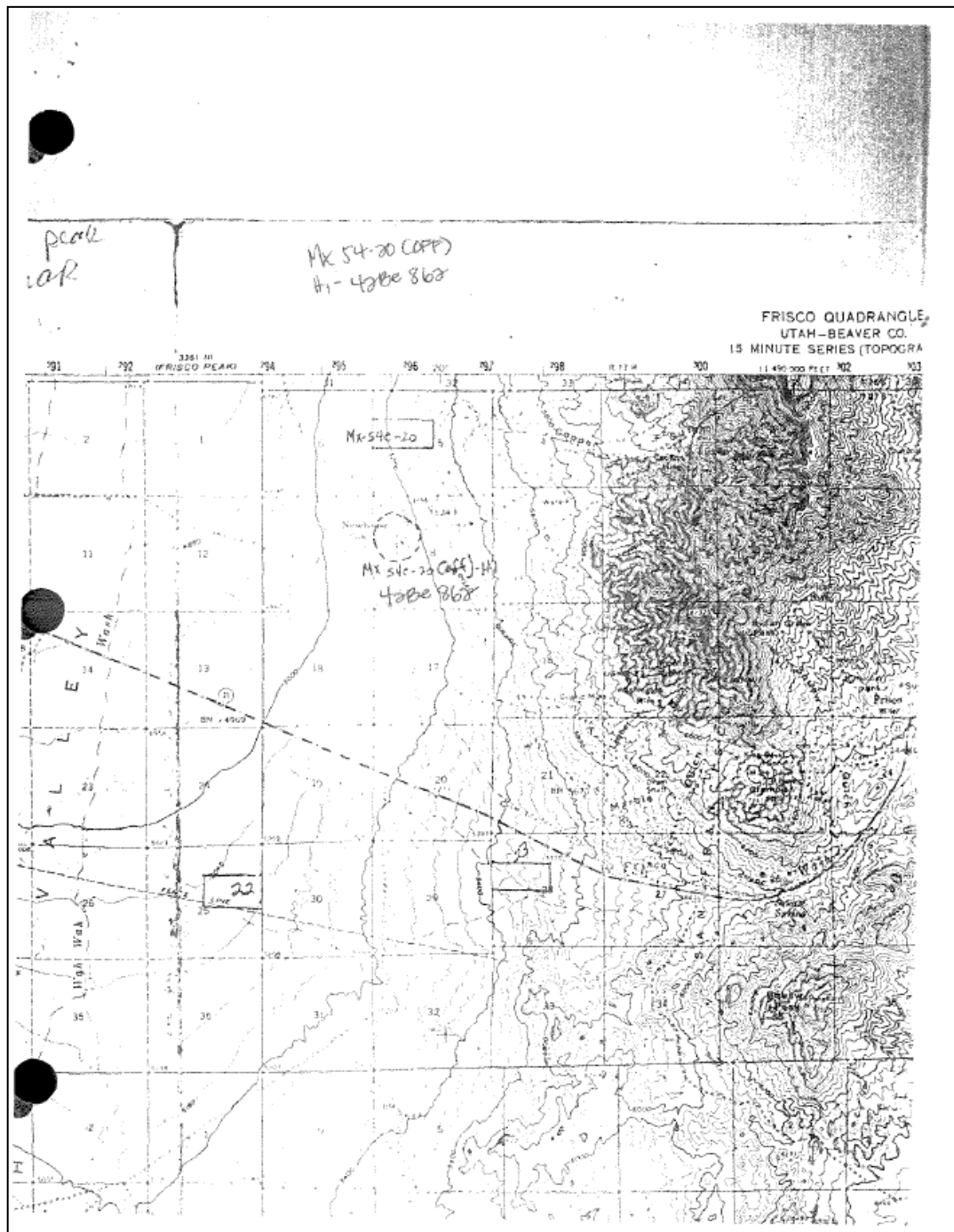
Railings

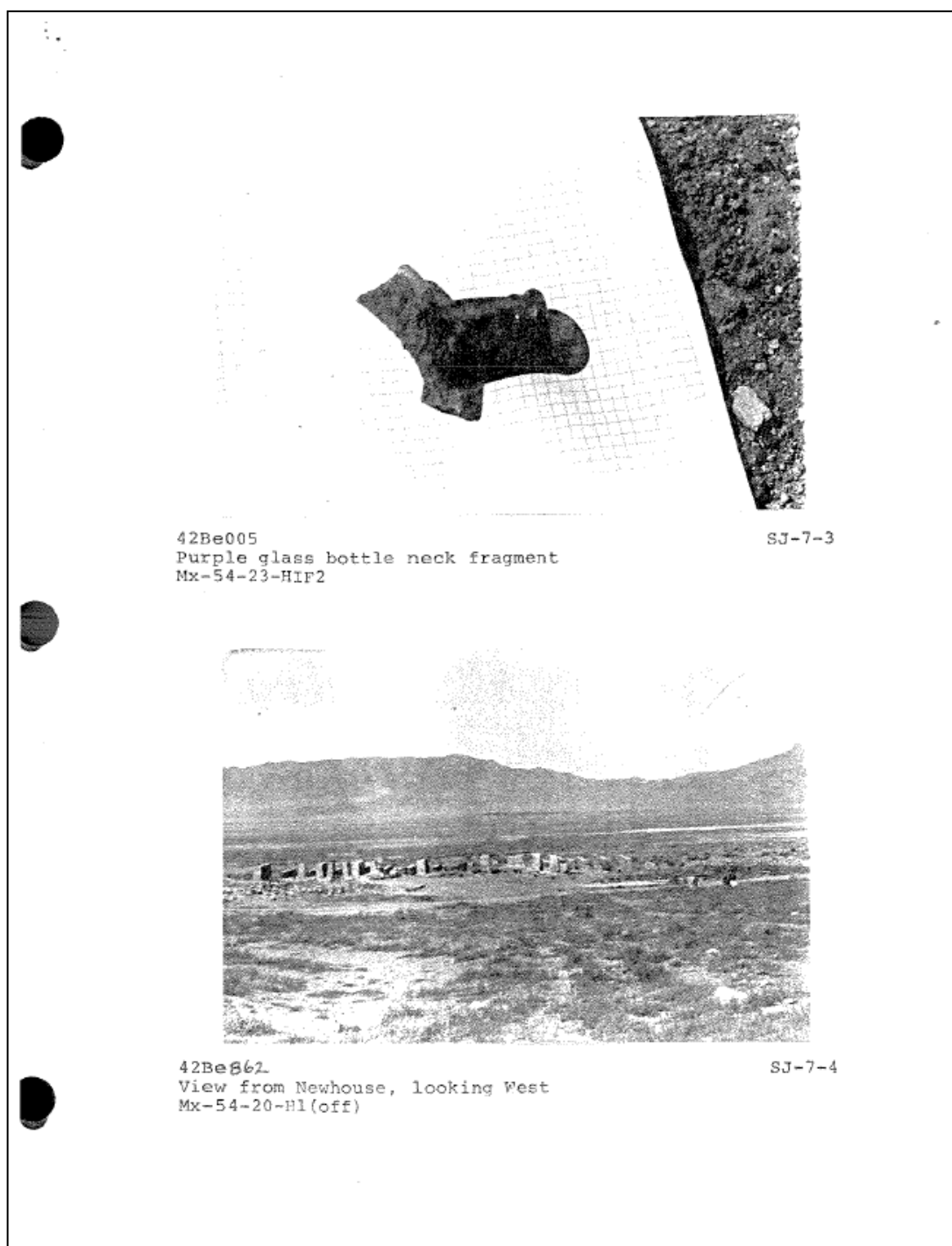
Bousing

San Francisco Mts

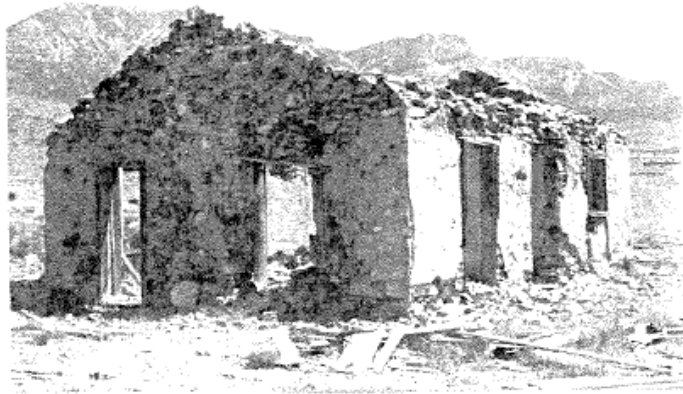
MINE

RECORDED R. H. Smith









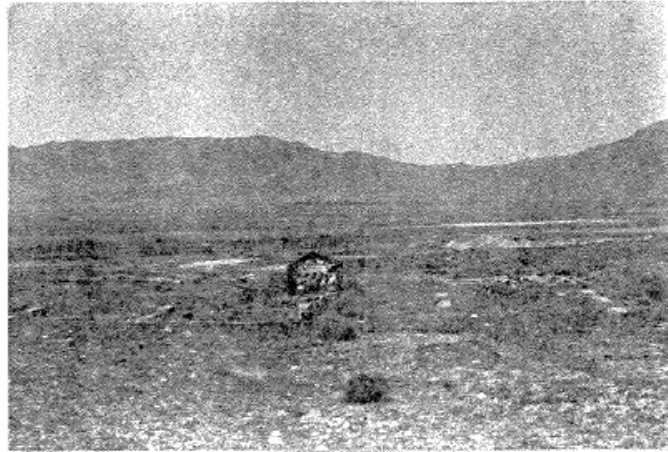
42Be86L  
Newhouse, ruin of house, looking East  
Mx-54-20-H1(off)

SJ-7-5



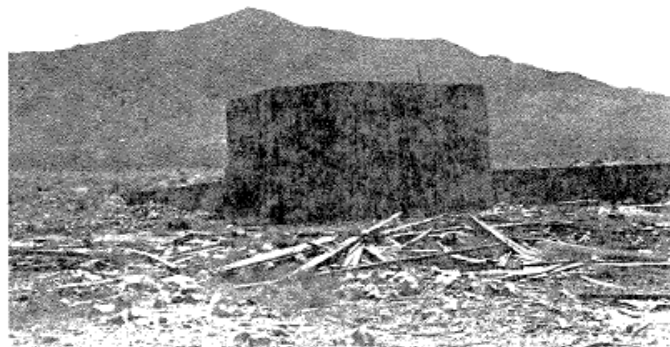
42Be86L  
Newhouse, section of track, looking South  
Mx-54-20-H1(off)

SJ-7-6



42Be062  
View from Newhouse, looking West  
Mx-54-20-H1(off)

SJ-7-7



42Be062  
View of mill, Looking East  
Mx-54-20-H1(off)

SJ-7-8

FORM ~~AT~~ FOR INVENTORY OF HISTORIC PLACES

Agency: Fillmore ~~D~~istrict - BLM - Utah Date: 12/27/71

1. Name of property: Newhouse Townsite

2. Location of property:

A. State and County: Utah - Beaver County

B. Latitude and Longitude:

C. Township, Range & Section: T. 27 S., R. 13 W., Sec. 8

D. Other legal description:

E. Map Reference: District recreation map

3. Nature of Property:

A. District ( ) Site (X) Building ( ) Object ( )

B. Description, present condition and use:  
Three miles off Utah State Highway 21 - 18 miles west of Milford, Utah

4. Importance of Property: Historic mining town

5. Names and addresses of persons preparing this inventory:  
Irvin Larsen, Fillmore District, BLM  
Larry L. Legg, Utah State Office, BLM

FORMAT FOR INVENTORY OF HISTORIC PLACES

Agency: Fillmore District - BLM - Utah Date: 12/27/71

1. Name of property: Frisco Townsite

2. Location of property:

A. State and County: Utah - Beaver County

B. Latitude and Longitude:

C. Township, Range & Section: T. 27 S., R. 13 W., Sec. 13

D. Other legal description:

E. Map Reference: Fillmore District Recreation Map

3. Nature of Property:

A. District ( )      Site (x)      Building ( )      Object ( )

B. Description, present condition and use:

On Utah State Highway 12 miles west of Milford, Utah

4. Importance of Property: Historic mining town.

5. Names and addresses of persons preparing this inventory:

Ervin Larsen, Fillmore District, BLM  
Larry L. Lee, Utah State Office, BLM

Presently there is no mining activity at this location. Miscellaneous mining and milling equipment can be found there. Several wooden buildings and houses still stand at Gold Spring. A 40 acre site, including an old wooden house, has been nominated to the National Register of Historic Places.

#### Newhouse Townsite

The "desert town" of Newhouse grew out of desolation to become an oasis of the miners of the copper producing Cactus Mine just over the mountain from the Frisco Mine.

Little evidence remains today of these once thriving, bustling, rough mining communities.

The townsite is now composed largely of many stone and concrete ruins, foundations and excavations presenting a very ghostly atmosphere. The shearing pen, barely intact up on the hillside, still bears the faint lettering of the town's name. The railroad depot still exists in tact but has been moved to a private ranch five miles west across the valley where it is in daily use. The old railroad bed parallels the highway between Frisco and Newhouse, with old, square, wooden culverts still in place.

#### Old Frisco Townsite

Frisco, born in 1876, after the chance discovery of silver and lead ores in 1875, lies in the southern tip of the San Francisco mountains, from which comes its name.

Fifteen miles on State Highway 21 west from the center of Milford is a short dirt road leading off to the right (northwest) into the business district of Frisco. Five beehive-shaped charcoal kilns sit over empty stone walls, derelict equipment, and remains of a mill. Railroad grade leads into the mining section of town. Several ancient frame stores and houses are dug



into the hill, while more sturdy buildings sit on the tailings dumps.

#### Wilderness Study Areas

Wilderness Study Areas (WSAs) that are protected by interim management are shown on Map 3.. The WSAs are the White Rocks WSA and the Wah Wah WSA. Planning for these WSAs is being handled by other Districts which have major portions of the WSAs within their boundaries. Interim management protects wilderness values by stipulation in any leases issued within the boundaries of these units during the time they are being considered for wilderness designation.

These units do not contain values beyond wilderness values which may be impacted by the proposed action or alternatives. The stipulations of interim management attached to leases in these units protect their wilderness values.

#### V. Environmental Consequences

##### A. Proposed Action

##### 1. Minerals

##### a. Geothermal Resources

The proposed action would eliminate 15,360 acres of protective stipulation to protect antelope kidding ground and add 3,919 acres of seasonal stipulations to protect raptors and sagegrouse, and 2,347 acres of no surface occupancy stipulations to protect Utah prairie dogs and historic recreation sites. These stipulations will not affect the present geothermal leases. When the present leases expire, the new stipulations will go into effect on any renewed leases. When new lease areas are opened to competitive bidding, the new leases will also contain the stipulations.



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