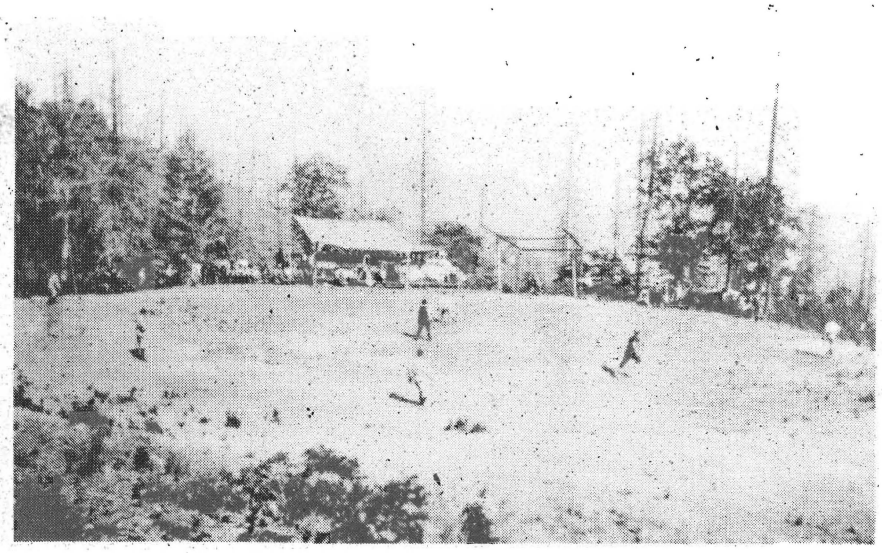
Bureau of Land Management
California

Forest Service
Pacific Southwest Region

Historic Data Inventory of the Shasta County Interlakes Special Recreation Management Area

By
Dottie Smith



cultural resources publications
history

Frontispiece: Circa late 1890s men's baseball game in progress at Mammoth Mine on Iron Mountain. Note the player's uniforms, the bleachers, and the dead trees (probably killed by toxic smelter fumes).

Historic Data Inventory of the Shasta County Interlakes Special Recreation Management Area

By

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Report prepared for:

Bureau of Land Management
355 Hemsted Drive
Redding, CA 96002

Eric W. Ritter, Ph.D
General Editor

1995

EDITOR'S FOREWORD

There is little doubt that northern California generally and Shasta County more specifically have a rich history. Historians have not ignored this fruitful record as the written accounts are plentiful. Yet these chronicles are not without their shortcomings and earlier works are often forgotten or difficult to obtain. Furthermore, it is well-known that some historic texts, especially those written in the 19th and early 20th centuries, are sometimes biased toward more prominent members of society, dramatic events and undertakings, and certain places and periods of time. The ordinary and mundane, the lower classes and non-Euroamericans' history was often ignored or the writings partial.

All historic compilations are biased to some extent, and the information inventory offered here is no exception. Subjectivity and a focused perspective do not necessarily diminish a history-oriented work's merit, and certainly in this regard the document as presented is a valuable and serviceable effort.

Various federal agencies are often called upon in their land managing actions to make decisions that may have an effect on historic locations and resources. There is a certain level of difficulty in evaluating the relative importance of historic events and places, especially when the historic record is incomplete, scattered, and preferential as mentioned above. Such difficulties in 1994 faced a consortium of federal agencies (under the lead of the Department of Interior's Bureau of Land Management) in planning for the use of a geographically delineated region within Shasta County, the Interlakes Special Recreation Management Area (ISRMA) lying roughly between Shasta Lake City and Clear Creek and Highway 299 and Wild Cow Mountain. Here, through a series of historic events and political and environment-related decisions connected to land ownership and use, general planning for various activities was envisioned. The ultimate goal of this document and accompanying planning is to minimize damage to significant historic places and to provide educationally-driven, on-the-ground interpretation to certain locations. For these reasons, local historian Dottie Smith was contracted in 1994 to complete a historic information compilation of the ISRMA emphasizing current federal lands and locations of possible acquisition. The intention of this contract was the obtainment of an information inventory document more factual and descriptive than interpretive or theoretical. These latter approaches we leave for other scholars and times. Some of the site specific data presented by Smith has been omitted from the public document for purposes of sensitivity and confidentiality. Unfortunately, the region still experiences looting and collecting for personal rather than public gain.

Because of federal regulations, the historic period is considered

to be pre-1945, with a few exceptions. Furthermore, this work has additional preferences, based primarily on time and funding constraints. For instance, the rich history of hydroelectric development and later mining in the region is only glossed over as much of this information is available in other readily available publications. The history of various ethnic groups in the region, especially Native American Indian and Chinese, has been little explored, in part owing to the difficulties in obtaining scarce information and the focus on non-ethnic history.

Detailed archival studies were not part of this contract, as much of the information was derived by intent and practical necessity from secondary sources. An in-depth exploration of the history of land-ownership changes is not a component of this work. It is well-known that not only has this ownership changed from Native American Indian to Spanish, Mexican and then American, but that various laws dating from the American Period have influenced the dynamic ownership pattern that exists today. Federal decisions alone have resulted in railroad grants (originally resulting in checkerboard pattern Central Pacific Railroad lands), homesteads, mining claim patents, Indian allotments, etc. The formation of the Forest Service in 1905 from select General Land Office administered lands resulted in land transfers in several episodes. The designation of Bureau of Reclamation lands followed on the heels of the Reclamation Law of 1902 and hydroelectric developments. The Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area has been administered by the National Park Service since 1963, largely from Bureau of Land Management lands.

This compilation should enhance the management of cultural resources within the Interlakes region, especially those on federal lands. It should also serve as a historic reference suitable for educational, interpretive, and research purposes. The author has provided a valuable service in this regard.

Eric W. Ritter, Ph.D.
General Editor

ABSTRACT

In 1994, the author was contracted by the Bureau of Land Management (BLM) to complete a historical (pre-1945) assessment of the Interlakes Special Recreation Management Area of western Shasta County, California. This rugged mountainous zone is located between the communities of French Gulch on the west and Shasta Lake City (Central Valley - Summit City) on the east. The Sacramento River and Clear Creek are the principal drainages and the Klamath Mountain ranges in the locality have had both a constraining and influential effect on past activities. This study area comprises approximately 74,845 acres, or about 117 square miles, and includes within its boundaries both private lands and public lands managed by the Forest Service (Department of Agriculture), the Bureau of Land Management (Department of the Interior), the Bureau of Reclamation (Department of the Interior), and the National Park Service (Department of the Interior).

Rich mineral resources, in addition to hydroelectric development, have heavily influenced historical events and are discussed at length in this report. Also of importance has been the development of transportation routes such as roads and railroads and the establishment of settlements alongside them including French Gulch, Keswick, Shasta, Redding, and Shasta Lake City.

Early entries by Euroamerican trappers and explorers in northern California had little effect in the study area. Historic Native American uses were quickly curtailed by the miners and aside from a few Indian allotments, cemeteries, and noted places, their presence was soon centered elsewhere in the county. The post-contact history of the Native American Indians is not a focus of this report.

This history deals with people and places, as well as gold and copper mining and hydroelectric power development, the two major industries undertaken within the study area. Mining can be divided into three distinct episodes. The first, the Gold Rush, erupted in 1849, peaked in the 1850s, and faded by the late 1850s. Soon thereafter, government surveyors began laying out township, ranges, sections, and mining properties. Early placer mining efforts during the Gold Rush were gradually, but not totally, supplanted by later hydraulic, lode, and dredge techniques. The second major mining type was copper mining which became a major industry in the 1880s and replaced gold in 1896 as the number one mineral produced in Shasta County. Copper mining was a tremendous economic stimulus to Shasta County as was gold mining previously. Copper was mined until 1969 with peak productions years occurring from 1897 to 1919 and during 1924 and 1925. Gold production peaked again from 1908 to 1915, and once more from 1936 to 1941 during The Depression when the price of

gold rose from $20.67 to $35.00 an ounce. This price increase sparked renewed interest in gold mining and attracted thousands of hungry and homeless people into California who engaged in mining as a new way of life. An aftermath of copper smelting was severe regional environmental damage; reclamation efforts began soon thereafter and continue to this day.

The second major industry was large-scale water control, and resulting hydroelectric power development, which commenced in 1938 when construction began on Shasta Dam, the key structure of the Central Valley Project and one of the nation's major water development projects. This vitally important dam and all of its downstream related structures are discussed briefly in this report.

ACKNOWLEDGEMENTS

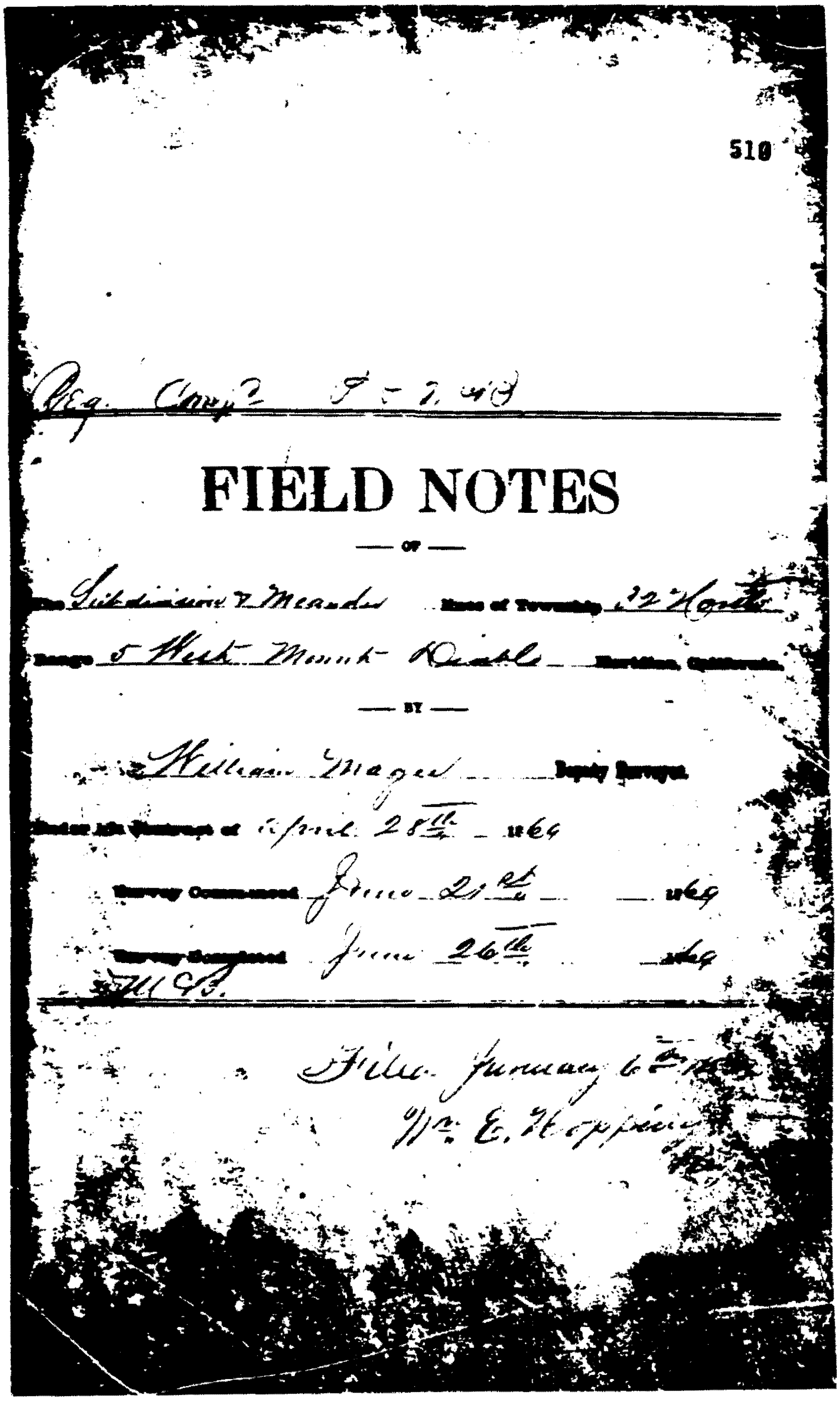
The Bureau of Land Management (BLM) was very cooperative and helpful in providing assistance for this report in the form of maps, photographs, book sources, draft review, and even manual labor. Charles Murphy, a BLM summer volunteer from the Student Conservation Association, provided invaluable, time-consuming assistance by compiling pages of miscellaneous data extracted from numerous maps. Marka Gibson graciously typed the data. Julie Downey, Forestry Technician, Eric Morgan, Outdoor Recreation Planner, and Steve Uhles, OHV Program Manager, were very helpful. Dr. Winfield Henn of the Shasta-Trinity National Forest provided constructive comments on the draft report and made available his agency's printing facilities for the duplication of this document. Shauna Ritter provided the cover stock of recycled paper through the courtesy of Simpson Paper Company.

Every French Gulch citizen contacted was very cooperative, eager to help, and willing to provide input. They were Donald (Don) Carlson, David (Dave) Britton, Libbie Dowling, Bernice Fox, Janet Landles, Ramona Larramendy, and Patrick (Pat) McCabe. Other citizens contacted who lived in other towns were James (Jim) Westlake (Lower Springs), Gwen Nichols (Redding), Richard Hart (Shasta), and Alice and Thomas Landles (Mendocino).

The Shasta Historical Society, especially Wayne Rich and Bert Walsh, eagerly provided an abundance of information as well as historic photographs and maps. Donna Kattenhorn, Reference Librarian at the Redding branch of the Shasta County Library, was also very helpful in providing historical data as was William (Bill) Jones, Head of Special Resources at the Special Collections Library at Chico State University.

Grateful acknowledgement is made to both Eric and Pat Ritter. Pat Ritter unselfishly assisted this author in scouring through piles of theses, books, reports, manuscripts, maps, etc. at the Special Collections Library at Chico State University. However, special acknowledgement is made to her husband, Dr. Eric Ritter, for the never-ending encouragement provided throughout the entire compilation of this report.

Thank you BLM, especially Dr. Ritter, for giving me the opportunity to research and write this report which I hope the reader will find to be very exciting and interesting. And thank you, one and all, for your valued help.



510

FIELD NOTES

— OF —

Subdivisions & Meanders ... 32 North

Range 5 West Mount Diablo Meridian, California.

— BY —

William Magee Deputy Surveyor.

April 28th 1869

Survey Commenced June 21st 1869

Survey Completed June 26th 1869

Filed January 6th

Page from field notes of William Magee, early U.S. Government surveyor

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Quartz Ledge Claim - near Waugh's Ferry
By
Sherman, Galbraith, Cushman & 21 others

Notice

We the undersigned claim twenty-four claims of 300 feet each on this the Copper Bottom Quartz Ledge, commencing at a White oak tree about 800 yards South of the road leading from Quartz Hill to Spring Creek Bridge and running in a Northerly direction 7200 feet. We claim said Ledge for gold, silver & copper, with all the dip, Spurs and angles

Sacramento River

	J. E. Cushman
C. Sherman	J. Clough
S. Galbraith	N. A. Hawley
C. Kingsbury	F. Chandler
H. Rothwell	C. C. Wingate
W. K. Conger	Z. L. Eaton
O. H. Anderson	F. Leach
S. S. Yenawine	C. Bosanco
C. McDonald	C. Lund
W. T. Miller	J. Flood
B. H. Cushman	A. York
H. Titus	A. T. Corbin

Filed and Recorded on May 13 1863 at 11 o'clock A.M.
J. R. Durick County Recorder
By Jno. C. Dent Dy.

With a 10c Govt. Stamp adhered & cancelled

Early location notice for mining claims in region.

INTRODUCTION

This report is a historical overview of western Shasta County's Interlakes Special Recreation Management Area (ISRMA) (Figure 1) with 1945 generally as the cut-off date with a few important exceptions. This document is set up alphabetically by theme and/or category. It is not a comprehensive history of places, persons, or events, nor a treatise, but rather a document meant to provide general information on the regional history as well as serve management needs. This chronicle does not deal with Native American Indian history nor does it cover changing ownership and jurisdictional patterns over time.

The main industry to take place in the ISRMA throughout history has been mining. Many minerals have been mined throughout the years. Of them, gold and copper have been the undisputed kings.

California's gold mining has been important in the history and development of the western United States as well as significantly influential in the development and perfection of mining and metallurgical processes. California produced more than 106 million troy ounces of gold between the years 1848 and 1967. This was far greater than any other state and represented approximately 35% of the total United States production (Clark 1979:1,2).

The second highest gold producing area of California is the Klamath Mountains region. Shasta, Siskiyou, and Trinity counties are the principal gold districts with placer deposits being the largest source of gold (Clark 1979:132). The French Gulch district has been the most productive source of lode-gold (Clark 1979:xi).

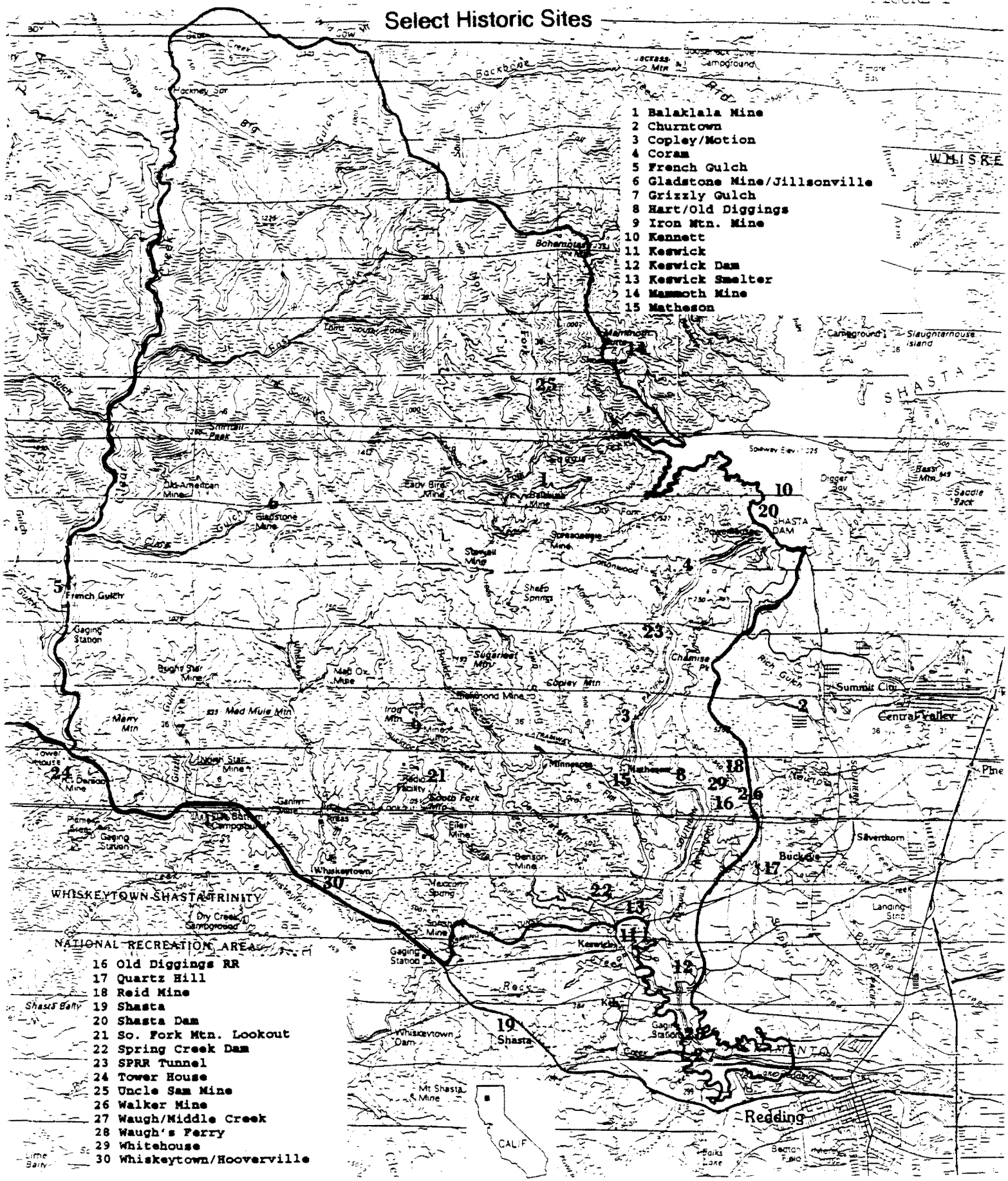
The Shasta copper-zinc belt is also located in the foothills of the Klamath Mountains in west-central Shasta County. The two main areas of mineralization are the West and East Shasta districts. Part of the East Shasta district lies beneath Shasta Lake while the West Shasta district lies in the Interlakes area. Gold and silver-bearing gossans were mined in both of these districts during the 1860s. Copper and zinc ores were mined in large quantities beginning in the 1890s and lasting into the 1920s. The ore was treated and processed in smelters built especially for that purpose. The estimated total gold output for the West Shasta district up to 1979 was 520,000 ounces (Clark 1979:142).

Historic Context of the Study Area

The California Gold Rush began at Coloma in 1848 when James Marshall discovered gold in the tailrace of John

INTERLAKES SPECIAL RECREATION MANAGEMENT AREA

FIGURE 1



Sutter's sawmill. Sutter tried to keep the discovery a secret, but word leaked out and the Rush was on. What followed was the greatest mass movement of people since the Crusades. Men of all races, creeds, and callings from all over the world hurriedly traveled to California by various routes and means to seek their fortune.

Later the same year, Pierson B. Reading discovered gold in Clear Creek and the Rush soon spread to Shasta County. This was the first discovery north of the El Dorado County find by James Marshall and triggered the great rush of 1849 (Southern 1942:23,24). The discovery site is south of the study area. French Gulch, an important historic mining community, is also located on Clear Creek. By 1849, the Gold Rush was in full swing.

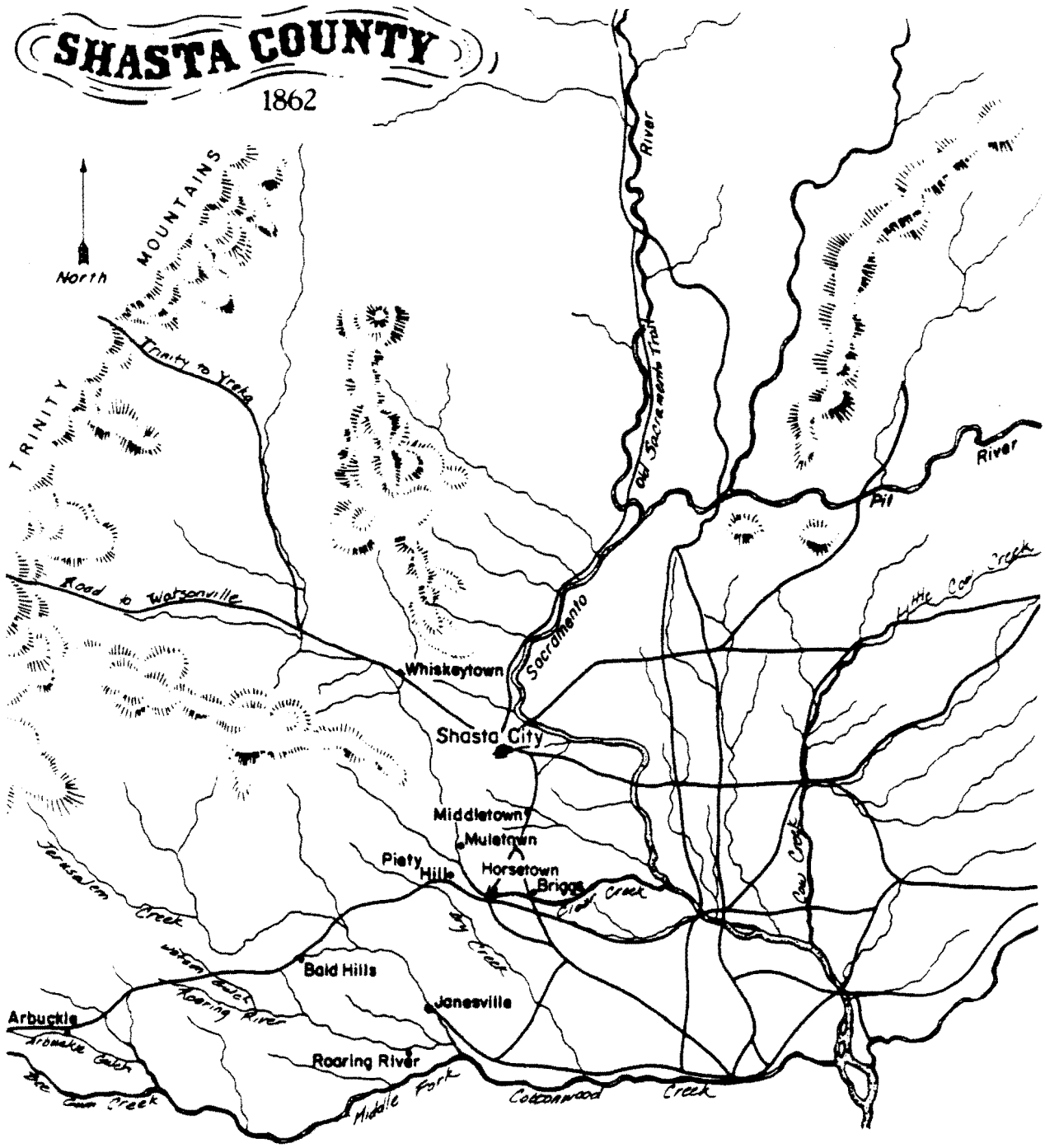
The mining history of the area can be divided generally into two distinct periods: gold and copper. The gold mining period commenced early on in 1848 during the Gold Rush in the area of Clear Creek and spread outward in all directions (see Figure 2). The copper mining period commenced just before the turn of the 20th century, and, like gold before it, came to be the king of minerals in Shasta County and its major industry. (Gold mining returned to prominence for a short time during The Depression.)

The 1848 Clear Creek gold discovery resulted in the establishment of many mining camps in the vicinity of the creek and the ISRMA. The largest and best known were Horsetown and Whiskeytown, both of which no longer exist, and Shasta, which became for a time the seat of government of Shasta County. Shasta is now a state historical monument, and many of the old buildings have been restored. Much of the early gold production was from placer deposits in Clear Creek and its tributaries (Clark 1979:142)

The earliest and the nearest newspaper to the area was the Shasta Courier established at Shasta in 1852, although the Grizzly City Gazette was reported as being published at Grizzly Gulch at an even earlier time. In August, 1855 the Shasta Courier reported rich diggings around Whiskey Creek, and more specifically all along Clear Creek.

Streams in the immediate and nearby vicinity of the study area which flowed into the Sacramento River from the west were rich in placer gold and therefore attracted hundreds of gold miners during the Gold Rush. Early mining communities known as Horsetown, Middletown, and Briggsville soon sprang up south of the study area and were thriving by 1855 (Lydon and O'Brien 1974:56) (Figures 2, 3).

The first type of gold mining undertaken was placer



Shasta County. 1862.

mining, and it was conducted with shovels and pans. Soon, rockers, long toms, and sluice boxes were used which greatly increased the amount of gravel one man could wash (Lydon and O'Brien 1974:56).

Hydraulic mining began in 1855 upon completion of the Clear Creek Canal (Lydon and O'Brien 1974:56). The main trunk stretched some 40 miles. It began near the Tower House and ended at Olney Creek. When it was completed, it provided sufficient water power to hydraulically mine gold which caused immediate alteration of the landscape and caused gold production to rise dramatically around Shasta (Toogood 1978:20), although mostly to the south of the study area.

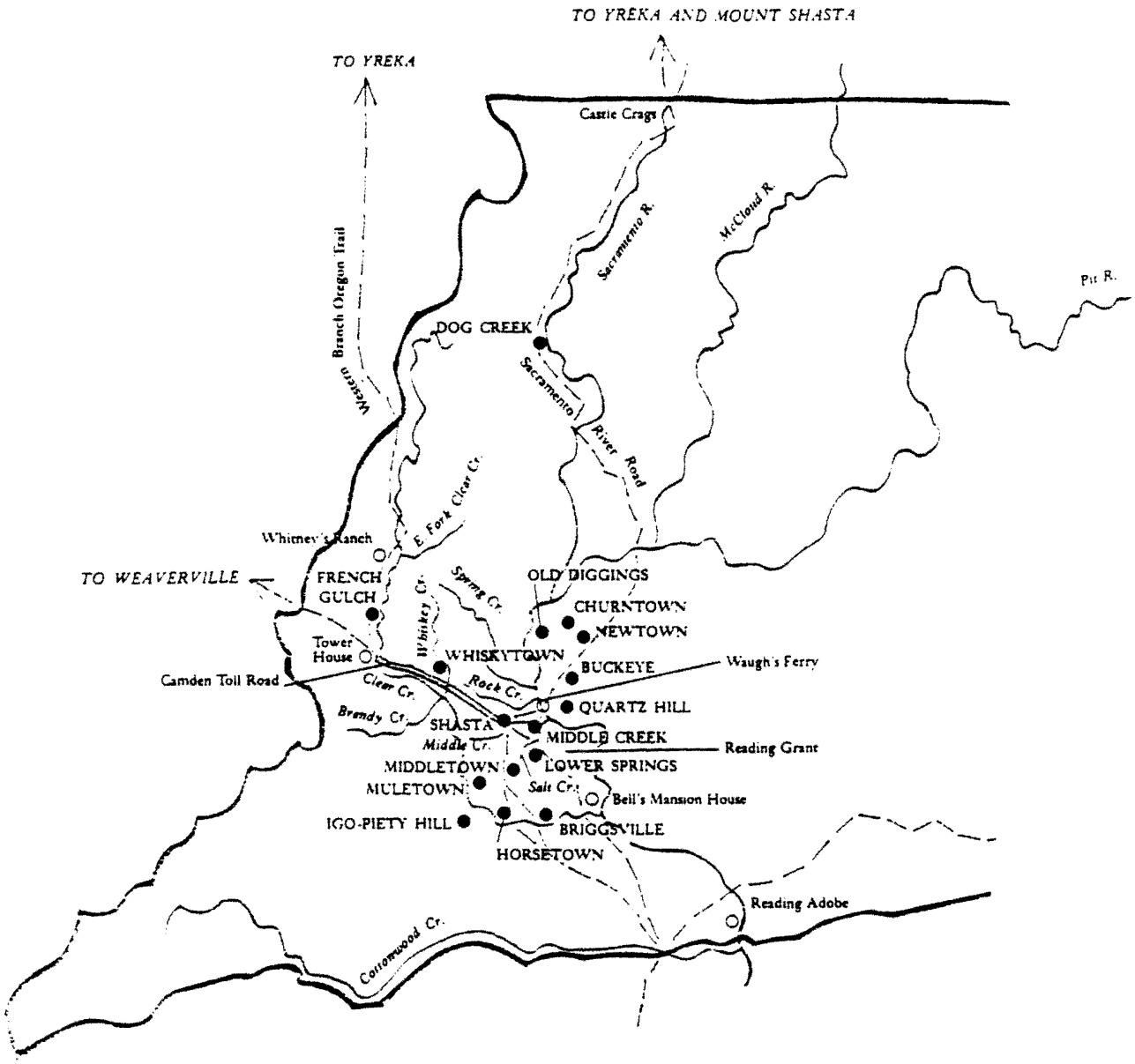
In February, 1858 a severe storm and flood battered the area causing great damages to mining operations, bridges, flumes, and dams. The resulting damages probably influenced the course of events during the next year when placer mining lost its bloom (Toogood 1978:23,24).

In February of 1867, another severe storm and flood occurred which again caused great damages and washed away dams, bridges, flumes, and nearly filled the Clear Creek Ditch with sand and gravel. By this time, the placers of the area had been pretty well worked out and exhausted. When this happened, many people left the area causing it to rapidly depopulate (Toogood 1978:25).

The January 11, 1868 issue of Mining and Scientific Press (176, No. 2) stated that miners were undertaking new, unusual mining methods to break down hillsides and creek banks for washing in their sluice boxes. Shafts and adits were sunk in the deep-seated gravel beds where immense magazines of dynamite were placed and exploded - shattering thousands of tons of earth and rendering it easily broken down and washed away with water (Toogood 1978:20).

In 1870, the California-Oregon Stagecoach Company rerouted their stagecoaches from the Shasta-Yreka Road through French Gulch to the Sacramento River Canyon route, thus completely bypassing Shasta, Whiskeytown, Tower House, and French Gulch (Toogood 1978:31) (Figure 2).

In 1872, railroad tracks were being laid in the southern part of Shasta County. During the same year, track laying had reached the Sacramento River in present day Redding. The coming of the railroad ended the importance of Shasta as the transportation center of the north, and gave prominence to the newly established railroad town of Redding (Martin et al. 1981:50). By 1880, Shasta no longer greeted the majority of travelers to northern California (the new town of Redding was serving that purpose) and much of the area's population had



Early Gold Mining Communities
(Frisbie and Beauchamp 1973:vi).

moved away (Toogood 1978:31). After a ten-year hiatus, track laying resumed north in 1882 through the Sacramento River Canyon (and the study area) (see Figure 4).

In 1884, hydraulic mining was shut down by court order because of the destruction it caused. After this order was executed, lode mines and dredging became the principal mining methods. In 1896, copper replaced gold as the number one mineral produced in Shasta County. Associated with the copper mines were smelters, aerial tramways, rail lines, power lines, wagon roads, and buildings. Remnants still exist from all these features. The copper industry was a tremendous economic stimulus to the county. Employment opportunities increased, new transportation routes were developed, and isolated towns grew into major communities almost overnight (Kristofors 1973:3).

The Mammoth operation on Iron Mountain was the largest and most successful copper mining enterprise in the county. When their smelter was completed in 1907 at Kennett, it was the undisputed king of smelters (largest and most modern) on the Pacific Coast (Figure 5a). The company continued to retain its position as the largest California copper producer until it closed the smelter and mines after World War I (Kristofors 1973:34).

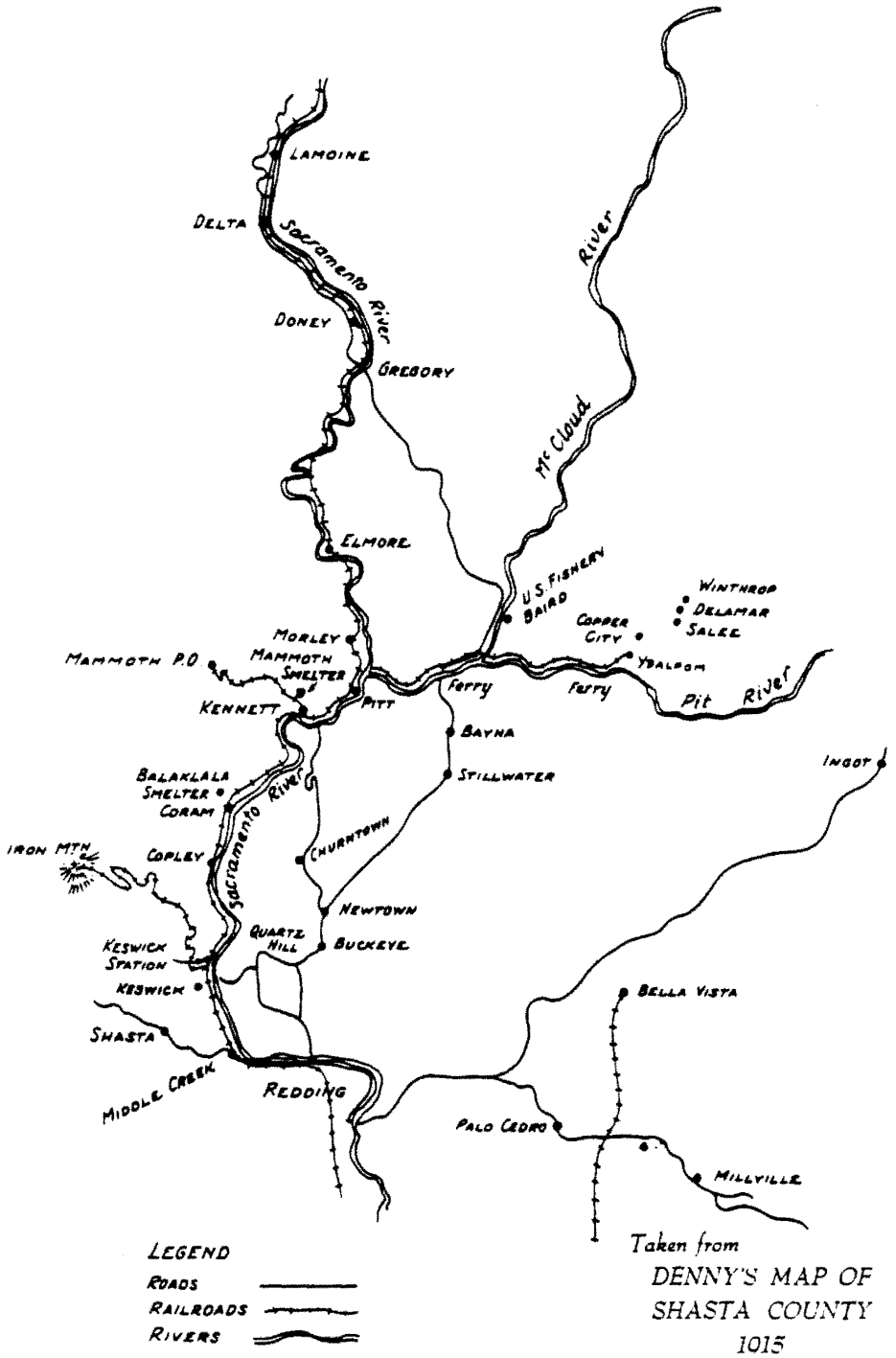
During The Depression years of the 1930s, gold output in California became almost as high as it had been during the Gold Rush. Gold mining was curtailed during World War II and has not substantially revived itself since (Clark 1979:xi).

In 1913, Shasta County ranked first in the state in the production of copper, silver and pyrite, third in lead, and sixth in gold. In addition, the county ranked fourth in the total mineral production of the State, exclusive of petroleum (Brown 1915:7).

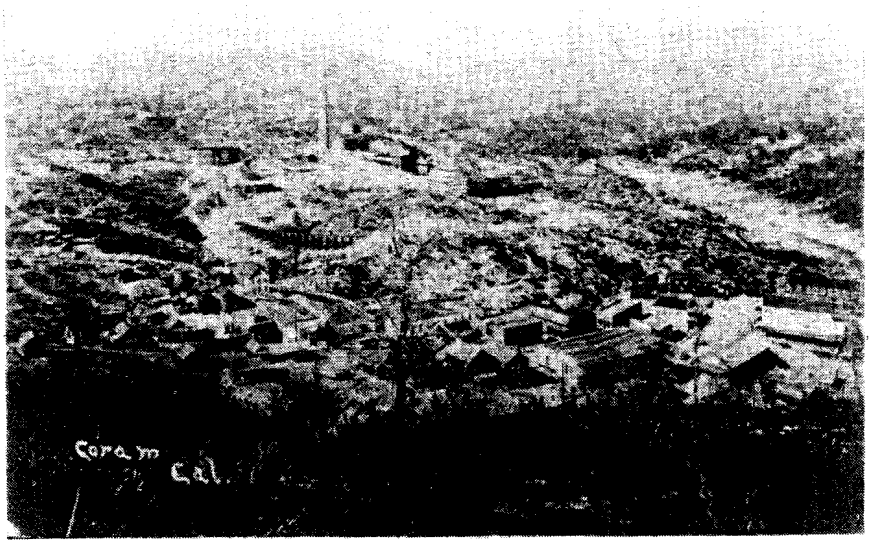
Today, ironically, the most popular mining method has returned to the original and simplest way - placer mining with a gold pan or small sluice box, conducted by weekend, amateur gold prospectors.

In 1938, construction began on Shasta Dam, the key structure of the Central Valley Project (CVP) initiating a third historic period of regional development. The CVP is one of the nation's major water development projects and brought many jobs and people to Shasta County. Many additional downstream structures were constructed relating to this massive project.

What follows are the alphabetical listings of major regional places, features, mines, etc. where more detail can


LAMOINE
DELTA
Sacramento River
DONEY
GREGORY
McCloud River
ELMORE
U.S. FISHERY
BAIRD
WINTHROP
DELAMAR
SALEE
COPPER CITY
YBALOM
MORLEY
MAMMOTH P.O.
MAMMOTH SMELTER
KENNETT
PITT
Ferry
Ferry
Pit River
BAYNA
STILLWATER
INGOT
BALAKLALA SMELTER
CORAM
Sacramento River
IRON MTN.
COPLEY
CHURNTOWN
NEWTOWN
QUARTZ HILL
BUCKEYE
KESWICK STATION
KESWICK
SHASTA
MIDDLE CREEK
REDDING
BELLA VISTA
PALO CEDRO
MILLVILLE
LEGEND
ROADS
RAILROADS
RIVERS
Taken from
DENNY'S MAP OF
SHASTA COUNTY
1015

be found. At the end of this report there are some conclusions and recommendations for further study. Hopefully, this compilation can provide needed guidance for future management and research within the ISRMA and can served educational purposes as well.



a. Coram. Circa 1905. Compliments of Shasta Historical Society.

b. Mammoth Mine aerial tramway. The smelter is in the distance (see smoke plume). Aerial tramway is heading down to Kennett. Circa 1915. Compliments of Shasta Historical Society.

HISTORICAL FINDINGS

AERIAL TRAMWAYS

Balaklala Mine Tramway

Balaklala Mine owners built a smelter at Coram (Figure 5a) in 1906 and ore was brought to it from the mine by way of a 16,500 ft. aerial tramway until 1911 when the tramway was closed down (Lydon and O'Brien 1974:33). The tramway was built with heavy cables, iron buckets, and apparatuses affixed to a series of elevated towers the length of its route. It ran two-thirds of the way straight up the mountain from the Coram terminal, made a left turn and continued on in another straight line to the end terminal at the mine where an angle station was located which changed the tram's course. The tram was gravity operated meaning loaded buckets traveling down the mountain pulled the empty buckets up the line to the mine (Roberts 1981:26).

Hornet Mine Tramway

See Iron Mountain Mine Tramway.

Iron Mountain Mine Tramway

This tramway was built to carry ore from the mine to the main railroad line at Matheson and replace the deteriorated, expensive-to-operate Iron Mountain Railway. Construction began in 1920 and operations were initiated in late 1921. The first section built contained approximately 2½ miles of rope-way from a point close to the Hornet Mine to a point on the Southern Pacific Railway a few miles north of Keswick. This system transported between 75 to 100 tons of ore per hour. Tram building was difficult and expensive and involved the erection of many high towers at very inaccessible locations. Associated with the tram were ore bunkers, main line railway sidings, warehouses, and dwellings (Kett 1947:129,130). In 1953, the tram was extended an additional mile from Keswick to Matheson making it 18,000 ft. long. The tram contained 92 buckets each capable of carrying 3/4 of a ton with movement of 50 tons of ore per hour (Lydon and O'Brien 1974:70). The tramway proved to be an economical asset (Kett 1947:130). It operated intermittently into the 1970s. Remnants of it and the transfer structure still exist at Matheson (Royston Hanamoto et al. 1991:7).

Mammoth Mine Tramway

The Mammoth Mine tramway was approximately two miles long (Figure 5b). Ore was transported approximately a mile from the mine to what was known as the headhouse located on the edge of a limestone ridge where it was loaded into

ore cars and carried down the mountainside to the Kennett smelter. The tram was gravity operated meaning that descending loaded ore cars pulled empty ascending ore cars on an endless cable (Lowden 1977:37).

Reid Mine Tramway
Remaining mine equipment in 1933 included, among other things an "...aerial cabletram and terminals with ore-bins at the mine and at the railroad" (Averill 1933:47).

ARRASTRAS

Arrastras were the earliest type of rock-crushing machinery. They were made of stone and pulverized ore between a stationery stone slab and a moving stone slab drawn in a circle by either man or beast (see Figure 6). The object of crushing ore was to separate the gold from the quartz. Arrastras were known to have existed at the Dreadnaught Mine, Hope Mine, Hummingbird Mine, and Minnesota Mine (see each), and arrastras were found by BLM along Rock Creek and near Shasta (internal files, BLM, Redding).

BRIDGES

Clear Creek Bridge at the Tower House
T32N R7W, Sec. 3. The bridge was not located within the ISRMA. It stood at the very edge, in fact, only a stone's throw downstream from the present Highway 299W bridge across Clear Creek. Because of the importance the bridge and the nearby Tower House played in the early history of the entire ISRMA, it is included in this report.

The bridge was first called the Free Bridge simply because tolls were not charged. Over the years, the bridge became known as the Tower House Bridge, the Clear Creek Bridge, Camden's Bridge, and the Covered Bridge.

In 1852, Levi Tower purchased the property on which the "free bridge" already existed. Tower set to work building the Tower House, which became one of the most popular hotels in northern California.

In the early part of 1854, Tower applied for and received a license from Shasta County to charge tolls across his bridge (Toogood 1978:26). In 1858, he built a new bridge (Toogood 1978:29).

In 1864, the bridge and the Tower House were owned by Charles Camden. Camden made the following improvements

Early gold mining scene depicting a horse-powered arrastra, a man gold panning, and a third working with a rocker (Clark 1979:xii).

on the bridge according to the following Shasta Courier article of 9-3-1864:

> The Bridge across Clear Creek, at the Tower House, has recently been much improved by being covered with substantial siding and a good shingle roof. It is the most substantial bridge structure in the county, and the proprietors, for excellent repair in which it is always kept, merit the commendation of the traveling public.

The bridge no longer exists. The only remains are stone pillars standing in the creek upon which the covered bridge once stood.

Whiskey Creek Bridge

From the Sacramento Union of 10-16-1857:

> A FREE BRIDGE is proposed across Whisky Creek, near the mouth, where the wagon road crosses it, in Shasta County. It will be 165 feet in length, and will be built above the freshet mark. The Shasta Republican states that Benjamin Mix, under whose direction the work will be done, subscribes $400, and as soon as the sum is made up to $1,200, the bridge will be commenced.

Charles Camden became owner of the bridge when he opened the Camden Toll Road. During March of 1867, a heavy rainstorm occurred and caused flooding according to the Shasta Courier of 3-2-1867:

> The heavy rains caused Whisky Creek to rise to such a height that the waters flowed over the top of the old bridge.

Later that year, Camden built a new bridge according to the Shasta Courier of 8-17-1867:

> The framework of the bridge is composed of the best oak timber, and the foundation is built up in such a manner as to insure its safety.

In the early 1960s, the state built a new bridge in anticipation of the forthcoming waters of Whiskeytown Lake (Toogood 1978:78).

CEMETERIES

Catholic Cemetery (French Gulch)
T33N R7W, Sec. 22. Terence Maher donated two acres for the establishment of the Catholic Cemetery in 1855.

I.O.O.F. Cemetery (French Gulch)
T33N R7W, Sec. 22. This cemetery is located on the west side of Main Street in downtown French Gulch and is used only by members of the Independent Order of Oddfellows (I.O.O.F.) and their families.

Porter and Morrell Family Plot
T33N R7W, Sec. 22. This is a private pioneer family cemetery located on the east side of Clear Creek beside Cline Gulch Road in French Gulch. The first burial was Charles Joseph who died December 22, 1861. The last burial was Joseph Howe Porter in 1945. The cemetery supposedly contains 12 bodies (Anonymous c. 1950s).

CHINESE

California's Gold Rush beckoned people from all around the world and many nationalities quickly came. One of the people who responded in great numbers were the Chinese. But the Chinese were usually not accepted or even tolerated by Euroamericans, or even by local Indians. The miners and settlers resented the Chinese for aspiring to become rich and then return to China. The Chinese were willing to work long hours for low pay which caused great consternation among the whites.

Their cultures were completely different; their diets and eating styles were different, their religion was very perplexing, they loved to gamble, and many openly smoked opium. Very few Chinese women came here, and the few who did were usually prostitutes. The Chinese always worked in groups and first worked the mines or claims deserted by white miners, or leased a mine or a claim. They were very efficient and did what was called "teaspoon mining" whereby they cleaned up what the less-patient whites had overlooked. Some became very wealthy as a result of this mining technique.

The Chinese eventually undertook placer, hydraulic, and hardrock mining as the methods evolved. Others became ditch builders, laborers, cooks, laundrymen, gardeners, and a very few became merchants. Many were employed in the 1870s on the Central Pacific Railroad to Redding and later in the 1880s when tracks were extended north through tne Sacramento River

Canyon.

By 1854, between 2000 to 3000 Chinese lived in Shasta County. As more and more arrived, resentment turned to open hostility. From the Shasta Courier of 12-16-1854:

> CHINESE VERSUS INDIANS. - An Indian attempted to carry off from a Chinese camp, on Flat Creek, one day this week, a bag of flour, when several Johns set upon him with guns, sticks, stones, &c., and after shooting him with the gun, and battering his head with the sticks and stones, succeeded in sending mister Indian to the Heavenly hunting grounds. As between Indians and Chinese, our sympathies are always with the natives. Would it not be possible to get these people into a Kilkenny Cat Fight?

Another flare up took place in 1860 when a white packer attempted to move a group of Chinese miners across the Sacramento River on Waugh's Ferry into the Newtown and Buckeye mining districts. When the white miners heard about it, they rounded up the packer and all the Chinese, took the Chinese back to the ferry and returned them to the side of the river from whence they had come - with their blessings, applied with barrel staves. A rope was tied to the packer and he was thrown into the river again and again until he professed repentance and promised never to repeat his so-called crime again (Hemsted 1961:51).

Very few legal transactions between Chinese people and Euroamericans were found to have taken place in Shasta County. One legal business venture/partnership existed between James Drew and three Chinese men regarding the Watson and Roaring Ditch in the Cottonwood Creek gold mining area. Another known legal transaction involved the sale of the Oak Bottom Hotel to "Qui Chin and 19 other Chinamen" by Aaron Van Wie for $5100 in 1868, and the sale of the same property by "Qui Chin & Others" four years later in 1872 for a paltry $300 to Dennis Desmond (Toogood 1978:46).

Chinese were still in the area as late as 1910 and worked at the Gladstone Mine (Figure 7a, 7b). The following excerpt gives us much insight into their lives at the Gladstone (Nielsen 1965:1-9):

> ...The boarding house was presided over by seven Chinese, with Box Sing as head cook. They served three meals a day and a midnight snack. On Thanksgiving, Christmas, and New Year's, they served a banquet. On dance nights, they set out a buffet. The kitchen and sleeping quarters for the Chinese

St. Rose's Catholic Church at French Gulch (Frisbie and Beauchamp 1973:8).

CONVEYOR BELT
(Redding to Shasta Dam)

When built in 1938, the conveyor belt from Redding to the Shasta Dam locality was the longest in the world (9.6 miles long). It was an endless belt similar to a department store escalator. It's purpose was to transport aggregate from dredge tailings in Redding to the concrete-mixing plant near Shasta Dam (Coram) where it was made into the cement used to build Shasta Dam. The belt traversed up and over hills, and crept down and across canyons at 6¼ mph. In many places it almost hugged the ground, while in places where the obstacles couldn't be removed, they were bridged. The belt crossed the Sacramento River twice, crossed four creeks, five county roads, the state highway, and the mainline of Southern Pacific railroad. The belt rolled along carrying hundreds of tons of aggregate night and day, month after month, for four long years until the required 10,000,000 tons of aggregate had been delivered. It started at an elevation of 490 ft. at Redding and crossed a pass at 1450 ft. above sea level near the dam site. It glowed at night with its scattered lights along the entire route. Sides of the belts were held up by two outside rollers set in the frame at an angle which formed a trough and kept the sand and gravel from falling off. The conveyor was made up of 40 sections or flights with varying lengths of belts depending on the contour of the hills. The first 22 sections were powered by 200 horsepower motors. The next four sections went downgrade as much as 25% to the Sacramento River and required no power but created, because of the weight of the load in motion, kinetic energy. The kinetic energy in turn generated electricity which helped pull the other sections up the steep hills. The last 14 sections, climbing from the river to the stock piles and the mix plant, required 200 horsepower motors to move each flight. Telephone stations were installed along the entire route of the belt for emergency use. There were also automatic electric controls which could be used to stop the entire belt if a section became out of order. Signs were posted all along the route and at each transfer point which stated:

KEEP OFF - BELT STARTS WITHOUT WARNING - DANGER

When loads reached the end of each flight, they were dumped through a steel chute into the next section, where they continued their chute-to-chute ride all the way to the concrete mix plant (California Department of Education 1942:66,71).

A maintenance or service road was built beside the conveyor belt which became known as the Beltline Road. Many small portions of it still exist at sporadic places. All are in poor condition.

Pertinent Data
(Downing c. 1970s:10,11)

Total length of belt	9.6 miles
Number of flights	26
Length of longest flight	3240 ft.
Length of shortest flight	850 ft.
Motor h.p.	200 h.p.
Belt operating speed	550 ft. per minute
Belt capacity	1100 tons per hour
Belt construction	6 ply rubber
Belt width	36 inches
Amt. of rubber in belt	1,000,000 lbs.
Amt. of cotton in belt	500,000 lbs. or 1000 bales

DAMS

Keswick Dam

T32N R5W, Sec. 21. Keswick Dam is located on the Sacramento River nine miles below Shasta Dam. It creates an afterbay reservoir for Shasta Lake and Spring Creek powerplants and serves as a regulating reservoir to even the flow of water through the Keswick powerplant. The dam has fish-trapping facilities for trapping salmon and other migratory fish. The trapped fish are hauled to the Coleman Fish Hatchery in Anderson for spawning by the U.S. Fish and Wildlife Service (U. S. Department of the Interior 1986:4). The dam construction contract was awarded on August 12, 1941 to the Guy F. Atkinson Co. and W. E. Kier Construction Co. (Downing c. 1970s:56). Construction was completed in 1950 (Kristofors 1973:108). Because Keswick Dam has historical significance, it appears eligible for inclusion on the National Register of Historic Places. Paperwork for that purpose was submitted to the Office of Historic Preservation in 1994 by the Bureau of Reclamation.

Pertinent Data
(U. S. Department of the Interior 1986:4)
(Bureau of Reclamation 1983:6)

Type of dam	Concrete gravity with embankment wings
Construction period	1941-1950
Foundation	Badly weathered quartz-biotite schist cut by calcite veins, quartz veins, clay seams, and mud seams. Large fault marked by a crush zone 10 to 12 ft. wide strikes up and

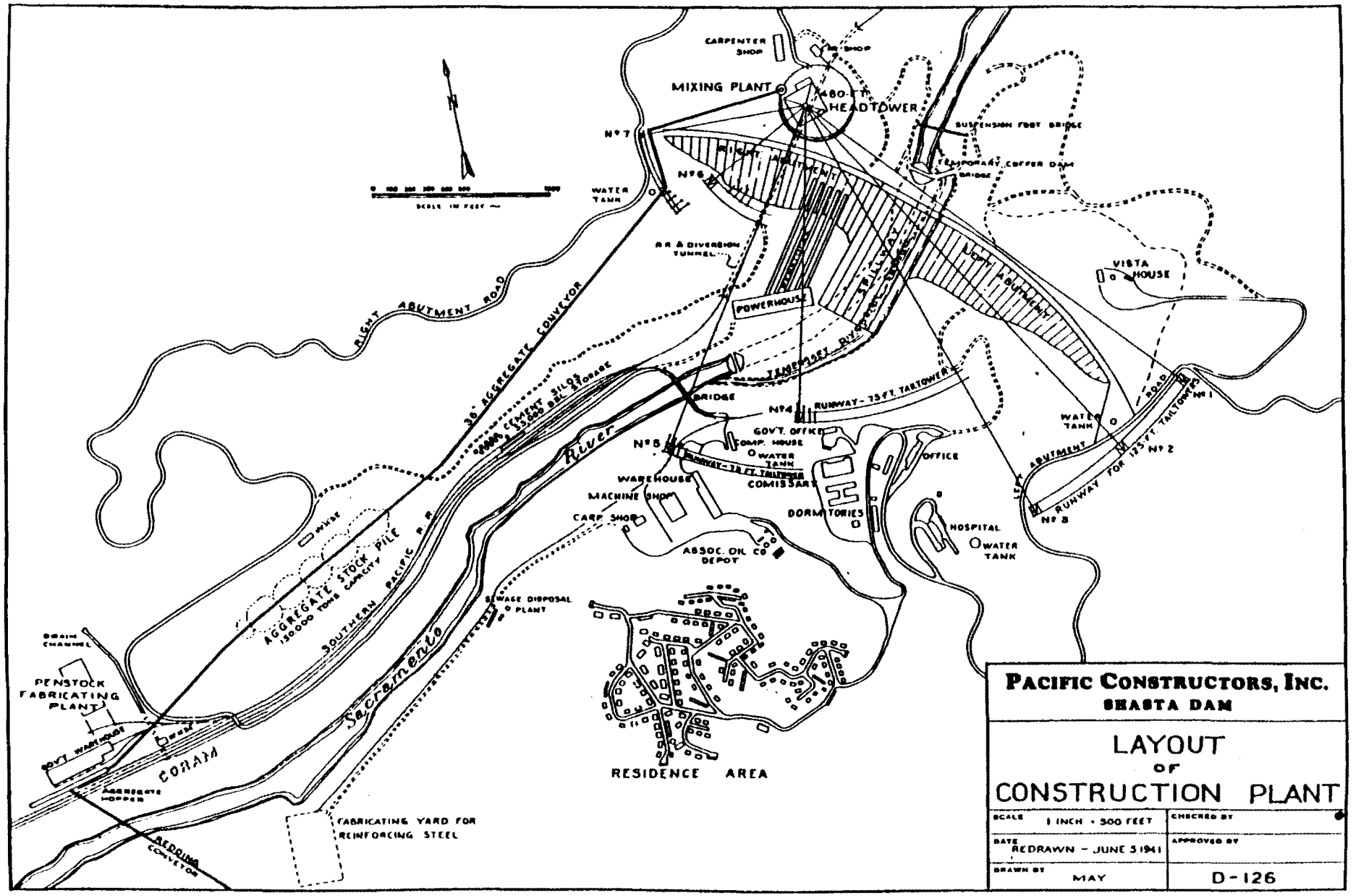
	downstream and crosses the damsite under the old stream channel.
Special treatment	Grout blanket over entire foundation area and a grout curtain along the upstream toe.
Height	157 ft.
Length at crest	1046 ft.
Thickness at base	260 ft.
Thickness at crest	20 ft.
Spillway	Overflow section at left side of dam controlled by four 50 ft.sq. slide gates.
Spillway capacity	250,000 cubic ft.
Volume of concrete	197,000 cubic yards
Power	Nine 23'x17' fixed-wheel gates.
Fish trap	Concrete conduit through dam controlled by one 5'x 5' slide gate.

Shasta Dam

T33N R5W, Sec. 15. Shasta Dam is located on the Sacramento River 12 miles north of Redding. The dam was built by, and is operated by the Bureau of Reclamation, for the specific purposes of river regulation, navigation, improved fisheries and wildlife, power generation, domestic water supply, irrigation, flood control, and improved water quality (Figure 9). Additional purposes are control of water quality, fish conservation, and recreation. It is one of the largest concrete gravity dams ever built in the United States (U. S. Department of the Interior 1986:1,2). It is the key structure of the Central Valley Project, and one of the nation's major water development projects. Shasta Dam and powerplant were deemed eligible for the National Register by the Office of Historic Preservation in Sacramento for both historical and engineering significance based on a 1990 submission by the Bureau of Reclamation.

Pertinent Data
(U. S. Department of the Interior 1986:1,2)
(Bureau of Reclamation 1983:6)

Construction started	1938
Construction completed	1944 (6 yrs., 9 mos.)
Height of dam	602 ft.
Height, streambed to spillway crest	487 ft.
Mass concrete	6,541,000 cubic yards.



PACIFIC CONSTRUCTORS, INC.
SHASTA DAM

LAYOUT OF CONSTRUCTION PLANT

SCALE 1 INCH = 500 FEET	CHECKED BY
DATE REDRAWN - JUNE 5 1941	APPROVED BY
DRAWN BY MAY	D-126

	Natural aggregate from pits near Redding. Oversize crushed. Low heat cement. Temperature control with river water and refrigerated water in extreme heat. Aggregate and mixing water cooled in summer and heated in winter.
Length of crest	3,460 ft.
Aggregate	11,975,000 tons
Cement	6,757,500 barrels
Piping and conduit (up to 48")	4,000 tons
Cooling pipe, installed	1,348 miles
Reinforcing steel	13,000 tons
Plate steel, 15′ penstocks	6,000 tons
Steel for outlet conduits, coaster gates, valves plus many other lesser items	9,000 tons
Thickness at base, including spillway apron	883 ft.
Thickness at crest	30 ft.
Width of crest roadway and sidewalks	39.5 ft.
Downstream face of dam	31 acres
Type	Concrete curved gravity, embankment wing
Spillway	Overflow section near center of dam controlled by three 110- by 28-ft drum gates.
Outlet works	18 102" diameter conduits through dam in three tiers (6" upper, 8" middle, 4" lower) controlled by 14 96" wheel-type gates (upper and middle) and four 102" tube valves. Five 183" diameter steel pipes through dam, controlled by five 15" x 19′ coaster gates deliver water to the powerplant.
Foundation	Hard, tough, durable green-tone, usually hard and sound beneath

	streambed. In abutments, decay of the geologically ancient formation penetrates deeply along many joints and occasional small crush zones.
Special treatment	Cement grout curtain with adjacent drainage holes placed beneath foundation drainage gallery. Crush zones cleaned out to sound rock and backfilled with concrete. Mud seams, joints and crevices pressure-grouted.

Spring Creek Debris and Pollution Control Dam

T32N R5W, Sec. 18. The Spring Creek Debris and Pollution Control Dam, built in 1963, is located on Spring Creek upstream from the Spring Creek powerplant tailrace channel. Construction cost was $4,000,000 (Kristofors 1973:113). Spring Creek is a 14½ mile tributary to the Sacramento River. Ore bodies in the surrounding watershed contain pyrite, copper, zinc, gold, silver, cadmium, and other elements. Huge tailing piles, unstable man-made cuts, and denuded hillsides from past mining operations caused the Spring Creek Basin to suffer from high erosion (Prokopovich 1965:988). In addition, certain portions of the creek are lifeless due to extreme acidity and large amounts of dissolved poisonous metals. The South Fork portion of the creek and the portion upstream from the mining area are not polluted (Prokopovich 1965:993,994). The function of the dam is to impound the polluted water for periodic releases and prevent debris from obstructing the powerhouse tailrace (Kristofors 1973:113).

Pertinent Data
(Bureau of Reclamation 1983:7)

Type	Earthfilled
Construction period	1961 to 1963
Total capacity to El. 795	5870 acre ft.
Total capacity to El. 679-795	5650 acre ft.
Surface area at El. 795	87 acres
Shoreline	2.5 miles
Structural height	196 ft.
Hydraulic height	169 ft.
Top width	30 ft.

Maximum base width	1040 ft.
Crest length	1110 ft.
Crest elevation	816.0 ft.
Outlet works	A 6 ft. diameter concrete lined tunnel with two 2.25 ft. sq. gates to a 6.5 ft. flat bottom concrete conduit.

Whiskeytown Dam

Construction work began in 1959 on Whiskeytown Dam. In May, 1962, the first waters and first boaters entered the lake, and President John F. Kennedy dedicated the dam Sept. 28, 1963. Whiskeytown Dam and lake were part of the Trinity River Project authorized by Public Law 386, 84th Congress on August 12, 1955, whose principal purpose was to increase the water supply for irrigation and other beneficial uses in the central valley of California (Toogood 1978:79).

DITCHES / CANALS

A constant water supply was imperative to early miners. In order to obtain it, ditches and canals were dug or built for water transport. Traces of ditches and canals can still be found in many places throughout the study area.

Clear Creek Canal

Of all the historic ditches or canals built in Shasta County, the Clear Creek Canal was by far the most important. Construction began on Christmas Day, 1853 (Shasta County Record Book E:655,656) and ended almost two years later on December 21, 1855 (Shasta County Record Book E:655,656). In 1857, it was officially incorporated as the "Shasta County Canal Company" (Shasta County Record Book E:655,656). This canal was located just south of the study area and probably exerted some influence on the events there.

Clear Creek Canal was built to provide a dependable year round water supply to miners. When it opened, it was thought to rank among the state's most costly and durable mining enterprises of its kind (Toogood 1978:82).

In 1855, the main trunk length was upwards of 40 miles, and included 10 additional miles of side ditches and an approximately four acre reservoir. It also included dams, ditches, aqueducts, flumes, and a 460-ft. tunnel through hard rock. Upon completion the canal immediately altered the physical surroundings and gold

production around Shasta, generally, to the south of the study area.

The first 18 miles of the canal were completed by June 1855 from the Tower House southwest along Clear Creek, past the mouth of Grizzly, Boulder, Whiskey, Brandy, Dry, and Salt creeks. Water ran through ditches three feet deep, four feet wide at the bottom, and six feet wide on the top. The water even provided sufficient power to hydraulically mine (Toogood 1978:20). An aqueduct was located at Bull Gulch according to the Shasta Courier of 10-20-1855. Only those who purchased water rights to the canal could use it (Toogood 1978:22).

The following article is from the Shasta Republican of October 20, 1855:

> The Clear Creek Canal. This important work which has been in course of construction since last Christmas, will, we are informed, be completed with all its branches, by the middle of November.
>
> A low dam has been built at the head of the Eastern bank of Clear Creek, a few hundred yards above the Tower House. The Western Fork, also, is dammed and its waters received into the ditch which then enters the flat below Camden's mill. Passing through the mill race which is made tributary, the water is conducted two hundred yards in a flume, along the almost perpendicular mass of rocks which form the bluff on the west side of Clear Creek. Following the west bank a mile and a half, it crosses the creek in an aqueduct forty-five feet above the stream and is then introduced upon a flat, a few acres in extent, through which an ancient channel of the creek passes, where some well-paying claims are now being worked.
>
> Passing on, the canal winds among the hills,--now running in a channel blasted through the rock, then piercing a ridge, until after a course of thirteen miles it reaches Whiskey Creek, which is crossed in a flume sixty feet above the water. The line is then thrown upon a rocked and rugged hillside; where, for nearly a mile, the excavation was mostly performed with powder and the drill. On arriving at the

> twenty-fourth mile, which is a little below Dog Gulch, a rocky ridge is met with, through which for many weeks a tunnel 460 feet in length has been in course of construction. Nearly the entire bore has been through gneiss rock, containing crystalline veins of quartz, so exceedingly hard, that when they were encountered, the most carefully tempered drills would break in a few moments.
>
> Since this tunnel was commenced, two sets of hands at each end have been employed upon it night and day; and frequently, an advance of eighteen inches or two feet in twenty-four hours was all that could be made. This hard job was, we understand, finished yesterday.
>
> A mile further on, the line enters Salt Creek, where it seems to get entangled amid a labyrinth of mis-shapen ridges and hallows, and for a distance of four miles is as crooked as the Stygian tributary of Hades. It finally arrives, however, at the South Branch, over which is raised the largest aqueduct on the Canal--500 feet in length, and eighty feet above the bed of the creek...The entire length of the main trunk to Olney Creek, is upwards of forty miles, to which has been added ten miles of side ditches, and a reservoir, capable of containing a sheet of water about four acres in extent. The whole undertaking, when complete, will rank among the most costly and durable of the kind, in our State. The canal will carry a volume of water equal to fourteen square feet. The descent is a little more than seven feet per mile, giving a current on the surface about four miles an hour. It may be a year before the ditch tightens sufficiently to hold its full volume of water, but when it becomes impervious by a coating of sediment, it will supply a clear stream to about one hundred and fifty sluices.

In February, 1867 the ditch nearly filled with sand and gravel that was washed in by heavy rains, but little repair work was undertaken to remove it because placer mining had drastically dwindled (Toogood 1978:25).

Cline Gulch Ditch

This was a one-mile long ditch constructed beside Cline Gulch to provide water power for the Gladstone Mine (Crawford 1894:249).

Slattery and Welch Ditch

Slattery and Welch conducted small scale hydraulic placer gold mining approximately five miles northeast of French Gulch at T33N R6W, Sec. 8 (Lydon and O'Brien 1974:131). Water was brought to their mining site from Clear Creek and Clines Gulch through a three-mile long ditch (Brown 1915:54,55).

Williams & Company Ditch

T32N R6W. Shown on "Historical Base Map 1, 1850-1880" on the north side of Clear Creek at the mouth of Whiskey Creek (Toogood 1978:88).

DREDGING COMPANIES

Consolidated Gold Dredging Company

T32N R5W, Secs. 20 & 28. The Consolidated Gold Dredging Company was a placer gold dredging company. The company processed 50,000 yds. of gravel monthly with a bucket-line dredge along the Sacramento River near Keswick in 1913 (Lydon and O'Brien 1974:128) and employed 12 men (Brown 1915:39).

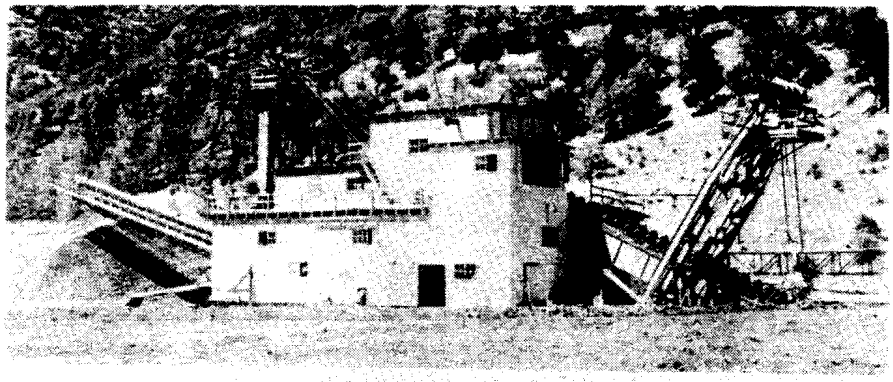
Enterprise Engineering Company

T33N R7W, Sec. 11. The Enterprise Engineering Company was a placer gold dredging operation that operated a dragline type dredge for a few months in 1946 in Clear Creek about 2½ miles north of French Gulch. The company was eventually sold and disbanded (Lydon and O'Brien 1974:129).

French Gulch Dredging Company

T33N R7W, Sec. 15. The French Gulch Dredging Company was a placer gold dredging operation and operated on Clear Creek approximately two miles north of French Gulch (Figure 10a, 10b). A bucketline dredge was erected on the site in 28 days by 12 men. Digging began in 1940 when approximately 4000 cubic yards of gravel were dug every 24 hours. The dredge closed down during World War II. Operations were completed in 1946. Dredge particulars:

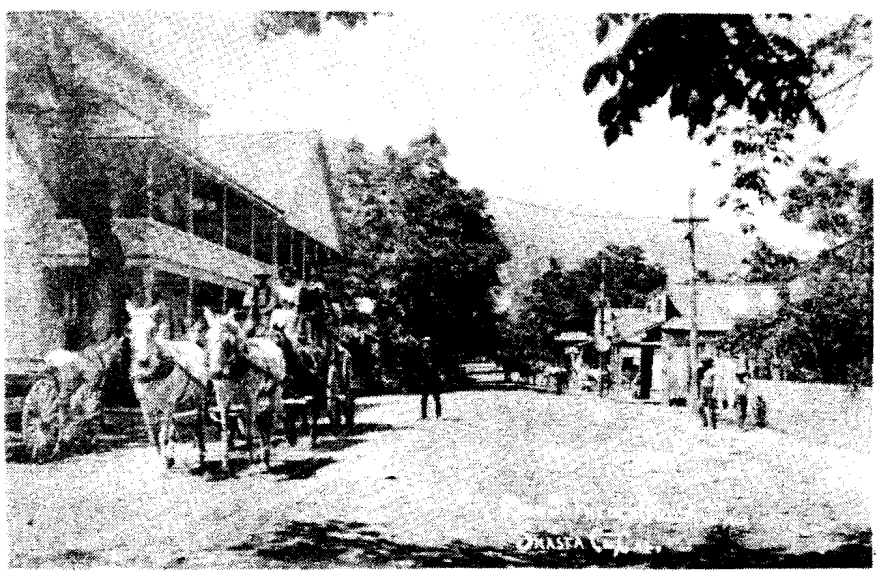
- hull contained 35 steel pontoons
- was 85 ft. long, 40 ft. wide, seven ft. deep
- contained an 85 ft. long digging ladder



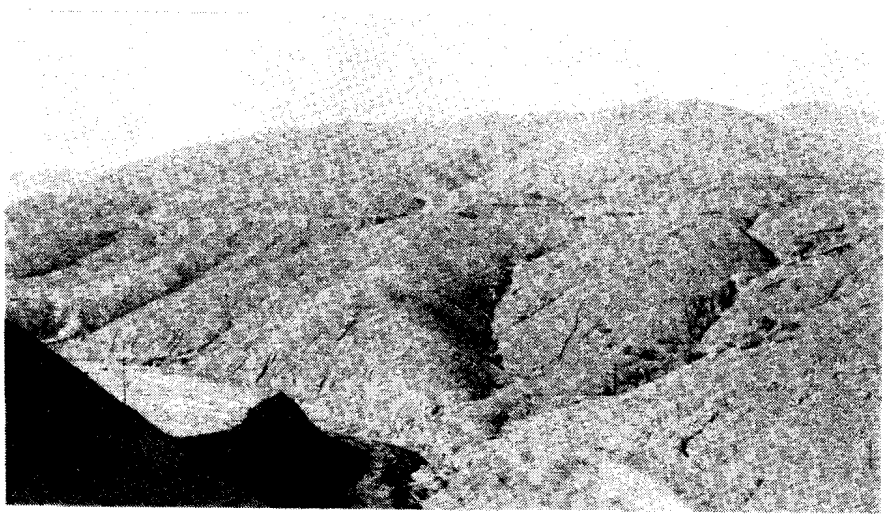
a. French Gulch Dredging Company dredger. Compliments of Shasta Historical Society.

FRENCH GULCH DREDGING

"Smooth-Running, Efficient, Well-Ordered"



b. Stagecoach going down Main Street in French Gulch, circa 1910. Compliments of Shasta Historical Society.



c. Keswick photo from 1923. Shows part of the smelter slag dumps, the bare hills, and heavy erosion from smelter and devastation of hills from smelter fumes. Photo taken 1923. Compliments of Shasta Historical Society.

- carried 75 buckets each with a capacity of 4.5 cubic ft.
- stacker belt was 85 ft. long
- trommel was 21 ft. long and five ft. in diameter
- trommel undersize discharged to four sluice boxes 30 inches wide and 40 ft. long
- screening section contained 3/8 inch and 1.5 inch holes
- wash water supplied by eight and 10 inch centrifugal pumps
- all equipment driven by electric motors (Lydon and O'Brien 1974:58).

G&H Mining Company

T33N R7W. The G&H Mining Company was a placer gold dredging operation which operated on Cline Gulch approximately one mile north of French Gulch in 1946 (Lydon and O'Brien 1974:129).

Lincoln Gold Dredging Company

T33N R7W, Sec. 34. The Lincoln Gold Dredging Company operated on Clear Creek two miles south of French Gulch. Equipment in 1942 included a small dragline dredge which operated again in 1947 and 1948. Approximately 2400 to 2800 yards of gravel were excavated every 24 hours with a Northwest dragline fitted with a 1.5 cubic yd. bucket and discharged to a trommel 64 inches in diameter and 40 ft. long with 20 ft. of screen. The dragline made 11 revolutions every minute and moved the gravel forward 54 inches per revolution (Lydon and O'Brien 1974:59).

Pioneer Dredging Company

T32N R5W, Secs. 2, 18, 19, 29, 30, 32, 33. This was a placer gold dredging operation that operated a dragline type dredge for one season at Buckeye in 1936 (Lydon and O'Brien 1974:130).

ELECTRIC POWER COMPANIES

The first known place to use electric power in the study area was possibly the Gladstone Mine (Figure 7a, 7b) in 1894 when the entire works were lighted by electricity. Electric bells were used in the lower workings and water power was derived from Cline's Gulch through a one-mile long ditch (Crawford 1894:249).

In 1900, the mine changed ownership and was purchased by I. O. Jillson who built an electric plant on Crystal Creek approximately 12 miles south of the Gladstone. This plant supplied electricity for the mine until the Northern

California Power Company brought in electricity for the entire operation (Nielsen 1965:2,3).

Today, there is no electricity on the property. All power is derived from portable generators (Ramona Larramendy, French Gulch, personal communication 1994).

The Keswick Electric Power Company was established in 1900 by H. H. Noble to provide electricity for Mountain Copper Company's smelter at Keswick. Power arrived in 1901 from the newly built Volta Powerhouse on Battle Creek in eastern Shasta County. In 1902, the company reorganized as the Northern California Power Company (Reynolds 1980:24).

EROSION CONTROL PROJECTS

Toxic fumes from the Keswick, Coram and Kennett smelters denuded the watersheds from below Keswick Dam to approximately six miles north of Shasta Dam (Figures 1, 5a, 5b, 10c). Normal winter rains averaging 60" falling on these denuded slopes during the years 1905 to 1919 resulted in extensive and severe erosion and produced a maze of gullies (Anonymous c. 1968). Huge tailing piles, unstable man-made cuts, in addition to the denuded land, caused an unusually high erosion of loose surface deposits within the Spring Creek Basin (Prokopovich 1965:988).

In an attempt to suppress erosion, restoration work commenced in 1922 with the planting of 25 small experimental plots in which various experimental grasses, clovers, brush species and hardwoods were planted. All that survived were the hardwoods. Another grass and tree planting experiment was conducted from 1932 until 1938. Successful plantings included ponderosa pines and willow cuttings. From 1949 until 1953, a cooperative work program between the United States Forest Service (USFS) and the United States Bureau of Reclamation (USBR) was undertaken. Work consisted of constructing small brush dams, planting conifer trees, willow cuttings, and miscellaneous brush and oak seeds (Anonymous c. 1968). There were 171,114 erosion checks constructed plus 2,663,600 pine seedlings and 587,879 broad-leaf seedlings and cuttings planted (Prokopovich 1965:991). This same program continued from 1953 until 1967 under the auspices of the USBR (Anonymous c. 1968). The plantings in the vicinity of the present-day Spring Creek Powerhouse were generally not successful because of the highly acidic soil conditions (Prokopovich 1965:991). However, within the broader region the watershed restoration efforts are clearly evident in the current vegetation cover, a part of the changing historic landscape.

FERRIES

Waugh's Ferry

There were two ferry locations. The first crossed the Sacramento River in 1853 near the mouth of Rock Creek at the Sacramento River Trail bridge crossing (Figure 1). Large iron pins still embedded in rocks on each side of the river mark the ferry landing site (Vaughan 1986:9). When the railroad was built through the area in 1882, the ferry was moved downstream a short distance to the mouth of Middle Creek (Hiatt 1974:18). This was shortlived because the ferry discontinued operations in 1883 (Vaughan 1986:9).

FIRE LOOKOUT TOWER

Fire Look Out Tower

T32N R6W, Sec. 3. This facility is located on top of South Fork Mountain. It was moved to the mountain top in 1987 from the White Sands Atomic Testing Grounds in New Mexico. According to William "Bill" Lloyd (personal communication 1991), the tower was one of the original observation towers of the first atomic test and was reportedly occupied by Albert Einstein to watch the first test. According to Mr. Lloyd, the tower was allowed to radiologically cool after the tests until being deemed safe for reuse. The tower was then given by the Atomic Energy Commission to the State of California Division of Forestry who dismantled it and transported and reconstructed it on top of South Fork Mountain. Supposedly a highly sensitive geiger counter can still detect some radioactivity in the tower metal.

California Department of Forestry & Fire Protection data somewhat disputes this story. According to Thornton (1991:5), the 21'x21'x29' high, nonbattered, open steel H-brace tower with a concrete pier foundation supporting a 196 sq. ft. cab was indeed used for atomic bomb testing, but was not occupied by Albert Einstein. Rather, it, and many others, were built only as an object by which atomic bombs were dropped from the towers onto the ground. Some materials for building such towers were stockpiled and later shipped elsewhere (Thornton 1991:124).

GARDENS / ORCHARDS

French Gulch Chinatown

T33N R7W, Sec. 22. Chinatown was located just south of

the present day town a short distance south of St. Rose's Catholic Church on the same side of the road (Donald Carlson, French Gulch, personal communication 1994). Large vegetable gardens, sown and maintained by the Chinese, were located near the Chinese settlement. The vegetables were brought to French Gulch and sold by a Chinese man named "John". One woman supposedly lived here. The entire area has been dredged; there are no remains.

Orchard of Benjamin Mix

T32N R6W, Sec. 9. In 1858, Benjamin Mix had an orchard and fruit garden in the region consisting of approximately nine acres incorporating 150 trees, 250 grapevines (some of which bore fruit for the first time in 1858), and a vegetable garden exhibiting "fine growth" (Anonymous 1858:226).

Tower House

Soon after acquiring a quarter section of land in 1852, it is quite probable that owner Levi Tower immediately began planting orchards and vegetable and fruit gardens. By 1858, a 30-acre garden was enclosed with a "good" fence and thoroughly cultivated. In addition:

> ...The orchard contains one thousand trees of apples, pears, peaches, plums, cherries, apricots, nectarines, etc., all choice varieties of worked fruit, the oldest of which were set in 1854. There are also 400 grape-vines, affording another evidence of the superior character of the soil and climate of our mountain regions for the early and abundant production of fruit. One of the apple-trees shown the Committee was from seed planted in the Spring of 1854. In the Spring of 1857 it blossomed - set and ripened fruit in the month of July - matured a second crop in the last of August, and set a third, which were as large as English walnuts, when the frost came and interrupted their growth. The first and second crop reached an average of twelve and one-half inches in circumference - were slightly tart, and of excellent flavor. The tree is now (June 14th, 1858), four years and three months old from seed, and is being under the load of its fourth crop of fruit. Another apple tree standing near this, only two years old from seed, is bearing a number

> of apples. There is also a nursery on the place of 1000 trees, assorted fruits, beside fine rows of gooseberry, currant, raspberry, and strawberry bushes, all bearing profusely...Water from springs in the adjacent hills is brought in leaden pipe, and continually plays from several sparkling fountains in the yard, and also a hydrant, to which a hose 50 ft. long being attached, it throws the water through a three-fourth inch nozzle 100 ft. high...(Anonymous 1858:226,227).

The Tower House became the show place of the county. Some of the fruit trees for the orchard were brought around the Horn. In the early days, the orchard was the main orchard north of Marysville (Southern 1942:50).

HOSPITALS

Coram Hospital

A medical facility was operated by Dr. Varian for Balaklala Mine. It was also used by anyone needing medical care (Kenyon 1971:50,51).

Gladstone Mine First Aid Dispensary

The first aid dispensary was located in a small building to the east of the main house (Lintz 1985:30).

Iron Mountain Mine Hospital

This hospital was considered well-equipped and included a resident physician and a trained nurse on the staff who provided adequate medical attention and prompt service in case of accidents (Kett 1947:111). Physician's did not stay long--the first arrived in 1895 and left less than two years later. This continued until 1919 when a good hospital was available in Redding which, coupled with fast and easy transportation, made the maintenance of the hospital unnecessary (Kett 1947:152). Dr. J. E. Taylor was the last resident physician. He left in 1919 and started a private practice in Redding (Ward 1954:13).

The hospital was destroyed by fire (along with many other buildings) in 1897. It was possibly rebuilt (Renfree c. 1960s:2).

HOTELS / WAYSIDE INNS / STOPPING PLACES

The earliest hotels served as convenient social centers for travelers and local citizens who wanted refreshment, company, entertainment, news of family affairs, and the latest information on gold strikes (Toogood 1978:31).

Brown's House

Brown's House (hotel) existed at the mouth of Grizzly Gulch in 1855 according to an article in the Shasta Courier of 8-11-1855. It is also shown on Denny's 1904 Map of Shasta County and as "Madame Brown's" on the GLO 1868 plat at BLM, Redding.

Empire Hotel

This facility was built in the mid-1850s. It was an elegant and commodious wooden structure. In 1856, travelers from Shasta via the Trinity and Scott Mountain to Yreka and Jacksonville, Oregon, changed from stages to mule passenger trains at the Empire Hotel. The hotel was demolished in 1931 (Southern 1942:45).

Four Mile House

This is shown on "Historical Base Map 1 - 1850-1880" on the east side of Whiskey Creek (Toogood 1978:88). This business was opened in 1853 by owner Nicholas Maher and consisted of a two-story hotel and bar with nearby corrals (Shasta Courier 7-23-1853).

French Gulch Hotel

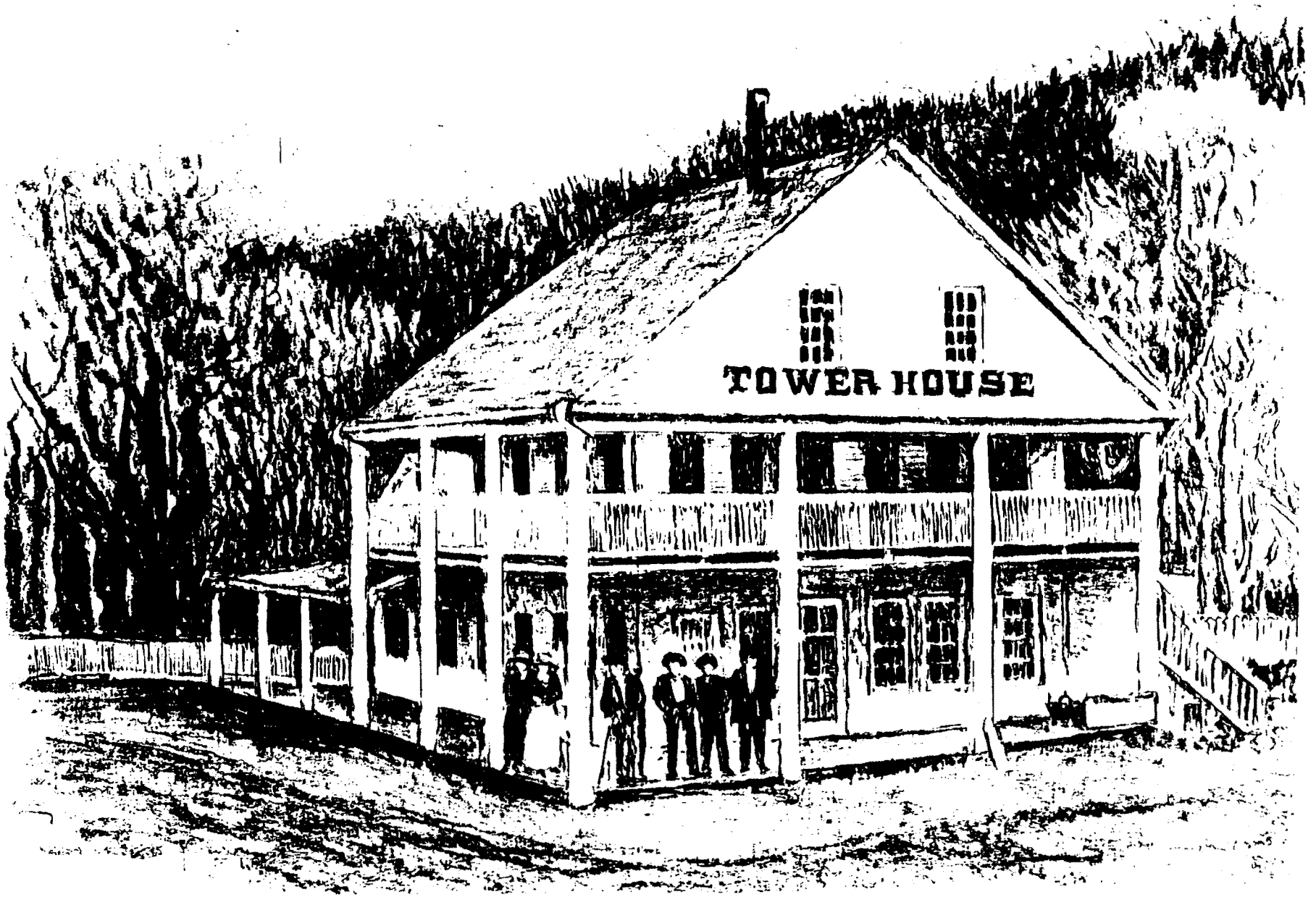
T33N R7W, Sec. 22. See "Settlements/Towns/Mining Camps" entry.

Tower House

T32N R7W, Sec. 3. The Tower House was not located within the study area; it stood at the very southwest edge. Because of the importance it played in the early history of much of the study area, it is included in this report.

In 1852, Levi Tower purchased the property which already included a trading post and a bridge across Clear Creek. Tower immediately set to work with hired carpenters and enlarged the trading post into a wooden, 40'x60', 21-room, 3-story hotel (Smith 1994:257,258) (Figure 11).

The Tower House soon began serving as a community center, election precinct, mining district, communication hub, and quasi-courthouse (Toogood 1978:36). In 1858, the hotel became the stage depot for the California-Oregon Stage Company and leased stables to provide fresh horses for the trip to either Weaverville or Yreka (Toogood 1978:31).



The Tower House (Frisbie and Beauchamp 1973:85)

The hotel included a dance hall where formal balls for ladies and gentlemen were held. The following advertisement appeared in the Shasta Courier on 5-13-1854 to announce the upcoming Fourth of July ball:

> I WOULD ANNOUNCE TO THE PUBLIC that every preparation is being made to celebrate the approaching anniversary of our nation's birth day, at the "TOWER HOUSE," in a style worthy of the glorious occasion. Indeed no exertions or expense shall be spared in order to secure a large, as well as a happy gathering. As an earnest of this I will here state that I will run several free coaches down the valley as far as Tehama, for the accommodation of all ladies, and for those gentlemen who may bring ladies with them. Recollect, then, the 4th of July celebration at the "Tower House."

A little more than a year later, we find the following in the Shasta Courier of 8-25-1855:

> Rusticating a few days for my health, at one of the most delightful places in this State, and the only spot in this section of the country for recreation; surrounded by majestic mountains, luxuriant verdure, flowers and rich fruit, with cool bracing air, invigorating the system after the depressing effects of the great heat of the valley.

From the Shasta Courier of 2-23-1856:

> ALMOST A LYNCHING. On Friday last a man who had been suspected of stealing for some time past from the miners near the Tower House was caught and taken to the Tower House where a jury of miners was empaneled, and the guilty fairly established upon him by the miners jury's verdict...[He was] whipped by rope and let go.

And another glowing account of the Tower House from the Shasta Republican of 8-16-1856:

> We know of no place more inviting for the lovers of pleasure than the Tower House, twelve miles north of Shasta. We understand that a very agreeable party of

> ladies and gentlemen from our town have been luxuriating upon the choice of fruits and melons now to be had at this love of a place. Four or five days spent with agreeable ladies amid the fine scenery, somewhat noted for sentimentalities once told, beneath the shaded bowers, the walks through the fine gardens and along the rippling streams abounding with mountain trout and bright shining gold as it is taken from the rifflebox by the hardy miner, the promenades amid the splashing of fountains, by moonlight, all conspire to elevate the spirits and to convince us that "it is not good for man to be alone." At no place will this be more fully realized than by a visit to this oasis among the mountains.

The Tower House was so appealing it attracted the attention of the Union Democratic Senatorial Convention who met there during the summer of 1861 (Toogood 1973:46). It continued to enjoy a local and regional reputation as a pleasant summer resort throughout the 1870s (Toogood 1978:36). The hotel continued to provide overnight accommodations until it was destroyed by fire in 1919 (Toogood 1973:47) and it was never rebuilt.

Whiskeytown Hotel

This hotel opened for business as Mix's Franklin House on 7-30-1853 according to the Shasta Courier of the same day. The following advertisement appeared in the Shasta Republican of 11-27-1855 announcing the planned festivities:

> Benjamin Mix would inform the public and lovers of Dancing, that he will give a GRAND OPENING BALL at his new hotel at Whisky Creek,...on which occasion he would be most happy to see his friends and acquaintances.

The following article from the Shasta Republican of 12-8-1855 explained in detail the outcome of Mr. Mix's grand opening celebration:

> Notwithstanding inclemency of the weather of Wednesday afternoon, the attendance at Mr. Mix's hotel was very large, and everything passed off in the most agreeable manner. The music was excellent, the repast sumptuous, and every

> body was in perfect good humor and enjoyed themselves to as full as extent as could be desired. About forty ladies graced the festive scene with their presence.

In 1858, the hotel was destroyed by fire according to the Shasta Courier of 9-4-1858. It was soon rebuilt and subsequently passed through a succession of owners:

- Sold to I. McIntosh and G. M. Benjamin 7-23-1859 (Shasta Courier 1-7-1860)
- Leased to Lew Burk in 1860 (Shasta Herald 4-28-1860)
- Sold to George P. McGuire 1-3-1861 (Shasta County Deed Book G:703)
- Sold to Pauline Brown 12-8-1863 (Shasta County Deed Book 1:155)
- Sold to O. H. P Woodward 8-9-1873 (Shasta County Deed Book 5:38-
- Condemned in 19 1 (Redding Record-Searchlight 7-1-1952)

The hotel was demolished just prior to the filling of Whiskeytown Lake. The site of the hotel now lies beneath the waters of the lake.

Whitney's Hotel

This place was established in approximately 1852 eight miles north of French Gulch beside the Trinity Trail (mule packers trail) to Yreka at the foot of the Trinity and Siskiyou mountains (Shasta Courier, 4-24-1852). It was the last stopping place for man and mule before starting the long climb to Trinity Center and Yreka and was first known as the Mountain House Hotel, and lastly as Whitney's Hotel. Stage service began operating from the hotel in 1858 (Frisbie and Beauchamp 1973:82). Some foundations still exist. A private school currently occupies the site.

HYDRAULIC MINES

When the surface placers began declining in their yields, miners began using high-pressure water hoses to break down the soil to get to the old streambeds and deep gravels. This new method became known as hydraulic mining or hydraulicking and was very destructive because whole hillsides could be broken down and washed away in a short time (Martin et al. 1981:72).

Hydraulic mining took place on Clear Creek at Horsetown as early as 1856 (Giles 1949:62). In 1884, hydraulic mining was outlawed by the passing of the Sawyer Decision brought about mainly by Sacramento and San Joaquin val.ey farmers whose

crops had been ruined from the slickens (mining debris) clogging the waterways. But the economic losses were too great to both farmers and miners, causing hydraulic mining regulations to change, and mining to resume (Toogood 1978:71).

Slattery and Welch

These individuals conducted hydraulic placer gold mining approximately five miles northeast of French Gulch. It was a small producer (Lydon and O'Brien 1974:131). Water was obtained from Clear Creek and Clines Gulch through a three-mile long ditch (Brown 1915:54,55).

MINES / MINING CLAIMS

Placer mining was the most popular mining method prior to about 1880. Between Shasta and the Tower House flowed Clear Creek and its tributaries: Mill, Slate, Boulder, Grizzly, New York, Brandy, Whisky, Dry and Salt creeks. These creeks were worked over from 1848 to the mid-1860's many times by impatient, reckless miners or by thorough, persevering mining companies, to the physical detriment of the surrounding countryside (Toogood 1978:16,17).

Rockers and pans were first used by the miners to collect gold. In 1852-53, miners began improving their techniques and began constructing flumes, ditches, and sluices for use as gold recovery. But these construction projects were costly and too expensive for one man to build causing the miners to organize into mining companies or partnerships (Toogood 1978:18). The May 19, 1852 issue of the Alta California reported the following ambitious project of one-such mining company on Clear Creek:

> WATER COMPANIES. Among the different projects for supplying the mines with water, there are none that yield more satisfactory results than the Shasta County Mining and Water Company, which has been organized, under the act, for the purpose of turning off Clear Creek, upon one of the richest sections of country in the northern mines. The company owns the saw mill and is (sic) now rapidly sawing out the lumber, for their flumes. They have nine miles to carry the water. The work is seven feet wide and four feet high and will be able to carry twenty-eight solid feet of water eights months in the year.

In June of 1852, a seven to eight pound lump of gold interspersed with quartz was found in Whiskey Creek. The 1852 California Census recorded a population of 4,050 in Shasta County. Nearly half were miners living in mining camps at French Gulch, Mad Ox Cañon, One Horse Town, Clear Creek, Mad

Mule Cañon, Whiskey Creek, One Mule Town, Grizzly Gulch, and Middle Town (Toogood 1978:17).

In April of 1853, the Shasta Courier newspaper reported that mines were very numerous and that there wasn't a river, creek, gulch, or ravine that didn't contain gold. In August, the same newspaper reported that numerous companies were busily building flumes on Clear Creek and in October reported that yields of less than two ounces per person per day were seldom heard of. During the spring of 1853, extensive and rich diggings were reported around French Gulch. During the summer of 1854, glowing reports were told of the findings in Whiskey Creek. By 1855, at least eleven mining companies were operating along the creeks between Whiskeytown and the Tower House. In November, the Clear Creek Ditch Company completed building a 43-mile ditch from the Tower House to the mines around Middletown, Muletown, Horsetown, Texas Springs, and Jackass Flat (all located to the southeast of the study area) (Toogood 1978:18).

Shasta County led California in the total value of mineral production (exclusive of petroleum) between 1896 and 1919 (California Department of Water Resources 1964:20). Many of the important mines are listed below:

Ajax Mine

Gold and tungsten mine. This mine was located approximately five miles north of Whiskeytown. It was worked intermittently in the 1950s and 1960s when the ruins of a five-stamp mill existed on the property (Lydon and O'Brien 1974:42).

American Mine

Gold mine. The American Mine was formerly known as the French Gulch Mine (Brown 1915:34), and it was located approximately four miles northeast of French Gulch in Cline Gulch. This claim was located in approximately 1886 (Lydon and O'Brien 1974:42). In 1894, the mine comprised three 40-acre lots on which there were four tunnels from which ore was crushed in a five-stamp mill. J. Conant was the owner (Crawford 1894:245). Mine equipment in 1915 included a 1/4 mile single track tram which operated from the mine to the mill, plus cars, a shop, and dwellings. An old steam driven 10-stamp mill was idle. Two men were employed. The mine supposedly produced $300,000 up to 1915 (Brown 1915:34). In 1932, a five-stamp battery of 1000 lb. stamps was installed near the adit of portal No. 5. Treatment consisted of amalgamation followed by table concentration (Averill 1933:6). The last production occurred in 1934 when a flotation and gravity concentrator recovery mill capable of handling 60 tons of ore per day was constructed and

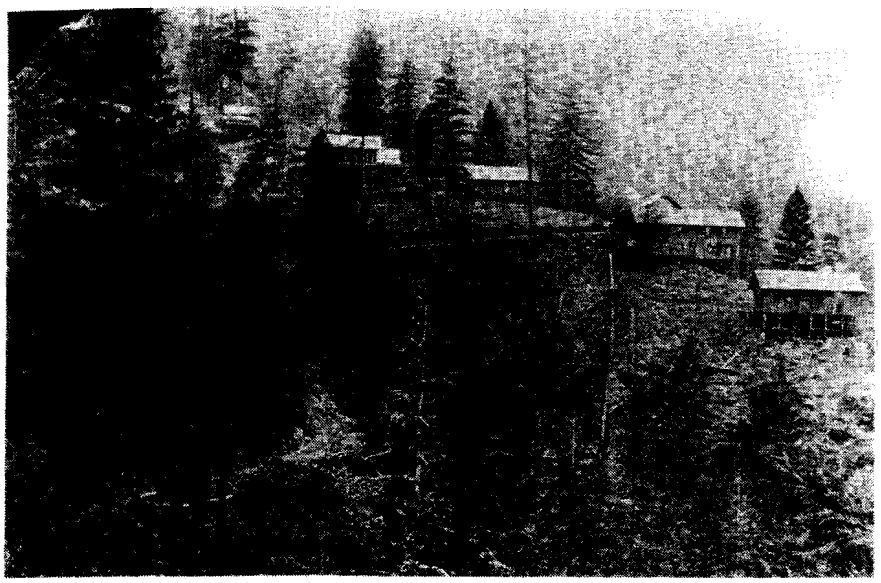
operated. The mill operated for only a few months and was then moved to Trinity County (Lydon and O'Brien 1974:42).

Annie Mine
See Nellie and Annie Mine.

Aurora Mine
Gold mine. This was a claim of the Desmond Mine (Toogood 1978:56).

Baker Mine
Gold mine. This mine reportedly yielded $5000 prior to 1933 and contained two adits 120 ft. and 135 ft. long (Lydon and O'Brien 1974:111). Some of the ore was worked with a hand mortar equipped with a screen, a small amalgamating plate, and a spring pole for the pestle which ground the ore (Averill 1933:7).

Balaklala Mine
Gold, silver, copper, and zinc mine. The main mine shaft is located near the south fork of Squaw Creek and the smelter was located at Coram (Figure 5a). A 16,200 foot (three mile long) aerial tramway transported ore from the mines to the smelter (Kristofors 1973:18). A wagon road also connected the mines with the smelter (Kristofors 1973:17). It was estimated that the Balaklala claims included the largest body of sulfide ore on the Pacific Coast (Dittmar 1906). In 1900, the mine was developed by the Balaklala Mining Company of San Francisco (Kristofors 1973:25). Mine ownership consisted of the Balaklala Mining Company in 1900-1902, Western Exploration Company in 1902-1905, the White Knob Copper Company in 1906, and the Balaklala Consolidated Copper Company from 1906 to 1919 (Kristofors 1973:18). From 1902 to 1905, a bond was secured on the property by the Western Exploration Company and extensive development work was undertaken (Kristofors 1973:25). In 1905, assets were acquired by the First National Copper Company who transferred the assets to the White Knob Copper Company, Ltd. who established the Balaklala Consolidated Copper Company (Kristofors 1973:25,26). The company operated a store and post office at the mine as well as cottages for the married men with families (Kenyon 1971:50,51) including two and three-story wooden dormitories (Figure 12a). A stage pulled by four horses operated between Coram and the mine carrying mail, express, and passengers (Kenyon 1971:50,51). In 1906, the smelter was completed near Coram and was hailed as the largest and most modern smelter on the Pacific Coast (Kristofors 1973:25,26). The smokestack was 18 ft. in diameter and 250 ft. high (Kristofors 1973:46). The smelter was the first



a. Balaklala Mine Buildings. Circa 1910. Compliments of Shasta Historical Society,

b. Railroad spur to the Mammoth Mine Smelter. Date unknown. Compliments of Shasta Historical Society.

Shasta County plant to be totally powered by electricity and was commonly known as the "million dollar smelter" because of its modern machinery and impressive size even though it cost close to two million dollars to build (Kristofors 1973:56). The years 1906 to 1919 were the major intervals of mining operations (Kristofors 1973:18). In 1906, 1,500 acres of patented mining claims were developed on the south side of Squaw Creek (Kristofors 1973:32). In 1908, the daily capacity of the smelter was 1,000 tons while total 1908 production was 3,061 tons (Brown 1915:18). In 1910, a Cottrell fume control device was installed on the smelter because of protests from farmers (Kristofors 1973:25,26). On July 1, 1911, the Shasta County Farmers' Protective Association succeeded in closing the smelter by legal action. But the mine operated until the end of World War I with intermittent operations after World War I (Kristofors 1973:26). Within two months the smelter was partially dismantled and the town was nearly deserted (Kristofors 1973:74). In 1915, the company owned 1,149 patented acres in the Flat Creek Mining District in sections 10, 11, 12, 13, 14, 17, 20 and 21 of T33N R6W. Development work consisted of several thousand feet of drifts, three crosscuts, eight levels, eight raises from 40 ft. to 400 ft. in height, plus tunnels and open cuts. Equipment consisted of the tramway and three miles of telephone lines. The smelter at Coram (Figure 5a) consisted of four 18 ft. McDougal roasting furnaces, three 55"x240" water jacketed blast furnaces, smelting furnaces, one 17'x92' reverberatory furnace, a water plant, sampling mills, three boilers which used fuel oil, generators, an office, etc. There were 65 men employed; 15 worked in the mine and 50 worked on the surface (Brown 1915:18). In 1924, the mine plant, tram terminal, and the ore bunkers were destroyed by fires. In 1931, the last remains of the plant were sold for scrap metal (Lydon and O'Brien 1974:33). Total silver production was estimated at 1,200,000 oz. (Lydon and O'Brien 1974:135) and total zinc production was estimated at 31,200,000 lbs. (Lydon and O'Brien 1974:136). By 1933, the mine had not been operated for a number of years and lack of maintenance had caused the roads to wash out to such an extent that the last five miles had to be traveled by trail (Averill 1933:8). The 1970 remains were inventoried by Charles Crackel of the United States Forest Service (USFS) at this time and the site was archaeologically recorded.

Banghart Mine

See Mad Mule Mine.

Bear's Nest
See Lost Confidence Mine.

Bell Mine
Gold mine. The Bell Mine was discovered several years before 1883 when a three-foot vein was located which paid from $15 to $100 per ton (Toogood 1978:50). The mine is now under the waters of Whiskeytown Lake (Toogood 1978:92).

Benson Mine
Gold mine. This mine was located in 1922 and began producing in 1929. It continued to be active in the 1930s. The mine includes a short adit, a drift, and a winze (Lydon and O'Brien 1974:111). Mining equipment in 1933 included a two cylinder, single-stage Rix compressor, a 15 h.p. gasoline hoist (set up at the top of a hill 350 ft. above the mine) capable of pulling the mine cars up to the truck road. Mill equipment consisted of a two-stamp, 350 lb. stamp mill and a five-stamp 1,200 lb. stamp mill, both powered by gasoline. Ore was treated by amalgamation (Averill 1933:10,11).

Betty Jean Mine
Gold mine. This mine is located 3½ miles north of Whiskeytown and has been a small scale operation since 1958 (Lydon and O'Brien 1974:128).

Betty May Mine
Gold mine. This mine was active during the late 1920s and 1930s and includes an inclined 135 ft. deep shaft and a 100 ft. long drift at the 100 ft. level (Lydon and O'Brien 1974:111).

Bjork Group
Gold mines. Includes the Golden Blanket Mine. Consists of an 80 ft. shaft and 200 ft. of drifts (Lydon and O'Brien 1974:111).

Blackbird Mine
Copper and silver sulfide mine. This operation centered on copper and silver sulfide mining in 1902 (California Division of Mines and Geology 1902).

Blue Bird Mine
Gold mine. The Blue Bird Mine was a claim of the Desmond Mine (Toogood 1978:56) and contains a 30 ft. shaft (Lydon and O'Brien 1974:112).

Blue Danube Mine
Gold mine. This property included three patented claims on 45 acres in 1933 (Averill 1933:11).

Bohemotosh Mine
Copper mine (Lydon and O'Brien 1974:105).

Bonanza Mine
Gold mine. This mine was a gold quartz mining operation consisting of three claims. It produced small but rich gold deposits prior to 1914 (Toogood 1978:57).

Brick Flat Mine
Pyrite mine. This mine was one of many holdings of Iron Mountain Mine. Mining began in 1956 and ceased in 1962. The mine closed in 1963 (Lydon and O'Brien 1974:70,73). See Iron Mountain Mine.

Bright Star Mine
See Evening Star Mine.

California Mine
See Walker Mine.

Camden Claim
See Lost Confidence Mine.

Carnegie Group
See Clipper Mine.

Central Mine
Gold mine. This mine was early-on owned by Whitehouse & Bliss of England who sent ore to the Kennett smelter for processing. A. A. Anthony was the mine superintendent for many years (Goll 1954:27). Between 1885 and 1895, Huntington mills crushed the ore. The millsite was located beside the Sacramento River, some distance from the mine (Logan 1926:170). In later years, ore was shipped to the Keswick smelter by way of an approximately five-mile long narrow gauge railroad that ran from Quartz Hill to the Central Spur between Keswick Station and Motion (Colby 1982:77). Total output during those years is estimated at approximately $500,000. A tramway delivered ore from the mine to the railroad (Logan 1926:171). The mine produced $45,000 in 1912. It has been idle since the smelters shut down in 1919 (Lydon and O'Brien 1974:43).

Clara Mine
Gold mine. This mine was a small producer. It contains a 700 ft. adit (Lydon and O'Brien 1974:113).

Clipper Mine
Gold mine. The Snyder Mine was included in the holdings of the Clipper Mine. Both mines were known as the Carnegie Group in 1915 (Brown 1915:37). Ore was crushed in a 10-stamp mill during the 1890s and 1900s (Lydon and O'Brien 1974:113) and conveyed 1,500 ft. to the mill on a Hallidie tramway. During this time the mine was owned by W. V. Huntington et al. of Kennett (Crawford 1894:246).

Colma Group
Copper mine (Lydon and O'Brien 1974:105).

Complex Mine
See Iron Mountain Mine.

Compton Mine
Gold mine.

Copley Mine
Gold mine. The 1915 workings included a 310 ft. tunnel, 60 ft. drift and 60 ft. stope (Brown 1915:39).

Crystal Group
Copper mine. This operation consisted of 23 claims in the Flat Creek Mining District in 1915 (Brown 1915:20).

Desmond Mine
Gold mine. The Desmond was also known as the Red Cross Group. The Desmond Mine opened in 1896 at the head of Novell's Gulch and Red Gulch. It was owned by the Desmond brothers, members of a family who had lived in the area for 20 years and who owned the Oak Bottom Hotel. The brothers installed a small water-powered stamp mill with 450-lb. stamps in 1898. The Red Cross, Aurora, and Blue Bird mines were claims of the Desmond and had tunnels varying in lengths of 50 to 100 ft. Work had slowed considerably by 1905, but in 1913 owner Jerry Desmond uncovered a 3-ft. vein (Toogood 1978:56) that reportedly yielded 150 tons of $20 ore in the mid-1930s (Lydon and O'Brien 1974:114). In 1939, the State Mineralogist declared the mine idle and workings below the adit-level full of water (Toogood 1978:56).

Diamond King Mine
See Copley Mine.

Dreadnaught Mine
Gold mine. Ore from this mine was crushed in a 10 foot arrastra in 1893 and 1894 using water from the south fork of Spring Creek. The arrastra crushed one ton of ore per day. Mine operations were limited to only four months of the year when water flowed in the creek (Toogood

1978:51). Another Dreadnaught Mine (copper and silver) was located in another section in 1902 (California Division of Mines and Geology 1902).

Early Bird Mine
Silver mine. This mine has yielded approximately 72,098 oz. of silver (Lydon and O'Brien 1974:135).

East View Mine
Gold mine. The East View Mine was also known as the Winnie Mine. The 1933 workings included a 500 ft. adit (Averill 1933:21).

Eiller Mine
Gold mine. The Eiller Mine was also known as the Gold Hill Mine. It was active from 1880 to 1889, in 1928 and 1929, and during the 1930s. The earliest workings include a 400 ft. long adit and a 1,900 ft. long adit (Lydon and O'Brien 1974:115). From 1880 to 1889, the mine was equipped with a mill and two 1,000 lb. stamps plus a canvas plant. In 1928-1929, the Gold Hill Mining Co. cleaned out and retimbered 700 ft. of the lower 1,900 ft. (approximate) tunnel. Equipment in 1933 included a cookhouse, a bunkhouse large enough to accommodate 10 men, and a blacksmith shop (Averill 1933:22).

Ellis Mine
Gold mine.

Emigrant Mine
See Truscott Mine.

Evening Star Mine
Gold mine. The 1915 workings included a 1,100 ft. tunnel and 1,000 ft. of drifts. Three men were employed (Brown 1915:42). Holdings included the Bright Star and Iron Mask mines.

Evening Star Mine
Gold mine. This mine was active in the early 1900s and has now been long idle (Lydon and O'Brien 1974:115).

Fremont Mine
This mine contained free gold and sulfides in 1902 (California Division of Mines and Geology 1902).

Friday-Louden Mine
Copper mine. Workings consisted of approximately 1,000 ft. of tunnels in 1915 (Brown 1915:21).

Gambrinus Mine

T32N R6W, Sec. 16. Gold mine.
This mine was discovered in 1870. It was first known as the Shasta Mine. In 1883, miners were steadily removing rich ore and driving a tunnel to tap a five-foot ledge of good milling ore discovered in the north drift (Toogood 1978:50). The mine showed promising returns between 1896 and 1914 (Toogood 1978:53), and it was active intermittently for the next 50 years. It was located on the east bank of Whiskey Creek opposite the Whiskeytown townsite (Lydon and O'Brien 1974:116). The mine contained free-milling ore and produced $127,000 worth of gold between 1870 and 1912. In 1912, a 10-stamp mill replaced a small prospecting mill. In 1913, a 20-inch vein of rich ore was opened. The mine had four parallel veins with a payshoot of free milling ore 220 feet long and 18 inches wide. Workings at that time consisted of several tunnels. The main tunnel was 410 ft. long with a crosscut 110 ft. long. The 1913 mine equipment included cars, tools, shop, dwellings, and the 10-stamp mill (Toogood 1978:55,56).

Ganim Mine

T32N R6W, Sec. 8. Silver, gold, & talc mine.
This mine was first a silver and gold mine; later a talc mine. It is located in New York Gulch and was established by Joe Ganim in 1913 as a gold mine after he struck 2 ft. of good ore. The mine produced small but rich gold deposits prior to 1914 and contained 14 claims by 1926. It processed its own quartz with a 10-stamp Straub mill, one concentrator, and a small electric light plant, and it survived through the second decade of the century. It remained in operation after most other mines in the area closed. Talc was later discovered and mined beginning in 1926 which temporarily altered the direction of company efforts and made it the only talc producing mine in Shasta County. Gold extraction resumed in the 1930's from 50 to 400 ft. crosscut tunnels. It remained in operation after most of the other area mines closed (Toogood 1978:57,58,59,75). Mine equipment in 1933 included a Chicago Pneumatic compressor 9"x14" driven by a semi-Diesel 50 h.p. engine, a drill sharpener, air drills, and an air hoist (Averill 1933:27). The mine was operated again in 1946 for talc (Lydon and O'Brien 1974:96). It is presently (1994) being operated.

Georgia Mine

Gold mine. This was opened by way of tunneling as early as 1890. It was located on the same property as the Texas Mine which was considered part of the same operation (McGregor 1890:629). See Texas Mine.

Giant Consolidated

Copper mine. The Giant is located 3½ miles southwest of Shasta Dam and includes 23 patented claims, open cuts, and a 310 ft. adit (Lydon and O'Brien 1974:106).

Gladstone Mine

T33N R6W, Secs. 7, 8, 17 & 18. Gold mine. The Gladstone was located in 1887 approximately four miles northeast of French Gulch in Cline's Gulch (Averill 1939:135) (Figure 7a, 7b). It was comprised of six claims in 1894 in which there were five main tunnels from 80 to 200 ft. apart, all connected. Reduction was performed by a 20-stamp mill operated by water power four months out of the year and by a 140 horse-power engine the remainder of the year. Stamps weighed 850 lbs. each and made 95 drops per minute. The entire works were lighted by electricity. Electric bells were used in the lower workings. Water power was derived from Cline's Gulch through a one-mile long ditch (Crawford 1894:249). Operations had ceased by 1900 because of court litigation and because the quartz vein was lost. I. O. Jillson purchased the stamp mill the same year for $1,500 but his mine superintendent and two miners sent to dismantle the mill believed the mine should be checked for a possibly rich ore body. An exploratory tunnel was driven and cut through a vein containing high grade ore. This discovery caused Jillson to leave the stamp mill in place and purchase the Gladstone for $7,500 in 1900.

From 1901 through 1910, great expansions and improvements took place at the mine. A saw mill named Shingle Shanty was built on Grass Valley Creek west of Buckhorn Summit and provided all the lumber. A power plant was built on Crystal Creek to provide above-ground electricity. By 1909, the mill was completely electrically powered and ten additional stamps had been added to the 20-stamp mill. The new stamps weighed 1,050 lbs. each and dropped 6" 106 times a minute crushing ore through a 40 mesh screen. The mill processed 100 tons per day. Approximately 60 men worked in the mine and approximately 40 men worked in the mill. Additional men worked in the carpenter, electric, machine, and timber assembly shops. Other employees included cooks, maids, and maintenance people. The mine employed between 200-300 people at this time. All drilling was done by hand before 1910. After 1910, drilling was done with jack hammers (Lintz 1985:27,28).

Gold production from 1901 to 1912 was $2,389,491.78 in gold bar and $109,739.90 in table concentrates (Lydon and O'Brien 1974:43,44). The 1915 holdings included a new joisting plant (375 h.p., two-reel drums), a compressor

plant, an electric train consisting of 10 cars capable of holding 2,200 lbs. each, shops, dwellings, nine miles of power lines, five miles of telephone lines, an electrically driven 30-stamp mill, concentrating tables, and an electroplating plant. Mine tailings were dumped into Clear Creek. There were 140 men employed with 40 men working above ground, 90 working in the mine, and 10 working in the mill. Approximately 70 gallons of water per minute were pumped with electrical pumps. A new hoist with a steel gallows was installed over the main shaft (Brown 1915:43,44). Operations were suspended in 1917. No production has occurred since 1922 (Lydon and O'Brien 1974:43,44).

The Gladstone was possibly the deepest mine in the region in 1939 and had produced to that time between $3,000,000 and $5,000,000 (Averill 1939:135). Accommodations for the miners changed and shifted over the years. Bunkhouses of various sizes were built for the men. At one time a 100-man bunkhouse existed, later a 3-story, 64-man bunkhouse was built. In 1912, the town of Jillsonville was built for the married employees and included 20 three-room cottages (see Jillsonville). Chinese workers were still in the area as late as 1910 and worked at the mine (Nielsen 1965:1-9). Gladstone Mine freight wagons traveled to Redding every two weeks for supplies; the trip took three days. The mine equipment was sold after 1924. The only remaining buildings are the mine superintendent's house and Mr. Jillson's house (Lintz 1985:29,30) (Figure 7a). Other remains include a few foundations and ruins of the stamp mill. During the 1950s, the two houses and 3.10 acres were split off from the Gladstone Mine parcel and sold as a separate parcel. Personal communication from Ramona Larramendy indicates that both houses appear to be eligible for nomination to the National Register of Historic Places (Ramona Larramendy, French Gulch, personal communication 1994) because they represent the architectural style of world-famous architect Gustave Stickley and are an integral part of one of Shasta County's major mining operations.

Gladys Mine
See North Star Mine.

Gold Bar Mine
Gold mine. Contains several 8 to 10 ft. deep shafts (Lydon and O'Brien 1974:116).

Gold Hill Mine
See Eiller Mine.

Golden Blanket Mine
See Bjork Group.

Grab Mine
See Stowell Mine.

Great Verde Mine
Copper mine. This was also known as the Vulcan Mine. This mine is located four miles northwest of Shasta Dam and is adjacent to the Shasta King Mine. Mining commenced in approximately 1900. It includes short adits and a 1,500 ft. long exploratory tunnel (Lydon and O'Brien 1974:106). The 1915 workings included several tunnels and 12 claims (Brown 1915:22).

Grindstone Mine
Copper mine. The 1970 remains included cabin ruins and mine shafts. A one-acre site at the mine was inventoried and recorded by the Forest Service in the early 1970s.

Happy Go Lucky Mine
Gold mine. A free milling gold quartz operation took place at the mine in 1902 (California Division of Mines and Geology 1902).

Hartman Mine
Gold mine. In 1894, two tunnels approximately 50 ft. long and a 45 ft. shaft were located at the mine. It was owned by W. Hartman of Stella (Crawford 1894:250).

Holman Mine
Gold mine. This mine contains a 75 ft. long adit (Lydon and O'Brien 1974:118).

Hope Mine
Gold mine. This mine operated in 1902 (California Division of Mines and Geology 1902) and produced small but rich gold deposits prior to 1914 (Toogood 1978:57). The 1915 workings included a 480 ft. tunnel, 400 ft. of drifts, an 80 ft. stope, and a 140 ft. shaft. Surface ore was worked in an arrastra (Brown 1915:46).

Hornet Mine
T33N R6W, Secs. 26, 27, 34, & 35. Pyrite mine. The Hornet Mine was a holding of Iron Mountain Mine. The Hornet was patented in 1890 but mining did not begin until 1907. Ore was transported on an aerial tramway from the mine to the loading facilities at Matheson. In 1953, the tram was extended approximately one mile making it 18,000 ft. long. The tram contained 92 buckets each with a 3/4-ton capacity capable of moving 50 tons of ore

an hour (Lydon and O'Brien 1974:70). See Iron Mountain Mine.

Hummingbird Mine
Gold mine. This mine is located approximately three miles northwest of Redding. The 1950s workings included shallow shafts, short drifts, and a 50 ft. adit. Ore was worked by a small Ellis mill and later by an arrastra (Lydon and O'Brien 1974:118).

Index Mine Group
Gold mines. This group of mines was worked from 1923 to 1926. They included 12 claims on a ridge above Clear Creek one-half mile north of Oak Bottom consisting of two 140' and 150' tunnels cut into the hillside plus shallow prospect holes and open cuts (Toogood 1978:60).

Indiana and Last Chance Mine
Copper mine. These mines are located approximately 2½ miles southwest of Shasta Dam and include several hundred feet of adits and drifts. It was a small producer (Lydon and O'Brien 1974:106) and employed two men in 1915 (Brown 1915:22).

Inez Mine
Gold mine. This mine includes a 300 ft. long adit, a 100 ft. long drift, and several cuts (Lydon and O'Brien 1974:118).

Iron Mask Mine
Gold mine. This mine exploited Clear Creek water in 1894 to work a quartz mill. Mine owners set up a five-stamp mill at the foot of Grizzly Gulch, 3½ miles from the mine, to tap a dependable power source (Toogood 1978:51). The Evening Star and Bright Star mines were also included in the group (Lydon and O'Brien 1974:115) as well as the Truscott Mine (Averill 1933:53). The mine was owned by S. W. Levy of San Francisco in 1894 (Crawford 1894:250).

Iron Mountain Mine
T33N R5W, Sec. 6 and T33N R6W, Secs. 22, 26, 27, 34 & 35. Gold, iron, copper, lead, pyrite, zinc, silver, magnetite, sulphur, and limestone mines. Iron Mountain Mine includes the Brick Flat, Complex, Hornet, Lost Confidence, Mattie, No. 8, Old Mine, and Richmond mines. Iron Mountain Mine was also known as the Mountain Copper Mine and was the pioneer copper mine of Shasta County (Brown 1915:25). The first known person associated with the mine was United States land surveyor William Magee who noted the enormous gossan capping on Iron Mountain in the early 1860s. He and Charles Camden secured the property as an iron mine and held on to it for its

possible future value (Kett 1947:108). In 1879, James Sallee assayed an ore sample and discovered it contained gold and silver, which prompted the three men to become partners and conduct small scale mining operations. A Honolulu company bonded the property in 1884, built a 20-stamp mill, but soon returned the property and equipment to Magee, Camden and Sallee who continued to operate it for the next decade (Lydon and O'Brien 1974:37).

In 1894, Iron Mountain Mine was purchased for $300,000 by the Mountain Mines Company, Ltd., of London, England (Kristofors 1973:25). In 1896, assets of this firm passed to Mountain Copper Company, Ltd. who began serious mining operations (Lydon and O'Brien 1974:37). The company extended a prospect tunnel, discovered a great body of sulfide copper ore, and began investing heavily in mining facilities (Martin et al. 1981:87). In 1895-1896, a narrow-gauge, 11-mile long railway was built from the mine to the smelter on Spring Creek under the supervision of M. M. O'Shaugnessy (Kristofors 1973:25). The railroad was eventually abandoned in favor of an aerial tramway which carried ore from the mine to the main railroad line at Matheson (Royston Hanamoto et al. 1991:7). In 1896, a smelter was completed at Keswick and Keswick soon became the second largest community in Shasta County (Kristofors 1973:25) (Figure 13a). The smelter was located 3/4 of a mile west of Southern Pacific Company's California and Oregon rail line (Kristofors 1973:17) and was the first successful smelter in Shasta County (Martin et al. 1981:88). Limestone was quarried from Sec. 32, T34N R5W and used as flux in the smelter. This deposit ceased prior to 1906 (Lydon and O'Brien 1974:142). From 1896 to 1905, the Mountain Copper Company (Iron Mountain Mine) was the largest producer of copper in California (Kristofors 1973:25). The major years of mining operations were from 1896 through 1919. Keswick and Taylor were the major smelter communities (Kristofors 1973:18). Company buildings, residences, and recreational facilities were built on the side of the mountain near the mines and consisted of the following (Renfree c. 1960s:4,5):

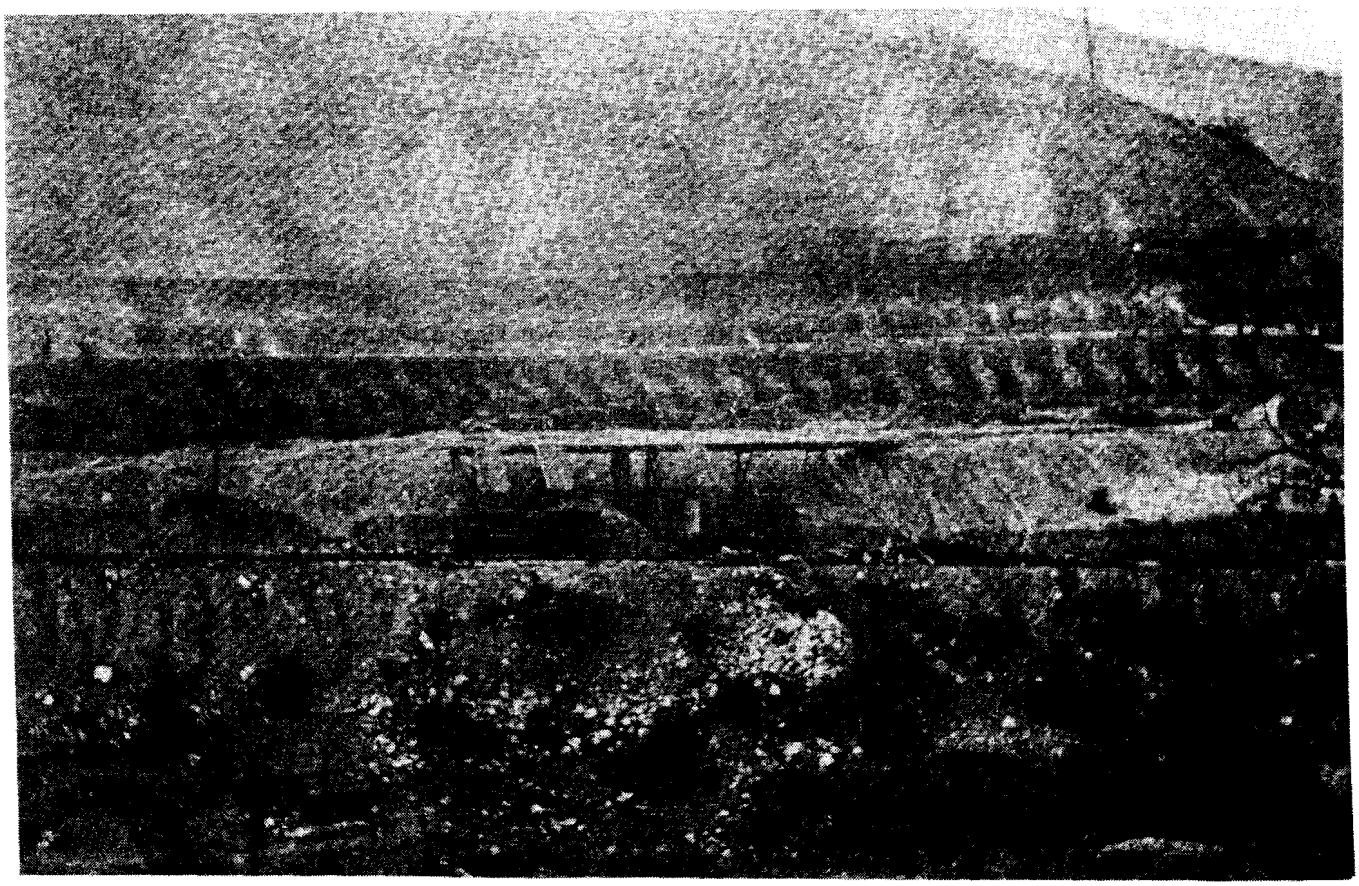
Manager's house:

A single-story, 7-room building with two large brick fireplaces and a wide porch all around. This building cost approximately $4,500 to construct.

Superintendent's houses:

There were three. All were wooden and contained four or five rooms. Each cost approximately $3,000 to construct.

a. Smelter of the Mountain Copper Company, Keswick (early 1900's). Note vegetation on hills killed from fumes.



b. Roasting stalls used by the Mountain Copper Company, Keswick (early 1900's).

Cottages:

There were 25 family cottages built, each with three or four rooms. Each cottage rented for either $10 or $12 per month and each cost approximately $600 to construct.

Bunkhouses:

Two bunkhouses, each with 16 rooms were constructed. Rooms were rented for $1 per month.

Staff Quarters:

One two-story building containing 16 rooms was constructed and cost approximately $4,500.

Mess and Entertainment Hall:

This facility included a dining room and kitchen, canteen, billiard room, music room, toilets, etc.

Office buildings:

Two buildings, each with two stories were built. The upper floors were occupied by the general manager, and the accounting, catering, and engineering departments. The lower floors were used for hardware and general storage. Each building cost approximately $6,000 to construct.

Store:

A large general merchandise store was built on the southeast corner of the Iron Mountain property. The store carried clothing for men and women, groceries, small hardware items, beer, etc. The building cost was approximately $3,000 to construct.

Tennis court:

The tennis court included a 12 ft. netting all around it. It was used a great deal by the staff, visitors, and groups from Redding. Construction cost was approximately $300.

Football field:

The field was used almost every Sunday during good weather. Teams traveled from as far away as San Francisco and Berkeley to play.

In 1897, the silver mill was destroyed by fire as well as the sawmill, all the stores, the office, assay department, hospital, messhouse, reading room, canteen, plus a number of small buildings (Renfree c. 1960s:2). There were 80 roasting stalls built on the north side of Spring Creek above the Keswick smelter (Figure 13b). As many as 350,000 tons of ore was burned simultaneously for 60 days, giving off huge volumes of sulphur dioxide gasses. The men who worked on the roasters were called "roaster stiffs" and were easily recognizable because the fumes caused their hair and whiskers to turn green. The roasting stalls were eventually abandoned in favor of heaps scattered at isolated places along the Iron Mountain railroad tracks because the concentration of fumes was so intense it was difficult for workers to

breathe and work efficiently (Kristofors 1973:37).

During 1898, 221,895 tons of ore were taken from the mine, 168,541 tons were smelted, and 8,273 tons of finished copper was marketed which amounted to a net profit of $815,000 (Renfree c. 1960s:7). From 1898 to 1904, federal agencies investigated alleged fume damage to vegetation caused by the fumes released from the Keswick smelter (Kristofors 1973:25). In 1902, the Major Western Federation of Miners struck regarding the right of union membership and the mine temporarily shut down (Kristofors 1973). By 1905, open air roasting had almost been eliminated because complaints from fume damage led to the abandonment of open air roasting (Kristofors 1973:40). In 1905, a federal injunction closed the Keswick smelter, and in 1907 a new smelter had been built and was operating at Martinez, where ore was now being shipped (Kristofors 1973:25). By 1915, the old smelter had been dismantled. Mine equipment included 11 miles of narrow gauge steam railroad which hauled ore from the mine to the main railroad line; cars, shops, a 75 h.p. electric hoist, pumps, dwellings, etc. There were 350 men employed at the mine. Timber was supplied from a large tract of land the company owned on the Pit River from where timber was cut and floated down the Pit and the Sacramento rivers to Keswick (Brown 1915:26). In 1915, a "Minnesota Mill" began crushing ore at the portal of No. 8. It was the first flotation mill of its kind used in California. This mill eventually processed between 500 to 600 tons of ore per day. The Minnesota Mill closed down in 1919 because of low copper prices but began operating again in 1928 and operated for only a year and closed down again. In 1929, a 250-ton cyanidation (cyanide) plant was completed and put to work mining gossan with a daily capacity of 500 tons (Lydon and O'Brien 1974:38). A deep and narrow ravine which cut across the course of Slick Rock Creek was used as a tailings storage area from an open-pit mining operation undertaken in 1929 (Kett 1947:133,134). In 1932, 600 tons were being processed daily at the plant (Lydon and O'Brien 1974:38). In 1939, the cyanide plant had been newly remodeled and was treating 750 tons of gossan ore daily (Averill 1939:145). This was the largest mining operation in Shasta County in 1939 (Averill 1939:145). The cyanide plant operated until 1942 (Lydon and O'Brien 1974:41). Approximately 13,000 tons of magnetite was mined in 1961. Magnetite mining ceased in 1962. Mining operations were suspended in 1962 and the mine was sold to Stauffer Chemical Company in 1967 and to Iron Mountain Mines, Inc. in 1976. It was placed on the Environmental Protection Agency (EPA) National Priority List as a Superfund cleanup site in 1983. Cleanup work commenced

in 1986 and is still underway (Redding Record Searchlight, 7-6-1994). Total silver production is estimated at 26,558,780 oz. (Lydon and O'Brien 1974:135). Iron Mountain Mine and Keswick Smelter together have been placed on the California Inventory of Historic Places (California Department of Parks & Recreation 1976:89).

Isabel Mine
Gold mine. This mine was associated with the Queen Mine in 1915 (Toogood 1978:96). The 1933 workings included several hundred feet of old tunnels and open cuts (Averill 1933:31,32).

J.I.C. Mine
Gold mine. This mine was known as the Jay Eye See Mine in 1894 (Crawford 1894:250). It contains a 100 ft. adit, 300 ft. of drifts, and a 220 ft. inclined shaft (Lydon and O'Brien 1974:118). The 1915 workings included a 1,000 ft. tunnel, 300 ft. of drifts, and a 220 ft. shaft (Brown 1915:46).

Janice Group
Gold mines. These mines contain two 40 ft. and 50 ft. shafts (Lydon and O'Brien 1974:118).

Jay Eye See Mine
See J.I.C. Mine.

Jealous Mine
Gold mine.

Josephine Mine
See Walker Mine.

Jumping Jack Mine
Copper mine. This mine is located on the east slope of Sugar Loaf Mountain and includes a 400 ft. long adit (Lydon and O'Brien 1974:107).

Kanaka Mine
Gold mine. Toogood (1978:93) states the mine is located on the west side of Whiskey Creek. It was a small production mill whose ore was treated in a 100-ton amalgamation and flotation plant (Lydon and O'Brien 1974:119).

Keystone Mine
Copper mine. This mine is located approximately 4½ miles west of Shasta Dam. It was explored in 1900 and again in 1918. The mine produced from 1923 to 1925 and includes two adits and 2,000 ft. of drifts and crosscuts (Lydon and O'Brien 1974:107).

King Copper Group
Copper mines. The King Copper Group is located three miles west of Matheson and contained 1,000 ft. of adits by 1902 (Lydon and O'Brien 1974:107).

Kit Carson Mill
Gold mine. The Kit Carson Mill contains a 700 ft. adit and 300 ft. of drifts (Lydon and O'Brien 1974:119).

Lady Slipper Mill
Gold mine. This mine was patented in 1896 by Willis Hyatt. At the time of patenting, the mine already contained a 6 ft. shaft. It was worked by a Mr. Thompson from 1953 to approximately 1960 and includes three shafts, one being 80 ft. deep (Lydon and O'Brien 1974:119).

Last Chance Mine
See Indiana Mine and Last Chance Mine.

Liberty Mine
Gold mine. The Liberty is located one mile west of Matheson. It is a small producer and contains a 1,850 ft. adit and a 250 ft. shaft (Lydon and O'Brien 1974:119).

Lindsay Mine
See Pugh and Lindsay Mine.

Little Maud Mine
Gold mine. The Little Maud Mine is located at the eastern base of Iron Mountain. The ore from this mine was treated in a Huntington-type mill (Lydon and O'Brien 1974:119).

Little Nellie Mine
Gold and copper mine. Gold production at the mine was estimated at $160,000 in the 1880s. The mine was worked for copper in the 1920s (Lydon and O'Brien 1974:119).

Lone Star Mine
Copper mine. The Lone Star Mine was diamond-drilled prior to 1952 and includes two short adits (Lydon and O'Brien 1974:107).

Loraine Mine
Copper mine. This mine is located three miles northwest of Shasta Dam and includes a 425 ft. adit plus several short crosscuts (Lydon and O'Brien 1974:107).

Lost Confidence Mine
T33N R6W, Sec. 34. (Iron mine).

This mine is a holding of Iron Mountain Mine. It is located six miles northwest of Shasta near Slickrock Creek (Lydon and O'Brien 1974:132). The mine was located by James Sallee in 1880. Adjoining it on the northeast is the Bear's Nest, commonly known as the Magee claim, and the Magee is joined on the northeast by the Camden claim. These claims were consolidated into the Lost Confidence Mining Company. In 1890, a 20-stamp mill and two Bruckner furnaces were working at the mine (McGregor 1890:633).

Lost Desert Mine
See Shasta King Group.

Louden Mine
See Friday-Louden Mine.

Lucky Boy Mine
Gold mine. Part of this mine was known as the Red Cut Mine. The mine produced $20,000 prior to 1933. One man was employed in 1932. In 1933 the owners planned to mine with power shovels (Averill 1933:34).

Mad Dog Mine
Gold mine.

Mad Mule Mine
Gold mine. The Mad Mule Mine was also known as the Banghart Mine. It was discovered and placered in the early 1850s. It is located on Mad Mule Mountain approximately 3½ miles northwest of Whiskeytown. A 13 oz. crystallized gold specimen was taken from the mine and exhibited at the 1878 Paris Exposition. Twenty-one adits had been driven in the mine by 1893; the longest was 1,400 ft. Production was estimated at approximately one million dollars by 1912. The last publicly reported mining occurred in 1926 (Lydon and O'Brien 1974:45).

Mad Ox Mine
Gold mine. The Mad Ox Mine is located on the northern tributaries of Whiskey Creek. The mine was successful during 1893-94 (Toogood 1978:52). Developments in 1894 consisted of a 1,600 ft. tunnel which cost owners L. Reil and J. W. Woodward of nearby Stella $19,000 (Crawford 1894:252). The mine has been mostly idle since 1911. Ore was treated in a 10-stamp mill during the 1930s (Lydon and O'Brien 1974:120). Other mining equipment included an Ingersoll portable type compressor with a capacity of two drills powered by a gasoline engine, a Leyner drill sharpener, the before-mentioned 10-stamp mill with 850 lb. stamps, a jaw crusher, and amalgamating plates. The Maddox Mining Co. owned the mine in 1933

(Averill 1933:35).

Maduro Mine

Gold mine. By 1915 only enough work had been done to hold the claims (Brown 1915:48).

Magee Claim

See Lost Confidence Mine.

Mammoth Mine

Gold, lead, silver, copper, and zinc mines. The Mammoth is located 13 miles northwest of Redding between Little Backbone and Squaw creeks. The smelter was located at Kennett (Figure 5b). A combination of wagon roads, aerial tramways, and rails eventually connected the mine with the smelter (Kristofors 1973:17,18) (Figures 5b, 12b). It was located by a Mr. Frazier in 1882, mined for gold by a Mr. Neslon the same year, and purchased by R. M. Saeltzer and Associates of Redding in 1900 (Kristofors 1973:26). This mine was purchased in 1904 by the Mammoth Copper Mining Company, a subsidiary of U. S. Smelting, Refining and Mining Company. It operated continuously from 1905 to 1919 and again from 1923 to 1925. The company built a smelter at Kennett in 1905 which operated until 1919 and again briefly in 1924 (Figure 5b). It was dismantled in 1925 (Lydon and O'Brien 1974:39). The smelter was enlarged in 1907 and replaced the Coram smelter as the largest and most modern on the Pacific Coast. Kennett soon replaced Keswick as the second largest Shasta County community with 3,000 residents (Kristofors 1973:26,34). The smelter smokestack was 12 feet in diameter and 150 feet high (Kristofors 1973:46). Between 1905 and 1925, the mine yielded 3,311,145 tons of copper ore (Lydon and O'Brien 1974:39) and was the largest copper producer in California during the years 1908-1919 (Kristofors 1973:26). The only recorded production of cadmium in California was from the electrolytic zinc plant at Mammoth during 1917 and 1918 when several thousand lbs. of cadmium metal were produced (Averill 1939:115). During peak operations, as many as 2,300 men were employed at the mine which included as many as 20 different nationalities from around the world. Many employees were killed from cave-ins or blasting accidents (Martin et al. 1981:88). Recreation facilities included a baseball field (see front cover photo).

A baghouse was built in 1910 in an attempt to control the toxic fumes because of farmer protests (Kristofors 1973:26). The baghouse function was to remove the arsenic, sulphur, and other impurities from the fumes (Brown 1915:24). The baghouse was larger than the smelter and contained nearly 3,000 bags measuring 18" in

diameter by 34½ ft. long spaced ten inches apart. The bags accumulated between 12 to 15 tons of dust every 24 hours containing considerable quantities of lead, gold, silver, and zinc (Kristofors 1973:63). By 1915, over 60,000 ft. of tunnels, drifts, stopes, etc. existed at the mine. The Coleman level was the lowest tunnel and was over 2,200 ft. long and hauled ore from all parts of the workings to the surface where it was dumped into bins and transported to the smelter on electric cars. Mine equipment consisted of compressors, a sawmill, various shops, railways (both electric and steam at the smelter), ore bins, dwellings, etc. (Brown 1915:23). The smelter and mine closed in 1919 because of a decline in copper prices (Kristofors 1973:26). The smelter briefly reopened in 1924 (Lydon and O'Brien 1974:39). In 1925, the smelter was sold for salvage (Kristofors 1973:26). The mine briefly reopened in 1937 for a development campaign (Averill 1939:127). A new camp was built consisting of a shop, boarding house, bunk house, office, and two-stage air compressor at the 470 ft. level. The four-mile steep mountain road from Kennett was made accommodating to autos in dry weather and the main haulage level was equipped with rails, several hundred feet of new crosscuts, and a storage battery locomotive (Averill 1939:175,191). Mammoth Mine has yielded approximately 7,416,965 oz. of silver (Lydon and O'Brien 1974:135). Total zinc production was approximately 313,711,000 lbs., including 84,000 tons of unsorted ore mined in 1914/1915 that averaged 21.10% zinc (Lydon and O'Brien 1974:137). The mine yielded 132,510 oz. of gold from copper-zinc ore during the years 1905 to 1925 (Clark 1979:142).

Manlove Mine

Gold mine. The 1894 developments included a 45 ft. shaft and two 50 ft. tunnels. The owner was J. E. Manlove (Crawford 1894:252).

Marion Mine

Gold mine located in the vicinity of Whiskeytown. The Marion Mine produced fifty tons of $300 assay ore in 1883 (Toogood 1978:50).

Marshall and Walters Mine

Copper mine. This mine is located five miles west of Shasta Dam and included a 400 ft. long tunnel in 1915 (Brown 1915:25).

Martin Mine

See Truscott Mine.

Mascot Mine
Gold mine. This mine was a gold quartz operation and produced small but rich gold deposits prior to 1914 (Toogood 1978:57).

Mattie Mine
See Iron Mountain Mine. (Copper mine).

Menzel Mine
Gold mine. Some production occurred at this mine in either 1880 or 1890 and the early 1930s. Gold was recovered by amalgamation (Lydon and O'Brien 1974:121).

Merry Mountain Diggers Mine
Gold mine. This mine included 2,120 acres where heavy strip mining took place in 1938 (Toogood 1978:64,65). A search for uranium occurred on the property in 1954 (Lydon and O'Brien 1974:121).

Minnesota Mine
Gold mine. The Minnesota Mine was first known as the Rattler Mine. Ore was first worked in an arrastra (Lydon and O'Brien 1974:121). In 1894, the mine contained four tunnels. The mine controls three mountain streams which unite at the mine giving a large amount of water power. A small sawmill and a 10-stamp mill with 850 lb. stamps run by a 3 ft. Pelton wheel under 360 ft. pressure were located at the mine (Crawford 1894:255). An adit was cleaned and retimbered in the 1930s (Lydon and O'Brien 1974:121). Mine property included 34 patented acres in 1939 (Averill 1939:144).

Morton & Bliss Mine
Gold mine. Ore was first worked in a 10-stamp mill (Lydon and O'Brien 1974:121). The 1915 workings included a 380 ft. and 2,400 ft. tunnel, 500 ft. drift, and a 200 ft. raise and stope (Brown 1915:51).

Mountain Copper Mine
See Iron Mountain Mine.

Murray Mine
Gold mine. A 400 ft. tunnel was located here in 1894 when it was owned by Barney Conroy of Redding (Crawford 1894:253).

Nellie and Annie Mine
Gold mine. The 1915 workings included a 340 ft. tunnel and short drifts (Brown 1915:51).

No. 8 Mine
Gold and silver mine. The No. 8 Mine is a holding of

Iron Mountain Mine. No. 8 Mine and Old Mine were worked together. The orebody was sampled in 1909 and found to contain more than 500,000 tons of material. A cyanide plant capable of processing 250 tons per day began operating in 1929. The plant was enlarged in 1932 to process 600 tons per day. Gossan mining operations were suspended in 1942 at both mines (Lydon and O'Brien 1974:44,45).

North Star Mine

Gold mine. North Star Mine holdings included the Gladys Mine and the Virginia Mine which were small gold quartz mines owned and operated by C. P. Baker in 1920 (Toogood 1978:60). The mine employed two men in 1932 and workings included a 320 ft. tunnel plus various stopes and crosscuts (Averill 1933:41).

Ohio Consolidated Mine

Copper mine. The Ohio Consolidated Mine is located approximately three miles northwest of Shasta Dam. By 1915, several tunnels had been run, the longest being 530 ft. (Brown 1915:26).

Old Diggings

See Calumet, Central, Evening Star, Reid, Texas, and Walker Mines.

Old Mine

Gold and silver mine. This was a holding of Iron Mountain Mine. No. 8 Mine and Old Mine were worked together. See No. 8 Mine.

Oregon Consolidated Mine

Copper mine. This mine is located four miles west of Shasta Dam and includes several adits totaling approximately 1,500 ft. (Lydon and O'Brien 1974:108).

Peerless Mine

Copper mine. The Peerless Mine is located two miles west of Matheson and includes a 350 ft. long drift and a 190 ft. long crosscut (Lydon and O'Brien 1974:108).

Phoenix Mine

Gold mine. The Phoenix is located one mile east of Whiskeytown. It was equipped with a five-stamp mill in 1886 (Averill 1939:148). A 10-stamp water-powered mill processed the ore as well as ore from the nearby Red Rover Mine (Toogood 1978:50). Lydon and O'Brien (1974:123) state it was active from 1886 to 1888.

Providence Mine

See Walker Mine.

Pugh & Lindsay Mine
Gold mine. This mine was located three miles west of Shasta on Clear Creek. The 1894 developments consisted of a 60 ft. deep shaft and two tunnels 60 ft. and 40 ft. long. Reduction works consisted of a Kendall rocker mill with a duty of six tons every 24 hours when using No. 9 or 10 screens and rocking 28 times per minute (Crawford 1894:254).

Queen Mine
See Isabel Mine.

Rattler Mine
See Minnesota Mine.

Red Cross Mines
Gold mines. These mines showed promising returns between 1896 and 1914 (Toogood 1978:53). They were also known as the Red Cross Group and were claims of the Desmond Mine.

Red Cut Mine
See Lucky Boy Mine.

Red Rover Mine
Gold mine. Ore from this mine was processed by a 10-stamp water-powered mill at the nearby Phoenix Mine in 1883 (Toogood 1978:50).

Reid Mine
Gold mine. This mine was the principal gold producer in the Old Diggings District from 1904 until 1919 when it was shipping 160 tons of ore daily for processing at the Mammoth Copper Company smelter in Kennett (Lydon and O'Brien 1974:49). This mine was operated continuously from 1907 to 1919 by owners James and Harvey Sallee (Averill 1933:46,47), but it had to close when the smelter was forced by court order to shut down in 1919. The mine operated again briefly in 1922 to furnish quartz ore for flux to the Bully Hill smelter. Total gold production was possibly $2,500,000. It has been idle since 1939 (Lydon and O'Brien 1974:49,50). Equipment at the mine and the railroad yard in 1933 included a head frame, hoist house, double drum electric hoist, three Ingersoll-Rand air compressors with a combined capacity of 1,200 cubic feet of air per minute, machine shops, blacksmith shops, aerial cabletram and terminals, and ore bins (Averill 1933:47). The Reid Mine is the deepest mine in the Old Diggings District with a vertical depth of approximately 1,000 ft. The shaft was allowed to fill with water in 1925 (Averill 1939:147). A Canadian company undertook exploratory work in the 1980s.

Reynolds Mine
Copper mine. This mine is located four miles west of Shasta Dam (Lydon and O'Brien 1974:108).

Richmond Mine
Pyrite mine. The Richmond Mine is a holding of Iron Mountain Mine. It was mined from 1926 to 1956 (Lydon and O'Brien 1974:70). See Iron Mountain Mine.

Scottish Chief Mine
Gold mine. In 1915, this mine contained 120 patented acres located 1/2 mile northwest of Copley in the Flat Creek Mining District. It was owned by W. Menzel. Workings consisted of an 800 ft. tunnel, and an old 3-ft. Huntington mill (Brown 1915:53,54).

Shasta King Group
Copper, silver, and zinc mines. Mine holdings also included the Lost Desert and Trinity mines. It was owned and operated by Trinity Copper Corporation from 1902 until 1909 when 15,000 tons of ore were processed at the Balaklala Mine smelter at Coram (Figure 5a). The mines were idle from 1909 to 1917. In 1918, they were leased by U. S. Smelting, Refining and Mining Company which operated until 1919 and processed 68,889 tons of ore. They were sold in 1961 to Shasta Minerals and Chemical Company (Lydon and O'Brien 1974:40). Total silver production was approximately 69,578 oz. and total zinc production was approximately 14,700,000 lbs. (Lydon and O'Brien 1974:108,135,137).

Shasta Mine
See Gambrinus Mine.

Shasta Quartz and Placer Mining Company
Gold mine. This was a gold quartz operation which produced small but rich gold deposits prior to 1914 (Toogood 1978:57).

Shirttail Mine
Gold mine. This mine is located approximately one mile west of Shirttail Peak. It has been long idle (Lydon and O'Brien 1974:124).

Skookum Mine
Copper mine. This mine is part of the Walker Corporation Group (Lydon and O'Brien 1974:109).

Slide Mine
Gold mine. The Slide Mine is located one mile north of Keswick and contains a 700 ft. adit and 600 ft. of drifts (Lydon and O'Brien 1974:124). It was owned by J.

McCreary (Brown 1915:55).

Snyder Mine
Gold mine. This mine is also spelled the Snider Mine. It was located in 1885 seven miles northwest of Kennett. In 1890, the mine consisted of three tunnels totaling 120 ft., 460 ft., and 400 ft. Ore was crushed in a 10-stamp mill (McGregor 1890:640). See Clipper Mine.

Spanish Mine
See West End Quartz Mine.

Spardy Mine
Gold mine. The Spardy Mine is located on Flat Creek 3½ miles south of Keswick (Lydon and O'Brien 1974:124). It was owned by Barney Conroy of Redding in 1894 (Crawford 1894:257).

Spread Eagle Group
Copper mines. The Spread Eagle Group was active prior to 1902 and during the 1900s. Mine holdings include 10 adits totaling 3,000 ft. (Lydon and O'Brien 1974:109).

Spring Gulch Mine
Gold mine. This mine is located in the northern tributaries of Whiskey Creek. It was successful during 1893-94 (Toogood 1978:51). It contained three tunnels in 1894 which were 40 ft., 50 ft., and 3,212 ft. long. Owners at that time were L. Riel and J. R. Woodward of Stella (Crawford 1894:257).

Star Gulch Mining Company
See Walker Mine.

Stevenson Mine
Copper mine. This mine was only slightly developed by 1915 (Brown 1915:28).

Stowell Mine
Copper mine. This mine was formerly known as the Grab Mine (Brown 1915:28). It was active prior to 1902 and produced during the years 1916 to 1919. The main adit is 1,300 ft. long including several hundred ft. of drifts and winzes (Lydon and O'Brien 1974:109).

Sugar Loaf Mine
Copper mine. This mine included 1,300 ft. of adits by 1902 and 12 adits totaling 4,365 ft. by 1908 (Lydon and O'Brien 1974:109). The 1915 equipment consisted of an air compressor, shop, and dwellings. Three men were employed (Brown 1915:28).

Sulphide Mine

Copper mine. This mine was worked after the turn of century but has been idle after 1913 (Toogood 1978:70).

Summit Group

Copper mines. This mine adjoins the Mammoth Mine. The Summit Group was active intermittently prior to 1902 until the mid 1910s. Included in the holdings are three adits; one is 400 ft. long with a 350 ft. raise (Lydon and O'Brien 1974:109). The 1915 equipment included a 4-drill Sullivan compressor, shop, and dwelling (Brown 1915:29). See Sutro Mine.

Sunshine Mine

Gold mine. The Sunshine was owned by Sunshine Gold Mining Company of Nevada along with 530 surrounding acres. Improvements included a concrete dam to make a water reservoir of the old workings, and a mill capable of crushing four tons of ore per hour. The mine operated sporadically during the 1940's and closed in approximately 1949 (Toogood 1978:66).

Sutro Mine

Copper mine. This mine includes the old Sutro Mine and Summit Group. The mine was active around 1908 and was a producer from 1913 to 1918 and from 1923 to 1925. Workings include six adits (one is 2,000 ft. long) plus extensive drifting (Lydon and O'Brien 1974:109).

Texas Consolidated Mine

Gold mine. The principal production period for this mine was around 1890 when 75 men dug approximately 40 tons of ore per day by hand. Ore was crushed on site in a 20-stamp mill. The main adit was 1,600 ft. long (Lydon and O'Brien 1974:51). It was owned by Messrs. Hart and Flemming in 1890 who also owned and worked the nearby Georgia Mine. The following mine information was taken from McGregor (1890:629,630):

Altitude	1,620 ft.
Dimensions of claims	1,500 x 600 ft.
Nearest town	Redding
Nearest distance to railroad	1½ miles
Cost of freight from RR to mine	$2 per ton
Cost of freight from San Francisco to nearest RR	$13.50 per ton
Average width of vein	8 ft.
Length of tunnels timbered	1,200 ft.
Dimensions of tunnels	4½ x 6½ ft.
Formation passed through	Ledge matter
Number of feet run per shift	2 ft.
Length of ore shoot	400 ft.

Number of shoots being worked	2
Pitch of ore shoot	NE
Number of air shafts	2
Depths of air shafts	135 and 80 ft.
Timber used	Pine
Cost of timber used	4¢ per ft.
Kind of powder used	Safety Nitro
Distance to timber	1 mile
Distance to lumber	8 miles
Cost of lumber	$18 per thousand
Length of road built	4 miles
Cost of road	$1,500
Means of transporting ore	Wagon
Cost of transporting ore	60¢ per ton
Character of ore	Tellurium Sulphurets Free gold
Battery screens	Slot, No. 30
Dimensions of screens	10½ x 37½ ft.
Size of plates	4 x 12 ft.
Plates	Silvered
Kind of feeders used	Challenge
% of recovery saved on plates	93%
% of recovery saved on concentrators to ton	2½%
Name of concentrator	Triumph
Number of concentrators	2
Percentage of sulphurets	2½%
Nature of sulphurets	Iron
Value of sulphurets	$200 to $240 per ton
Number of men employed in mine	12
Number of men employed in mill	5
Number of men employed outside	7
Total men employed in mine	24
Nationality	Cornish, 3 Americans, 19 Irish, 2
Wages paid in mine	$2 per day and board
Wages paid in mill	$3 and $3.50 per day and board
Wages paid on outside	$1.50 per day and board
Power used	Steam
Cost of wood per cord	$2
Cords of wood used (per day)	8

The 1915 mine holdings consisted of 220 patented acres. Development work included a 4,000 ft. tunnel and several thousand feet of drifts, raises and stopes. Equipment

included miscellaneous machinery, a shop, and dwellings. Reduction equipment included an electrically powered 20-stamp mill, eight Triumph concentrators, and an old 3-ton chlorination plant plus four employees (Brown 1915:56). Crosscut work was conducted in 1922 and 1923. Approximately 1,500 ft. of old workings were cleaned out in 1938 and 1939 (Lydon and O'Brien 1974:51).

Three Sisters Mine

Gold mine. This mine was discovered in 1895. It produced until 1905. The 1913 holdings included a 1,350 ft. adit, 800 ft. of drifts, a 200 ft. long stope, and a 200 ft. winze. Gold was recovered by amalgamation in a Huntington Mill (Lydon and O'Brien 1974:126).

Tom Cook Mine

See Whiskey Hill Mine.

Trinity Mine

See Shasta King Group.

Truscott Mine

Gold mine. Truscott Mine holdings once included the Martin Mine and the Iron Mask Mine (Averill 1933:53). It is located two miles east of the Tower House. The mine was discovered in approximately 1887 and was intermittently active until 1913. The 1912 production was reported as either $60,000 or $100,000. The mine contains four adits, plus drifts and a stope. There were 300 ft. of new drifting dug in the early 1930s (Lydon and O'Brien 1974:126). In 1933, an old mill building contained a 14-stamp Straub mill rated at 20 to 30 tons every 24 hours, a 5-stamp mill of 850 lb. stamps, amalgamating plates, plus a circular concentrator (Averill 1933:54).

Uncle Sam Mine

Gold mine. This mine was discovered in 1886 by J. Conant who sold to Dakin and Associates. It was one of Shasta County's noted quartz mines. The following four tunnels and other miscellaneous data existed in 1890 (McGregor 1890:639,640):

No. 1, south vein	116 ft.
No. 2, south vein	750 ft.
No. 3, south vein	800 ft.
Gillispie tunnel	230 ft.

Elevation	2,040 ft.
Length of ore shoot	200 ft.
Kind of timber used	Pine
Kind of powder used	Gelatine,

Quantity of powder used	dynamite 1,500 lbs. per month
Distance to lumber	1 to 3 miles
Cost of lumber	15¢ per ft.
Length of road built	5 miles
Cost of road built	$9,000
Length of ditch built	3,300 ft.
Character of ore	Iron and copper sulphurets
Screens	No. 40 wire
Plates, size of apron	4 x 6 ft.
Width in sluice	16 inches
Length in sluice	16 ft.
Size inside battery	4 ft.
Plates on battery	Silvered
Kind of feeder used	Challenge
Kind of metal for shoes and dies	Steel
Kind of compressor used	National
Name of drill used	Phoenix
Number of stamps	20
Weight of stamps	900 lbs.
Drop in inches	6½ inches
Drops per minute	84
Height of discharge	7 inches
Duty per stamp in 24 hours	1½ to 2 tons
% of recovery saved in battery	65%
% of recovery saved on plates	33%
% of recovery saved in sulphurets	1 3/4%
Number of men employed in mine	31
Number of men employed in mill	5
Number of men employed outside	14
Total number of men employed	50
Average mine wages w/board	$2 per day
Average mill wages w/board	$2 to $4
Average outside wages w/board	$1.75

The mine employed approximately 75 men in 1892 and included four shafts (listed above), a tramway, an academic sabbath school, and a Methodist chapel (Shasta Courier 4-30-1892). In 1894, a 1,700 ft. tramway flanked the hillside to a double incline track 475 ft. long which led to the mill. A three-drill compressor plant was operated by water power under 250 ft. pressure as was a 30-stamp mill and Huntington roller mill with four Triumph and 10 Frue concentrators part of the time. The mill averaged approximately 60 tons every 24 hours. A 60 horsepower engine ran the mill machinery part of the year (Crawford 1894:258). The compressor plant was destroyed by fire in 1913 (Brown 1915:59). The mine produced $1,000,000 from a maximum depth of 450 ft. before 1913 while operated by the Sierra Buttes Mining Company. Ore

was crushed in a 30-stamp mill and a Huntington mill. The mine has been mostly idle since 1913 with some development work done in 1936 and 1937 by the Vera Mines Corporation. A portion of the mine was reopened in 1945 by the High Divide Mining Company. Exploration work was conducted in 1961 by Continental Materials Corporation with a bulldozer (Lydon and O'Brien 1974:51,52). The 1970 remains included several partially standing buildings, several mine shafts, a brick chimney, and a boiler. Thirty acres of the site were inventoried and recorded in the early 1970s (USFS Archaeological Site Record 05-14-58-18).

Utah Mine
See Walker Mine.

Virginia Mine
See North Star Mine.

Vulcan Mine
See Great Verde Mine.

Walker Mine
Gold mine. The Walker holdings once included the Josephine, Providence, Utah, and California mines. The Walker Mine was first known as the Josephine and Providence Mine until purchased by the Walker brothers in 1888. They changed the name to the Utah and California Mine. It is now known as the Walker Mine and includes 12 claims on 360 acres (Lydon and O'Brien 1974:52). By 1894, the mine was developed through three tunnels, the Josephine, Emmeline and Main. The company operated a 10-stamp steam mill beside the Sacramento River. The stamp mill consisted of a No. 1 Blake crusher, Hendy self-feeders and 1,200 lb. stamps, supplied with chrome steel cams, shoes and dies. The mill consumed four cords of pine and oak wood per day at a cost of $4 per cord. Timbers were delivered at 6¢ per running ft. and did not last over three years in the mine. Ventilation for the main tunnel was supplied by suction; a furnace on the outside drew air through a 1,500 ft. pipe. Mill water was pumped from the river. Miners wages were $2.50 a day; mill men received $4 a day (Crawford 1894:259). There were 14,000 tons of ore produced by 1896 and treated in a 100-ton cyanide plant (Lydon and O'Brien 1974:52). The 1915 holdings included 270 acres (Brown 1915:59). In 1936, gold was recovered from the ore in an all-slime cyanide mill. In early 1938, the property was leased by Stewart & Brown who made improvements and increased mill tonnage from 40 tons to 100 tons per day and built an assay office. The property reverted back to owners Star Gulch Mining Co. in late 1938 (Averill

1939:156). The property was purchased by I. J. Finberg in 1939 who installed new equipment in the cyanide plant and treated approximately 30,000 tons of ore mined from an open pit above the shaft. The mine and the mill closed in 1941 (Lydon and O'Brien 1974:52).

Waters Mine
See Marshall Mine.

West End Quartz Mine
Gold mine. This mine was also known as the Spanish Mine and the West End Mine. It was active in the 1920s. During the 1950s Gus Herman leased the mine. In 1962, Herman subleased it (Lydon and O'Brien 1974:127).

Whiskey Creek Water & Mining Company
Gold mine. This was a gold quartz operation also known as the Whiskey Creek Group. It produced small but rich gold deposits prior to 1914 (Toogood 1978:57).

Whiskey Hill Mine
Gold mine. This mine was also known as the Tom Cook Mine. It was possibly originally worked around 1900. Included in the holdings are the Judy, Snow Bird, and Blue Bell claims which were located in 1941. The mine was last worked in the 1960s (Lydon and O'Brien 1974:55).

Winnie Mine
See East View Mine.

Wood Gulch Mine
The 1970 remains included gossan ore mine shafts and evidence of bygone mining activities and methods. A 1/2 acre site at the mine was inventoried and recorded by USFS archaeologist Charles Crackel in the 1970s.

Woodward Mine
See Bell Mine.

Yellow Jacket Mine
Gold mine. This mine is located three miles northeast of Copley (Lydon and O'Brien 1974:127). The 1894 development work at the mine consisted of an open cut and a 50 ft. cross-cut tunnel (Crawford 1894:260).

NEWSPAPERS

Grizzly City Gazette
Grizzly City was platted and even an issue of the Grizzly City Gazette was published (Steger 1966:35). However, no

plats of the townsite and no newspaper issues have been located. See Grizzly Gulch in Settlements/Towns/Mining Camps for more information.

Mountain Miner

A weekly newspaper was published at Taylor from 1897 to 1906.

PLACENAMES

(See Figures 1-4)

Balaklala Mine

Name possibly means windy place (Smith 1994:12).

Bohemotash Mountain

Indian name meaning large peak (Steger 1966:19).

Buckeye

Named by early goldminers from Ohio, the Buckeye State (Steger 1966:20).

Clear Creek

Named by early goldminers for its crystal clear waters (Steger 1966:24).

Cline Gulch

Named for John Cline who filed at this location for grazing and agricultural purposes in 1852 (Steger 1966:25).

Copley

The town of Copley and Copley Mountain were named for a Mr. Copley who operated a vacation retreat known as Camp Bailey at the foot of the mountain (Smith 1994:58).

Coram

Named for Joseph Coram, part owner of the Balaklala Mine.

Democrat Mountain

Supposedly named by miners who were "...staunch democrats" (Steger 1966:28).

Dodge Creek

Named for goldminer Wilbur Dodge (Steger 1966:29). See also Shirttail Peak.

Franklin City

Possibly named for a group of miners from Franklin County (state unknown) who laid out the town in 1852 (Steger 1966:33). Eventually it became the site of Whiskeytown.

French Gulch

Named for the French goldminers who discovered gold there in 1849 (Steger 1966:33).

Grizzly Gulch

This was the home of grizzly bears (Steger 1966:35).

Hart

Named for prominent mining man R. G. Hart (Steger 1966:38).

Keswick
Named for Lord William Keswick of London, president of Mountain Copper Company which owned Iron Mountain Mine.

Iron Mountain
Named for the iron ore it contained (Steger 1966:40).

Mad Mule Canyon, Gulch, Mountain
Named for one of William Banghart's pack mules that went mad in the early 1850s (Steger 1966:45).

Mad Ox Gulch
Named for an ox that went mad at the Mad Ox Mine (Steger 1966:46).

Matheson
Named for James Matheson, founder of Mountain Copper Company (Steger 1966:46).

Motion Creek
Named by a goldminer who overindulged in drinking "knockumstiff" and went through the m-o-o-t-i-o-n-s of a-pu-u-k-i-n (Conway 1970:47).

New York Flat
Supposedly named for a group of miners from New York who mined in the area and made the place their headquarters, possibly during the days of the Gold Rush (Masterson 1963:19).

Old Diggings
When the abandoned mines were reopened after a quarter century of nonuse, the area was called Old Diggings (Steger 1966:50).

Sacramento River
Spanish name meaning Holy Sacrament. It was discovered in 1818 by a Spanish expedition on the day of the holy sacrament (Steger 1966:8).

Schilling
The Schilling Post Office was named for storekeeper and first postmaster John Schilling (Salley 1977).

Shasta (mountain, lake, dam, town)
First reference to a form of the word was "Shastasta" made in 1814 by a Northwest Company fur trapper for a tribe of Indians who lived at the mountain (Zanger 1992:17). The town of Shasta was possibly named for Mount Shasta, which at the time of naming, was in Shasta County and can be seen from the hills of town. Shasta Dam was officially named in 1937 and took its name from the mountain (Steger 1966).

Shirttail Peak
Named for four goldminers who were caught in a landslide. All were killed except Wilbur Dodge who was saved when his shirttail caught on a snag allowing his wife to pull him to safety (Steger 1966:58). See also Dodge Creek.

Spring Creek
Named for the numerous springs near its source (Steger 1966:60).

Taylor
Named for Clay Taylor, attorney for Mountain Copper Company (Steger 1966:63).

Waugh
Named for Joseph Waugh who operated two ferries across the Sacramento River in 1855 and built and operated the Middle Creek Hotel in 1883 (Steger 1966:65).

Whiskeytown
Named for the miners' ability to drink a barrel of whiskey a day (Steger 1966:65). Popular local legend claims it was named for a barrel of whiskey that fell off a pack mule into the creek during Gold Rush days. The Whiskeytown Post Office was not established until 1952 because the Whiskeytown name was considered unacceptable by the federal government.

Whitehouse
Named for the Whitehouse & Bliss Mining Company that operated a mine at the site in the 1870s (Steger 1966:65).

POST OFFICES

Blair
This post office was established at Whiskeytown in 1881. It became the Stella Post Office in 1885 and was named for the first postmaster Eunice Blair (Salley 1977). See also Schilling, Stella, Whiskey Creek, and Whiskeytown Post Offices.

Boralma
The Boralma Post Office was established in 1901, discontinued in 1906 and located seven miles west of Kennett (Salley 1977). Its exact location and name origin are unknown.

Copley
This post office was established in 1886 and discontinued in 1913. It is located two miles south of Coram at the base of Copley Mountain near the Sacramento River north of Middle Creek. It was named for a Mr. Copley (first name unknown) who operated Camp Bailey, a nearby vacation resort (Salley 1977).

Coram
This post office was established in 1906 and discontinued in 1922. It was named for Joseph Coram, part owner of Balaklala Mine and was located near Motion Creek and the Sacramento River (Salley 1977).

Fielding

This post office was established at the Mountain House on Iron Mountain 1897 and was discontinued in 1903. It was named for C. W. Fielding (Salley 1977).

French Gulch

This post office was established in 1856 and named for the French goldminers who conducted the first goldmining in the area, and for whom the town was named. It is still in operation (Salley 1977).

Hart

This post office was established in 1891, discontinued in 1900 and named for Richard G. Hart, Sr., a prominent mining man of the 1890s who owned the nearby Texas Mine. It was located in the village of Hart on the east side of the Sacramento River where Walker Mine Road ends at the river (Salley 1977). In later years, the Old Diggings Post Office was in the same general location.

Iron Mountain

This post office was established at Iron Mountain Mine in 1885 and discontinued in 1886. It was named for the mountain on which the post office was located (Salley 1977).

Keswick

This post office was established in 1896, discontinued in 1923, re-established in 1962, and discontinued again in 1965. It was named for Lord William Keswick, chairman and principal stockholder of Mountain Copper Co., Ltd. (Salley 1977).

Kilna

This post office was established in 1852 near the mouth of Middle Creek and the Sacramento River. It was discontinued in 1853 (Salley 1977).

Kimberly

This post office was established at the Balaklala Mine in 1907 and discontinued in 1913. It was named for Mr. Kimberly, principal owner and promoter of the Balaklala Mine (Salley 1977).

Mammoth

This post office was established at the Mammoth Mine in 1907, discontinued in 1921, re-established in 1923, and discontinued again in 1925. It was named for the mine (Salley 1977).

Matheson

The Matheson Post Office was established at Matheson in

1922 and discontinued in 1962. It was named for James Matheson, founder of Mountain Copper Company (Salley 1977).

Old Diggins
This post office was established in 1918 and discontinued in 1927 (Salley 1977). See Hart.

Schilling
This post office was established at Whiskeytown in 1917, discontinued in 1931, reinstated in 1931, and changed its name to Whiskeytown in 1952 (Salley 1977). See also Blair, Stella, Whiskey Creek, and Whiskeytown post offices.

Stella
This post office was established at Whiskeytown in 1885 and discontinued in 1909 (Salley 1977). Earlier and later post offices at Whiskeytown were Blair, Schilling, Whiskey Creek, and Whiskeytown.

Taylor
The Taylor Post Office was established at Taylor in 1897 and discontinued in 1922. It was named for attorney Clay Taylor, for whom the town was named (Salley 1977).

Waugh
The Waugh Post Office was established in 1885 in the Middle Creek Hotel near the mouth of Middle Creek and the Sacramento River. It was named for Joseph Waugh, the owner of the hotel, and the first postmaster. The post office was discontinued in 1906 (Salley 1977).

Whiskey Creek
The Whiskey Creek Post Office was established at Whiskeytown in 1856 and discontinued in 1864 (Salley 1977). Earlier and later post offices at Whiskeytown were Blair, Schilling, Stella, and Whiskeytown.

Whiskeytown
This post office was established in 1952 by changing the name of the Schilling Post Office. Previous post office names were Blair, Schilling, Stella, and Whiskey Creek. The Whiskeytown name was considered unacceptable by the federal government until 1952 when it was finally accepted. (Salley 1977). The post office is still in operation as of 1995.

Whitehouse
This post office was established at the Central Mine in 1893, discontinued in 1906, re-established in 1907, and

discontinued again in 1913. It was named for the Whitehouse & Bliss Mining Company that owned and operated the Central Mine (Salley 1977).

POWERPLANTS

Keswick Powerplant

T32N R5W, Sec. 21. This powerplant is located at Keswick Dam nine miles downstream from Shasta Dam. It began operating in 1949 and contains three generating units with a total capacity of 75,000 kilowatts (Bureau of Reclamation 1983:3,8).

Shasta Powerplant

T33N R5W, Sec. 15. The powerplant is located at the base of Shasta Dam on the west side of the Sacramento River 12 miles north of Redding (Figure 9). It is one of the largest hydroelectric plants in California. Shasta Dam and powerplant were deemed eligible for the National Register of Historic Places by the Office of Historic Preservation in Sacramento for both historical and engineering significance based on a 1990 submission by the Bureau of Reclamation.

Pertinent Data
(U. S. Department of the Interior 1986:3)

Began operating	1944
# of generators	5
Generator ratings	2 @ 125,000 Kw
	1 @ 118,000 Kw
	2 @ 105,000 Kw
# of penstocks	5
Penstock size	15 ft. in diameter
Building height	156 ft.
Building width	21 ft.
Building length	450 ft.

Spring Creek Powerplant

T32N R5W, Sec. 18. This is located on an arm of Spring Creek at Keswick Reservoir. It began operating in 1964 and contains two generators with a total capacity of 150,000 kilowatts (Bureau of Reclamation 1983:4,8).

RAILROADS

Central Mine Railroad (Old Diggings Railroad)

Central Mine operated an approximately five-mile long narrow gauge railroad line from the mine at Quartz Hill

to the Central Mine Spur located between Keswick Station and Motion. The railroad had one oil-burning conventional rod-type engine and hauled quartz rock which was used as flux at the Iron Mountain smelter (Colby 1982:77). (The Old Diggings Railroad and the conjoined Central Mine Spur are illustrated on Wiegel's [1908] Map.)

Central Pacific Railroad
See Southern Pacific.

Gladstone Mine Railroad
T33N R6&7W. In 1915, the mine operated an electric train railroad which included ten cars capable of hauling 2,200 lbs. each. Ore was hauled from the mine to the company mill. Electric power was supplied from the Northern California Power Company (Brown 1915:44).

Iron Mountain Mine Railroad
This was officially known as the Iron Mountain Railway Company (Kett 1947:110). The 11-mile long railway was built from the mine to the smelter on Spring Creek under the supervision of M. M. O'Shaughnessy (Kristofors 1973:25). Construction work started in early 1895 and was completed in February of 1896. Iron Mountain's railway was 36" gauge of 40 lb. rails. Maximum grade was 3.75% on tangents while curves were compensated according to the degree of curve. During full operation, it had some 3½ miles of spurs and side tracks in the operating yards and passing sidings on the mainline. There was also a three-rail system at the end of the smelter road which enabled the handling of standard broad-gauge cars from Southern Pacific's mainline (Renfree c. 1960s:3). In addition to the curves, a double loop existed near Iron Mountain (Kett 1947:110).

The railway connected the mine with the smelting works and ran on a uniform downgrade for approximately 11 miles, thence another mile to the Southern Pacific mainline at the mouth of Spring Creek (Renfree c. 1960s:1).

By 1920, the railway had deteriorated to a point requiring practically all new ties and rails as well as new rolling stock. The cost of operation, taxes, and upkeep had become very burdensome. In addition, because the railway was a common carrier, its operation had to conform with all Interstate Commerce Commission rules and regulations as well as the Railway Commission of the State of California. Rather than undertake costly repair work, the company decided instead to build an aerial tramway system, a substitute form of transportation that

was not subject to the restrictions, taxes, and controls imposed on common carriers (Kett 1947:129). The Iron Mountain Railway machine shop was removed in 1921 from Keswick to a point on Boulder Creek convenient to both Iron Mountain and the Hornet mines after the suspension of operations on the railroad (Kett 1947:127). The railroad was eventually abandoned in favor of the aerial tramway which carried ore from the mine to the main railroad line at Matheson (Royston Hanamoto et al. 1991:7). Evidence of the Iron Mountain Railway system is still present, especially the rail bed.

Mammoth Mine Railroad

An electric railroad and a five-mile long aerial tramway were built to haul quartz rock from a quarry to the smelter for fluxing (Martin et al. 1981:49) (Figure 12b). In 1937, the main haulage level was equipped with rails, several hundred feet of new crosscuts, and a storage-battery locomotive (Averill 1939:175,191).

Old Diggings Railroad

See Central Mine Railroad.

Southern Pacific Railroad

In 1872, Central Pacific Railroad track laying reached and stopped at the last level piece of land south of the Sacramento River Canyon because of financial problems. A town site was laid out and named Redding in honor of Southern Pacific land agent B. B. Redding. In 1883, work resumed northward through the Sacramento River Canyon. Approximately 2,000 workers (mostly Chinese) performed manual labor which included grading the roadbed, drilling and blasting rock, and laying ballast, ties and rails. Skilled masons were imported from Europe to build the stone walls and culverts. In 1887, the northbound rails met with the southbound rails at Ashland, Oregon. By 1888, express trains were running between Portland and Oakland in only 38 hours carrying pullmans, coaches, dining cars, and immigrant sleeper cars. The Sacramento River Canyon route was officially known as the Shasta Route, but it was promoted as the "Road of a Thousand Wonders" and was the scenic highlight between Los Angeles and Portland. Basic fare was $22. The railroad reorganized in 1885 and became the Southern Pacific Railroad, an empire that stretched from Portland in the north to San Diego in the south and eastward to Ogden, Utah and New Orleans, Louisiana (Royston Hanamoto et al. 1991:6).

Central Pacific Railroad tracks were laid along the western side of the Sacramento River in the study area in 1883. In 1942 a portion of the mainline route was moved

to avoid conflicts with construction of Shasta Dam and Shasta Lake. The present railroad tracks adjacent to Iron Mountain Road were constructed in 1948 as a spur line to haul ore. The route was owned by the Bureau of Reclamation and was necessary to avoid rising waters caused by the completion of Keswick Dam. The route was closed in 1962 when Iron Mountain Mine ceased operations. The tracks remained in place until the late 1980s when they were dismantled and sold (Royston Hanamoto et al. 1991:7,8).

When construction work began on Shasta Dam in 1938, a new route was built to the east through the Sacramento River Canyon. The last through train traveled on the old tracks May 23, 1942. Track between Redding and Shasta Dam was retained as a branch line and the rest was inundated by the waters of Shasta Lake. The branch line was purchased by the U. S. Bureau of Reclamation in 1949, but Southern Pacific continued as operator. In 1950, a portion of the branch line was relocated as a result of the building of Keswick Dam. The new branch line left the Sacramento River and traveled up Middle Creek through Kett and Keswick returning to the river north of Spring Creek (Royston Hanamoto et al. 1991:7).

Abandoned Southern Pacific Railroad remains in the study area include bridge abutments south of Keswick Dam constructed from cut dimension stone during the 1880's, most of the concrete culvert creek crossings north of Keswick Dam built at a later date, and a tunnel dating from the 1880s reinforced with concrete in 1923 (Royston Hanamoto et al. 1991:9). Southern Pacific railroad depots were located at Copley, Coram, Keswick, Kett, Matheson, Middle Creek, Morley, and Motion.

RECREATIONAL ACTIVITIES

Before good roads were built on Iron Mountain, many house parties were held with the guests staying for the weekend and attending a dance and a picnic. Guests would travel up and down the mountain on the Iron Mountain Railroad (Ward 1954:13).

Beginning in the late 1930s, Shasta County began working with state and federal agencies to develop recreational facilities in this picturesque mountainous terrain where the focus was no longer on its rich minerals (Toogood 1978:78).

Baseball

Baseball was a very popular sport as early as the 1870s. Almost every community boasted a team as well as a field of play (see front cover). Baseball fever existed then as it does today, according to the following 1879 Shasta Courier article:

> ...Although the Plow Boy Team has some excellent players, it was clearly seen that they were no match for the Shasta team, and at the expiration of 3 hours and 45 minutes, the game closed with a score of 42 to 18 in favor of Shasta.

Tennis

In the late 1890s, a standard sized tennis court was built for approximately $300 on the Iron Mountain Mine property near the staff house. A steep hillside was excavated in order to build the court. The court had a 12' netting around it to stop the balls from going over the sides. If a ball went over, it was lost forever. The court was a popular place for staff and visitors, and a place where many tournaments were held between company teams or private teams who came from Redding to play.

Football

A football field was also built on Iron Mountain Mine property and was used almost every Sunday during good weather. Eventually, another football field was built at Redding where return games were played. The English Association type of game was played, which was not well known here in the West. In addition to playing against Reddingites, teams came up from as far away as San Francisco and Berkeley.

Fox Hunting and Cricket

Other forms of regional recreation included cricket and fox hunting. Fox hunting was conducted on the plains across the Sacramento River below Redding by the employees of Iron Mountain Mine (Kett 1947:113).

Horse Racing

A horse racing track existed at French Gulch (location unknown) in 1855 (Frost c. 1960s).

RESERVOIRS

Keswick Reservoir

Keswick Reservoir is an afterbay reservoir for Shasta

Lake and Spring Creek powerplants and a regulating reservoir to even out the flow of water through the Keswick powerplant. The reservoir capacity is 23,800 acre ft.; total reservoir area consists of 640 acres; shoreline is 25.5 miles; length is nine miles, and the maximum water depth is 118 ft. (U. S. Department of the Interior 1986:4,5). In 1968, the Bureau of Reclamation and Shasta County entered into a 30-year cooperative agreement and transferred recreational management of the lake to the county (Royston Hanamoto et al. 1991:7). Average annual inflow into the lake from 1943 to 1970 was 6,091,300 acre ft. (Bureau of Reclamation 1983:6).

Shasta Lake

This large body of water was formed by the backed up waters of the Sacramento, McCloud, and Pit rivers behind Shasta Dam, which was built beginning in 1938. These waters formerly flowed freely into the Pacific Ocean and caused, during floods, millions of dollars in damage to Valley farmlands, towns, and cities. The mainline of Southern Pacific Railroad had to be rerouted to make way for the lake resulting in the construction of 12 tunnels and eight bridges (U. S. Department of the Interior 1986:4).

Pertinent Data
(U. S. Department of the Interior 1986:4)

Capacity (normal)	4,493,000 acre ft.
Capacity (gross)	4,552,090 acre ft.
Area of lake	29,500 acres
Shoreline	365 miles
Length	35 miles
Maximum water depth	515 ft.
Drainage area	6,665 sq. miles

Whiskeytown Lake

This reservoir is manmade and was formed by damming Clear Creek. A portion of the water comes from the Trinity River which is diverted into the lake through the Clear Creek Tunnel which passes through the Trinity Divide and emerges from the hillside above the west end of the lake and the Judge Francis Carr Powerhouse. The lake began filling with water in 1962. Total capacity is 241,100 acre ft. The water is first used for power generation, then travels by another tunnel to the Keswick Reservoir where it is mixed with water from Shasta Lake and released through the Keswick powerplant into the Sacramento River (U. S. Dept. of the Interior 1985).

ROADS / TRAILS

The first roads were actually trails used by man and beast. Shasta was the terminus of the wagon roads, where miners' supplies were transferred to the backs of mules. As more gold was discovered, more miners arrived, as did express companies and stage companies, and the trails were constructed into wagon roads.

The mule trail to Yreka from Shasta began at Shasta and followed Rock Creek up to its source at the hillside springs, thence on to Whiskey Creek, to French Gulch, and over the mountains to Yreka. The trail was intentionally laid out on the high ground and avoided the gorges of the creeks. At intervals of approximately every eight miles, the trail descended to the creek so the mules could obtain water (Frisbie and Beauchamp 1973:82).

The first known road from Shasta into the study area was that built by Levi Tower from Shasta to his Tower House in 1852.

Tower's Wagon Road

This road was the main rival of the Sacramento River Canyon road which the leading residents of Yreka felt was the shorter and easier route to the outside world, as did the residents of the Sacramento River Canyon (who would definitely prosper from such a road in the canyon). The road, from the 1850s until the arrival of the Central Pacific Railroad in the 1870s, went from Shasta to the Tower House to French Gulch northward through Scott Valley and Callahan and on to Yreka (Greenwood 1984:18).

The road eventually extended all the way to Yreka on the north, and to Weaverville and beyond to the west. It became known by many names throughout the years. Southern (1942:46) called it the Shasta and Yreka Turnpike Road and stated that portions of it still existed on Main Street through French Gulch in 1942. The Shasta Courier of 7-23-1853 called it the Trinity and Yreka Road, and a week later the Yreka and Weaverville Road. The Shasta Herald called it the Tower House to Yreka Road on 8-20-1859. Charles Camden became owner of the portion from Shasta to the Tower House after Tower's untimely death in 1865 and turned it into the Camden Toll Road. In 1924, the State of California constructed Highway 20 over much of the same route and finally, following more construction by the State, the road became what it is today, Highway 299 West.

Levi Tower's road was, according to his brother-in-law Charles Camden, the first preliminary free wagon road from the Tower House to Shasta (Toogood 1978:26).

When Tower finished his wagon road from Shasta to his Tower House in 1853, county supervisors appointed twelve road supervisors, three of whom were hotelkeepers on the road between Shasta and the Tower House. They were Tower, Mr. Vandeventer, and Mr. Short. By the end of 1853, Tower, and partners Ferrington and Wingate who owned a sawmill near Whiskey Creek and a store at Shasta, had financed nearly all improvements on the section of road between Shasta and Whiskey Creek (Toogood 1978:26).

From the Shasta Courier of 11-19-1853:

> We understand that Messrs. Ferrington and Wingate have had some ten or twelve men employed the past two weeks, in improving the road leading from this place to Whiskey Creek. We are further informed, that they have done their work in a most thorough manner, so that now it is quite practicable for a team to draw a full load of hay over the road, and Messrs. Ferrington and Wingate expect to be able to haul lumber from their saw mill to this place the entire winter through. Up to this time, there has been, we presume, not less than $2,000 expended in improving this road, by Messrs. L. H. Tower, Ferrington and Wingate, and other enterprising citizens.

The threat of a competing road through the Sacramento River Canyon in 1855 caused great concern to businessmen who stood to lose a great deal of revenue if the traffic was diverted. By this time nearly half a million dollars worth of freight was being hauled on the trail from Shasta via the Tower House through French Gulch and over the Scott Mountains annually to Yreka. Levi Tower pledged $10,000 for road repairs (Toogood 1978:28).

Levi Tower received a request from Siskiyou County leaders to help support improvement of the trail through French Gulch to Yreka in November of 1855 (Toogood 1978:27). The following excerpts are from an open letter printed in the Shasta Courier on 11-17-1855 in which Tower pledged $10,000 toward construction costs to improve the trail:

> Gentlemen: Your communication relative to the practability of building a wagon road to Yreka via Scott's valley is before me, and I am pleased to see that you feel so deep an interest in the enterprise. There can be no doubt of its feasibility, nor of the advantages

> which such a road would offer not only to the citizens of Siskiyou, but of Shasta, and I venture the assertion that the road can and will be made by individual enterprise. The people on the line of the proposed improvement can and will subscribe as liberally on the Shasta side as you propose doing on the Yreka side of the mountain. I think we may perhaps obtain aid from the citizens of Weaverville in making a portion of the road, that portion of it from Shasta to the waters of the Trinity, as by so doing they would be overcoming the chief impediment in the way of making a wagon road to Weaverville. I have not had an opportunity of conversing with many of my neighbors since the receipt of your favor, but I feel that I can pledge them all to donations or subscriptions proportionate with their means. Personally, I would not be pecuniarily benefitted at present, but would certainly be a loser were the road to be diverted up the line of the Sacramento River, and for this reason I will subscribe the sum of ten thousand dollars, payable in installment whenever needed: and many others, as I before remarked, have signified a willingness to aid the enterprise by labor and money. When I first located where I now reside, few supposed that wagons would ever reach me, but now stages make regular trips, and with expenditures of a very few thousand dollars, any load could be taken to my place then be hauled to the town of Shasta. This improvement is a result of little more than my individual labor, and the expenditure of a few thousand dollars, and from actual observation of the country.

The road over Scott Mountain to Yreka was completed in 1859 at a cost of $25,000. The California Stage Company began running stages on it that year and to Portland in 1860 (Martin et al. 1981:46).

In February, 1860, the Shasta Turnpike Road Company completed a survey for a new wagon road from Shasta to the Four Mile House, a hotel owned by Nicholas Maher (Toogood 1978:29).

In 1862, plans were announced to build a road up the Sacramento Canyon to Yreka, bypassing the road from Shasta to Yreka by way of the Tower House and French Gulch. The California Stage Company, which traveled the road over the mountains to Yreka, vowed to invest as much

as $100,000 to keep the traffic on the road (Toogood 1978:29).

A September, 1862 description of the road according to traveler William H. Brewer (Toogood 1978:29) follows:

> "Towers...is on the great Yreka road, many heavy teams are met, and the road is dusty almost beyond endurance."

In 1862-63, Charles Camden became owner of Tower's road and furnished most of the labor force to complete the wagon road from the Four Mile House to the Tower House (Toogood 1978:29).

In 1863, the 12-mile stretch between Shasta and the Tower House opened as the Camden Toll Road. Charles Camden spent $20,000 building the road over mountainous terrain and in some places through solid rock. Tolls collected by Camden supposedly repaid him handsomely for his investment. He continued to operate it as a toll road until at least the early 1870's when the railroad located at Redding and began to take away part of the road profits (Toogood 1978:30).

The road was heavily impacted by a March, 1867 storm causing damage to the Whisky Creek bridge and created two to three foot deep holes in the roadbed (Toogood 1978:31).

In 1898, the Camden Toll Road had become "a curse to the people of Shasta County", according to the Redding Free Press of 10-29-1898.

In 1912, Shasta County purchased the Camden Toll Road but failed to allocate adequate funds to maintain it (Toogood 1978:30,78).

In 1924, the State of California constructed a new highway (Highway 20) through the area which followed the road fairly closely (Toogood 1978:30,78).

During the late 1950s and early 1960s, the State constructed five miles of new highway beginning 2.5 miles east of the Tower House to 2.5 miles east of Whiskeytown including a new bridge over Whiskey Creek to accommodate the forthcoming water of Whiskeytown Lake (Toogood 1978:78).

Sacramento River Trail

This "trail" was also known as the Sacramento River Road. It was established in the early 1850s and began at

Shasta. It traveled northeasterly to Waugh's Ferry just below the mouth of Rock Creek on the Sacramento River, then crossed the river to the west side to the mining towns of Buckeye, Quartz Hill, Newtown, Churntown, and Old Diggings (Frisbie and Beauchamp 1973:76; Ritter 1983).

Beltline Road

The Beltline Road was a concrete maintenance/service road built in 1938 beside the 9.6 mile long conveyor belt which began at the Kutras gravel deposits (T32N R4W, Sec. 31) and ended at the concrete-mixing plant at Coram (T33N R5W, Sec. 21). Many small portions of the road still exist at sporadic locations; all are in poor condition. See "Conveyor Belt".

SAWMILLS / PLANING MILLS

Coggins Mills

Arthur Coggins operated two sawmills, one on the French Gulch Road and the other on Highway 299W (Johnson 1978:53) and also a planing mill at Keswick (Coggins 1978:7). The sawmill on Highway 299W was located at T32N R7W, Sec. 2 and was built in 1946 by Arthur Coggins. It was a standard type sawmill and employed approximately 20 workers. Coggins operated the mill for approximately two years and then sold it to Frank Crawford. In approximately 1949, Coggins built a smaller mill at T33N R7W, Sec. 34 and employed approximately six workers. This mill was different from the aforementioned mill in that it was built quite low to the ground and was capable of sawing 32' long timbers and lumber, a premium marketable length. All work was done by special order. Also located on the property was a conically-shaped, steel-sided, screen-topped tepee burner (Thomas Coggins, personal communication 1994). In 1960, the mill was still operating and included a log deck and the tepee burner. It closed soon after 1960 and was dismantled (Gwen Nichols, Redding, personal communication 1994).

Mammoth Mine

A sawmill existed at Mammoth Mine in 1915 (Brown 1915:23).

Minnesota Mine Sawmill

T32N R6W, Sec. 1 & 2. A small sawmill operated on the mine property in 1894 (Crawford 1894:255).

Burns Sawmill

The following advertisement appears in the History and

Business Directory, Shasta County, CA. - 1881 (Frank and Chappell 1881:37) on file at the Shasta County Library:

> LUMBER. CHARLES BURNS, located two miles above Whiskytown, is prepared to furnish a superior quality of all kinds of lumber for building purposes. For prices, address, CHARLES BURNS, Whiskytown.

SCHOOLS

Blair-Stella-Whiskeytown School
The location of this school is indicated on the 1891 Official Map of Shasta County.

Gladstone Mine School
Beginning in approximately 1912, school for the children of the Gladstone Mine workers was held in the company recreation room on company property. The school became part of the Shasta County school system in 1912 (Lintz 1985:29).

Hart School
A school existed at the settlement of Hart at approximately the turn of the century (Steger 1966:38).

Iron Mountain School
In approximately 1912, the school was located on the second story above a boarding house. The students could look through cracks in the floor to the floor below and see people eating (Cabitto 1977:44).

Mammoth Mine School
In approximately 1907, the school stood on the end of a ridge which dropped off into the canyon on three sides. The school was one room, contained a wood stove, and had one outside outhouse for usually between 30 to 35 students of approximately 20 different nationalities. The one-room school housed nine grades. Baseball, stickball, and a game called blackman were played outside on the flat (Lowden 1977:32).

Spring Creek School
T32N R6W, Sec. 1.

Taylor School
The town of Taylor included, for a time, a school house and five teachers who educated approximately 300 children in the late 1890s and early 1900s (Kett 1947:113).

Whisky Creek School

This school was built in 1855 at a cost of $200. It did not exist in 1858. The Whiskytown School District was formed in 1859. A total of 26 children were in the district in 1860 (Toogood 1978:38). (Note the spelling of Whisky and Whiskytown for these years).

Uncle Sam Mine School

T33N R6W, Sec. 1; T33N R5W, Sec. 6. An "academic sabbath school" was located at the Uncle Sam Mine in 1892 according to the Shasta Courier of 4-30-1892.

SETTLEMENTS / TOWNS / MINING CAMPS

Camp Bailey

T33N R5W, Sec. 32. This was a vacation resort (Salley 1977). According to Steger (1966:26), an 1885 Shasta Courier article stated that Copley existed at the former site of Camp Bailey. See Copley.

Copley

T33N R5W, Sec. 32 (Denny's Map 1904). Copley was first known as Camp Bailey, then as Copley, and lastly as Motion. The Copley Post Office was established in 1886, discontinued in 1913, and named for a Mr. Copley (first name unknown) who operated the Camp Bailey vacation resort (Salley 1977). Copley became headquarters of the Flat Creek Mining District in the 1880s and the Great Western Gold Co. in 1902. It was the location of a Southern Pacific railroad siding and water tank (Smith 1994:58).

Coram

T33N R5W, Sec. 21. The settlement of Coram was established in 1906 as a direct result of the building of a smelter for Balaklala Mine. The Balaklala Consolidated Copper Company built the smelter, and when it was completed it was the largest smelter on the Pacific Coast. It cost almost two million dollars to build (Kristofors 1973:56). Coram was located just west of the smelter. At one time the town contained 23 saloons. Gambling halls were located in the rear of the saloons where no-holds barred games of chance were held. The town also contained 12 rooming houses, three hotels, two butcher shops, three grocery stores, a drug store, jewelry store, sporting goods store, post office, hospital, a local telephone booth, and a long distance booth. The hospital was owned by Balaklala Mine, operated by a Dr. Varian, and available for anyone in need of medical care. In 1910, Coram was incorporated

and was at one time the smallest incorporated city in the United States (after the smelter closed and only 30 people lived in town) (Kenyon 1971:50,51). Property taxes were never assessed in Coram because enough money was collected from saloon licenses to pay all the town expenses. Drinking water came from Motion Creek and was stored in two 20'x20' redwood tanks above the town. A fire destroyed all the buildings in town and left in its wake only the cellars (Kenyon 1971:50-51). Other facilities at Coram included repair shops, offices, residences, and a three-mile long aerial tramway from the mine to the settlement (Royston Hanamoto et al. 1991:7). Southern Pacific Railroad built a station and warehouse where the spur met the mainline grade. Well over 1000 people lived at Coram by 1910 (Roberts 1981:25). On July 1, 1911, the Shasta County Farmers' Protective Association succeeded in closing the smelter by legal action (Kristofors 1973:26) and within two months the smelter was partially dismantled causing the town to become nearly deserted (Kristofors 1973:74). But the mine operated until the end of World War I with intermittent operations thereafter (Kristofors 1973:26). In 1918, the town was disincorporated (Roberts 1981:25).

French Gulch

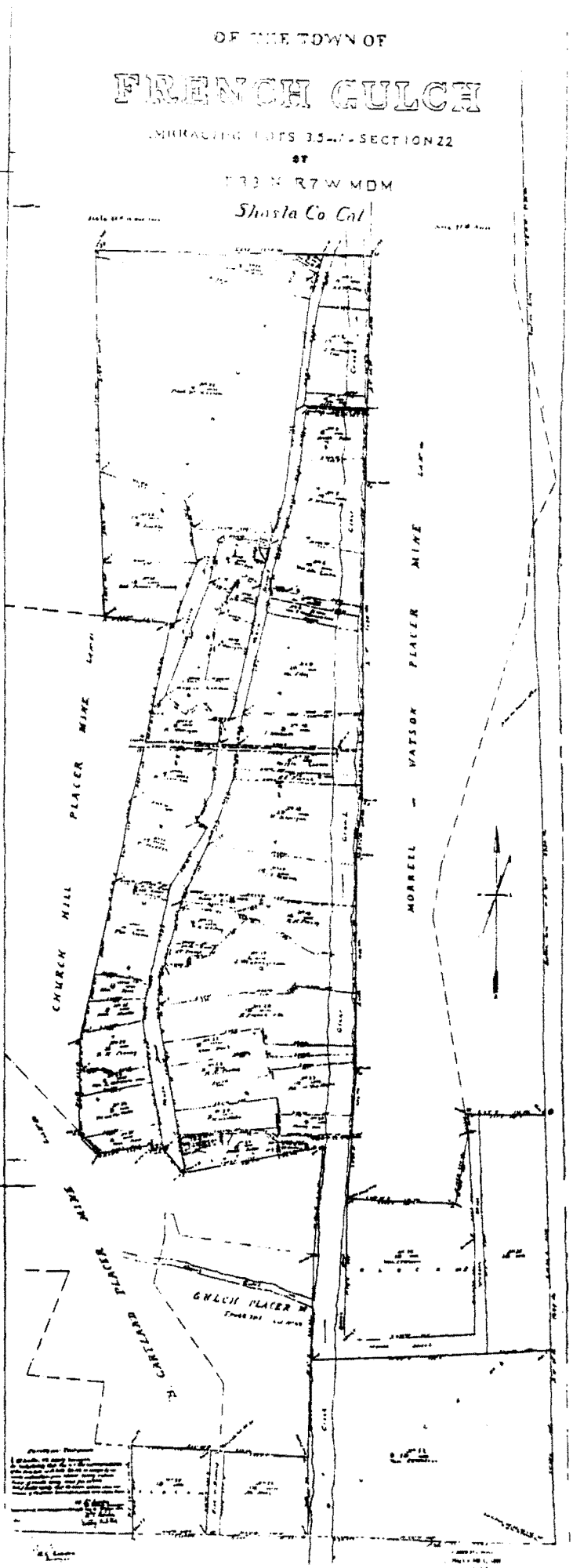
T33N R7W. This community was established in 1849 by French-Canadian miners who arrived via the Trinity Alps and conducted the first gold mining in the area. The first settlement was called Morrowville and was located 1.5 mile west of the present town beside French Creek. Shasta County's first white male baby, C. F. Montgomery, was born at French Gulch in 1851. The French Gulch Hotel was built in 1853 as an addition to the already existing Batavia House (see Figures 10b, 14). Also built the same year just south of the French Gulch Hotel, was the Empire Hotel. Cram, Rogers & Co. began providing regular express service to and from French Gulch in 1853. In approximately 1854, the residents of Morrowville moved into town because mining was being carried on in the streets and under the houses. Terence Maher donated two acres for the Catholic Cemetery in 1855 (Smith 1994:97).

Gold mining was very productive according to the Shasta Courier of 8-25-1855:

> ...the whole valley approaching [French Gulch]...has been turned up, and yet the earth continues to pay remarkably well.

And it was even more so just six months later according to the Shasta Courier of 3-1-1856:

FIGURE 14


OF THE TOWN OF
FRENCH GULCH
SECTION 22
T 33 N R 7 W MDM
Shasta Co Cal
CHURCH HILL PLACER MINE
MORREL — WATSON PLACER MINE
GULCH PLACER

> The mines seem here [French Gulch] even now in embryo. Daily discoveries of new Diggings are being made, and I think before the coming Summer ends, our mining population will have doubled in numbers.

The French Gulch Post Office was established in 1856 (Salley 1977). The Independent Order of Odd Fellows (I.O.O.F.) instituted the second I.O.O.F. Lodge in Shasta County at French Gulch on May 5, 1858. The present building was built in 1913. The original lodge building burned down in 1864 (Eaton 1959:47,48).

The French Gulch Mining District was the most famous gold producing district in northern California at one time. In 1859, French Gulch was the most important gold quartz district in the county (Toogood 1978:48). Many years later in 1915, French Gulch was the most "active" quartz mining district in Shasta County (Brown 1915:29). There were 131 registered voters living in French Gulch in 1928 (Yank 1928).

In 1935, French Gulch was designated as California Historical Landmark No. 166. On March 24, 1972, the French Gulch Historic District was placed on the National Register of Historic Places.

The historic district begins at a point about 750′ southwesterly of the intersection of French Gulch Road and Main Street "...then north about 4,000′, east about 1,750′, south about 4,000′, west about 1,750′ to the point of beginning" (U. S. Department of the Interior 1969:2). The National Register lists the following principal buildings and information in their official documentation of the historic zone. However, this author has discovered errors in a portion of the data. The errors are indicated with an asterisk.

> Franck's Store, founded in 1854. One story stone building built in 1867 on the east side of Main Street opposite the French Gulch Hotel.

- One-story, wood framed, false fronted commercial buildings on the east side of Main Street dating to c. 1880s.

* Franck residence, c. 1860s. One story wooden frame building with a metal roof. West side of Main Street. (Should be: <u>east</u> side of Main Street).

* Saint Anne's Catholic Church, c. 1900.

Wooden, one story with bell tower-steeple on east side of the Main Street. (Should be: St. Rose's Catholic Church). See Figure 8.

* I.O.O.F. Hall, c. 1860s. Two story wooden building with metal roof on west side of Main Street. (Should be: built in 1913).

* Feeney Hotel, built in 1887. Two story wooden building with one story annex, covered portico with turned wood columns, and metal roof. (Should be: built in 1853 as an addition to the Batavia House and called the French Gulch Hotel.) Contained 34 rooms plus outside corrals, stables and sheds. Saloon built by Richard Feeney in 1885 in front section of present hotel. Remainder of present hotel built also by Feeney in 1888 and renamed Feeney Hotel. Became a haven for bootleggers during the 1920s. Changed ownership in the 1940s and became once again the French Gulch Hotel.

Gartland Cabin, c. 1856. Oldest remaining French Gulch building. (Note: This author has been unable to find any information on this cabin. Those French Gulch residents interviewed were asked about this cabin and none had ever heard of it).

Historic buildings still remaining in French Gulch are the I.O.O.F. (Independent Order of Odd Fellows) Lodge building, the French Gulch Hotel, Franck's Store (currently--1995--known as E. Franck & Co.), the false-fronted building on the east side of Franck's Store (presently--1995--remodeled as apartments), St. Rose's Catholic Church (Figure 8), and the Franck residence.

Wooden sidewalks present when French Gulch was founded still exist on Main Street. The town has seen two periods of prosperity approximately 50 years apart. The main industry is still gold mining. Total gold output for the district up to 1970 was $30 million (Smith 1994:97).

French Gulch Chinatown

Chinatown was located just south of French Gulch a short distance south of St. Rose's Catholic Church on the same side of the road (Donald Carlson, French Gulch, personal

communication 1994). The settlement consisted of rows of weather-beaten huts huddled together side-by-side. The location was also the site of a garden whose vegetables were brought to French Gulch and sold by a Chinese man named "John". Only one woman supposedly lived at Chinatown. The entire area has been dredged; there are no remains.

Nielsen (1965:1-9) gives the following insight into some of the goings on at Chinatown:

> Chinese workers from the Gladstone Mine came here to recreate on their time off. They would put twenty-five cents on a round table at Sing Gim's store for the old Chinese opium users. Sing Gim would pocket the twenty-five cents, go to the basement, and return with a little round pottery bowl of sticky, black stuff, which the old opium smokers would accept with shaking, grateful hands, take their pipes and repair to the room off the store where there were bunks and fade into peaceful dreams. It was surcease for the Chinese lads. They visited among their kind, picked up news of their homeland, and before returning to the Gladstone, usually made a purchase of Hi Mi (dried shrimps), dried abalone, bean threads, and a pressed fish, which they made into a tasty dish of SiFoon, and usually a gallon of meat and malt whiskey (vigor in every drop). From this whiskey, they made a sure cure for rheumatism - take one live, good-sized rattlesnake and place it in one gallon of meat and malt whiskey. Let stand for several days and serve in a shot glass. Pain ceases and comfort ensues...

Grizzly Gulch

Once the home of the grizzly bear, the Grizzly Gulch Mining District was one of the first ten Shasta County districts listed in the 1850 census. Supposedly Grizzly City was platted and even an issue of the Grizzly City Gazette was published (Steger 1966:35).

In 1855, Brown's House (hotel) existed at the mouth of Grizzly Gulch according to the August 11, 1855 issue of the Shasta Courier.

Rich gold strikes were made throughout 1854 at Grizzly Gulch according to the Shasta Courier of 8-25-1855. The Shasta Republican of 4-12-1856 states:

> Large nuggets are frequently found in this

> region [Grizzly Gulch], and high up upon the tributary gulches of Grizzly the richest deposits are found deep in the hillsides, in the beds of the 'lost' ravines which have been obliterated by the volcanic agencies which formed the present mountains...On the west side of Clear Creek, a lead of richly paying ground has for about two years been worked with the 'hydraulic apparatus,' by Messrs. Eastman & Co. If we recollect rightly, the depth of the deposit at these diggings is about thirty feet, and the general course of the lead appears to be about northwest and southeast. Following its course across Clear Creek, the same deposit can be seen in the point of the hill at the end of Oak Bottom, and at some future day, it will no doubt be followed far into the hill by some enterprising miners.

Gold quartz claims were being bonded as late as 1878 by San Francisco capitalists in Grizzly Gulch (Steger 1966:35).

Hart

T32N R5W, Sec. 4. This location was an 1890s gold mining settlement located on the east side of the Sacramento River near the Texas Mine and Walker Mine Road. It was also known as Hart Village, Hart Mining Village, and, in later years, became the location of Old Diggings. The settlement was named for Richard G. Hart, Sr., a prominent mining man who owned the Texas Mine. The Hart Post Office was established in 1891 and was discontinued in 1900. The village consisted of a store, post office, telegraph service, school, and houses (Steger 1966:38).

Hooverville

The settlement of Hooverville was actually a tent camp that existed on the outskirts of Whiskeytown during The Depression. Residents were made up of families who migrated into the area to mine for gold. The men set up small mining operations mainly in Whiskey and Clear Creeks (Toogood 1978:62).

Jillsonville

T33N R6W, Sec. 18. Jillsonville was a settlement of the Gladstone Mine established for the married employees and their families and named for mine owner I. O. Jillson. The settlement consisted of approximately 20 three-room cottages that were built in 1912 at the upper end of Cline Gulch. Bunkhouses for single men were also built on the mine property. School classes were held in the company recreation room. From six to 10 students

attended the classes (Lintz 1985:29). Two large houses were designed by renowned architect Gustave Stickley and built soon after the turn of the century. Both exist today; one is vacant and one is occupied by the property owners. These houses are referred to by locals as the "Gladstone Mansions" (Figure 7a). However, the owner of the property refers to them as the upper house and the lower house. Mr. Jillson lived in the lower house and the mine superintendent lived in the upper house. The current owners live in the upper house, the smaller of the two. This house is a wooden two-story structure with a steep metal roof and a cedar shingle exterior. The first floor contains an entry way, living room, dining room, kitchen, pantry area, and water closet. The living room has a large brick fireplace. The upper floor has four bedrooms and one full bath. Three of the four bedrooms have nooks or closets which contain sinks, some with mirrored medicine cabinets. The unoccupied lower house is the biggest of the two and was constructed about 1912. It is a wooden two-story structure with a steep hip roof line and a cedar shingle exterior. The first floor has an entry way, living room, dining room, kitchen, pantry, and water closet. The upper floor has four bedrooms, a sun room, a large landing area and one full bath. All the bedrooms have sinks. Both houses have dark wood paneling downstairs with an abundance of woodwork, beams, sideboards, bookcases, and window seats (Ramona Larramendy, French Gulch, personal communication 1994). The houses also contain long and wide concrete verandas, wood floors, beveled window and door glass, and stone fireplaces. The rock work was done by a Scandinavian stonemason (Lintz 1985:29,30).

Dances were held every Saturday night in the recreation hall for the employees. In later years, a spring-supported dance floor and hall were built, and a 10-piece band provided the entertainment. In approximately 1924, the mine equipment was sold and the settlement all but disappeared (Lintz 1985:29,30). All that remains are the upper and lower houses, a few foundations, some rock walls, ruins of the stamp mill, and mine tunnels.

Kennett

T33N R5W, Sec. 10. Although this town is not in the study area, it was close, on the eastern side, and influential with respect to the regional history. Remains of the mining town now lie beneath the waters of Shasta Lake (Martin et al. 1981:88).

Keswick

T32N R6W, Sec. 17. This town was named by Mountain Copper Company, Ltd., for its president Lord William

Keswick of London when mining operations began in 1896 (Gudde 1969:37). Mountain Copper Company built a smelter at Keswick (Figure 13a). When completed in 1896, Keswick was the second largest community in Shasta County (Kristofors 1973:25). One thousand people lived at Keswick in 1900, which included the community of Taylor to the south (Steger 1966:42).

Federal investigations began in 1898 for alleged fume damages to vegetation caused by the fumes released from the Keswick smelter (Figure 10c). In 1905, a federal injunction was secured against the smelter forcing it to close (Kristofors 1973:25).

Keswick Railroad Station was located in Sec. 17 according to Denny's Map of 1904. Keswick was maintained as the railway terminal for the shipment of crude ores and various supplies. By 1907, all smelting had ceased at Keswick, although Keswick continued to be maintained as the railway terminal. Then, in 1921, the railway machine shop was removed to a point on Boulder Creek where it was more convenient to both the Iron Mountain and Hornet mines. This was the end of activities at Keswick, and the town soon became little more than a ghost town, which it remained for many years (Kett 1947:127,128).

A portion of Southern Pacific Railroad's branch line was relocated through Kett and Keswick in 1950 because of the building of Keswick Dam (Royston Hanamoto et al. 1991:7).

Kett

A portion of Southern Pacific Railroad's branch line was relocated through Kett and Keswick in 1950 because of the building of Keswick Dam (Royston Hanamoto et al. 1991:7).

Mad Mule Canyon

This canyon was named for a pack mule that went on a rampage. The canyon was noted for its nuggets as early as 1851 (Steger 1966:45). The mouth of Mad Mule Canyon served as a collection area for county and state taxes in 1852, indicating it was a densely populated area (Toogood 1978:26). In 1853, it served as a voting precinct (Steger 1966:45).

From the Shasta Courier of 1-11-1868, there is the following:

> ...all the claims on Mad Ox and Mule Canyons have yielded an ounce a day to the hand, some of them double that amount--the gold generally being coarse, many of the pieces weighing several ounces. These diggings are said to pay

nearly as well now as when they were first discovered, some sixteen years ago[1851].

A 19½ POUND nugget was found in 1923 as well as a piece of honeycombed gold valued at $10,000 (Steger 1966:45).

Matheson

T32N R5W, Sec. 5. Matheson served as the railroad terminus for Iron Mountain Mine. Ore was hauled from the mine to the main railroad line at Matheson. The rail line was replaced by the Iron Mountain Tramway (aerial tramway) in 1921 (Kett 1947:129). In 1953, the tram was extended one mile from Keswick to Matheson (Lydon and O'Brien 1974:70) and operated intermittently into the 1970s (Royston Hanamoto et al. 1991:7). Remnants of the tram still exist.

Middle Creek

T32N R5W, Sec. 28. A settlement existed at the mouth of Middle Creek and the Sacramento River in 1849 (Steger 1966:47). In 1883, the settlement became the location of a siding and railroad depot built to serve Shasta. Stagecoaches carried passengers and mail from the depot to Shasta and other points north and west. Stagecoach services lasted into the 1920s. The community became known as Waugh after the railroad depot was completed, named for Joseph Waugh, who granted the railroad a right-of-way through his property to build the depot (Royston Hanamoto et al. 1991:7). See Waugh.

Motion

This location was named by an unknown goldminer who overindulged in drinking "knockumstiff" and went through the m-o-o-o-t-i-o-n-s of a-pu-u-k-i-n (Conway 1970:47). See Copley.

Old Diggins

T32N R5W, Sec. 4. This place was also known as the Old Diggings District and the Buckeye District. It was first settled by miners from Ohio, the Buckeye State, hence the name. In later years, it became known as Old Diggings when the abandoned mines were reopened after a quarter century of nonuse (Steger 1966:50). The Old Diggins District was extremely productive just after the Gold Rush when hydraulicking produced large amounts of placer gold. Considerable amounts of lode gold were recovered from the Reid Mine from approximately 1904 until 1919. While recovering the gold, the quartz was used as flux in the Kennett smelter (Clark 1979:140). At approximately the turn of the century, a small narrow gauge railroad hauled quartz to the mainline for further hauling to the smelter at Keswick where it was used as flux (Colby

1982:77). The area was again prospected in the 1930s (Clark 1979:140). The district contains the Texas, Mammoth, Central, Reid, Evening Star, Walker, and Calumet mines. The Reid is the deepest mine in the district (Averill 1939:146,147).

South Park

T32N R5W, Sec. 20. The fully plotted town listed as South Park existed only on paper (Shasta County Assessor's Map Bk. 65:16) at this location as development never took place. See Thelma.

Stella

T32N R6W, Sec. 16. Stella existed at this location according to the Denny's Map of 1904. The Stella Post Office was located at Whiskeytown from 1885 until 1909 (Salley 1977). There were 35 registered voters living in Stella in 1928 (Yank 1928).

Taylor

T32N R5W, Sec. 20. Both Taylor and Keswick were major smelter communities for the Iron Mountain Mine (Kristofors 1973:18). The community of Taylor adjoined and lay immediately to the south of Keswick. The town started to grow in 1895 shortly after ground was broken to begin the building of the Keswick smelter. First came saloons, then more saloons (30 total), then stores, two hotels, several boarding houses, a drugstore, the Taylor Post Office, a church, a livery stable, and the Mountain Miner weekly newspaper. The town also included, for a time, a school house and five teachers who educated approximately 300 children, a Justice of the Peace, Justice of the Peace court, and a jail that was always full. Taylor claimed approximately 1,600 to 1,800 residents at its peak (Kett 1947:113).

Thelma

T32N R5W, Sec. 20. Like South Park, a fully plotted "paper" town existed at this location (Shasta County Assessor's Map Bk. 65:19) but development never took place. Thelma and South Park adjoined each other.

Tower House

T32N R7W, Sec. 3. The Tower House was the converging point of three old trails of vital importance to the settlement and exploration of northern California (Figure 11). They were the road through French Gulch over the Scott Mountains to Yreka, the road to Weaverville and Humboldt Bay, and the road to and from Shasta.

The Tower House is not located within the study area - it stands at the very southwest edge. But because of the

importance it played in the early history of the entire study area, the author would be remiss not to briefly discuss it.

In 1852, Levi Tower purchased the property which already included a trading post and a bridge across Clear Creek. Tower immediately began building the Tower House Hotel. When it was finished, the hotel quickly served as a community center, election precinct, mining district, communication hub, and quasi-courthouse (Toogood 1978:36). In 1858, the hotel became the stage depot for the California-Oregon Stage Company and leased stables to the stage company in order to provide fresh horses for the trip to either Weaverville or Yreka (Toogood 1978:31). The hotel continued to enjoy a local and regional reputation as a pleasant summer resort throughout the 1870's (Toogood 1978:36) and provided overnight accommodations until it was destroyed by fire in 1919 (Toogood 1973:47) and never rebuilt.

The Tower House Historic District was placed on the National Register of Historic Places on July 2, 1973 (Federal Register 1978:5177).

Unknown

T32N R5W, Sacramento River vicinity. A small late 1800s mining camp whose name is currently unknown, has been archaeologically investigated (Vaughan 1986).

Waugh

T32N R5W, Sec. 28. This community took its name from Joseph Waugh who built a hotel at the mouth of Middle Creek at the Sacramento River crossing in 1883 with money he received from the railroad for cutting off river access for his ferry. Waugh and other Shasta businessmen planned to make this new settlement the railroad depot for Shasta. By 1885, the community served both passenger and freight trains, boasted a Wells Fargo and Company office, a telegraph office, and the Waugh Post Office (Frisbie and Beauchamp 1973:9,10).

Whiskeytown

T32N R6W, Sec. 9. The townsite was first settled by gold miners in 1849 and called Whiskey Creek for a barrel of whiskey which fell into the creek. The major part of the town now lies beneath Whiskeytown Lake (California Department of Parks & Recreation 1976:164). Whiskey Creek served as a collection point for county and state taxes in 1852 indicating it was a densely populated area (Toogood 1978:26). In 1855, Whiskey Town was also known as Franklin (Shasta County Record Book R, pg. 356). The Whiskeytown Hotel at Whiskeytown became the first place

in the area to obtain a post office in 1856. Owner Ben Mix served as postmaster (Toogood 1978:31) By 1862, the community had lost its bloom (Toogood 1978:24).

A tent camp known as "Hooverville" existed on the outskirts of Whiskeytown during The Depression years made up of families migrating to the area (Toogood 1978:62).

The following relevant quote is from the Redding Record-Searchlight of 7-1-1952:

> ...a combination grocery store, filling station and bar building...stands on the new highway one block south of the now-vacant hotel.

The townsite of Whiskeytown is California Historical Landmark #131 (California Department of Parks & Recreation 1976:118), but most of the original town is now under the waters of Whiskeytown Lake. Today's Whiskeytown is located within the boundaries of the Whiskeytown Unit of the Whiskeytown-Shasta-Trinity National Recreation Area and is privately owned and managed.

Whitehouse

T32N R5W. Whitehouse was a mining town established in the 1870s by A. A. Anthony and named for his company, Whitehouse and Bliss of London, England (Steger 1966:65). Denny's Map of 1904 locates Whitehouse.

SMELTERS / ROASTING STALLS

The meaning of smelting, according to Webster's Third New International Dictionary of the English Language Unabridged (Gove 1976:2151) is to melt or fuse (ore) in order to separate the metal. Therefore, smelters and roasting stalls were a necessary mining operation. However, smelters caused great environmental damage (Figures 5a, 10c, 13a, 13b).

The reduction process involved blast furnaces and stall and heap roasting. All methods produced sulfur dioxide which was emitted directly into the atmosphere and resulted in tremendous damage to the vegetation it came in contact with (Fay 1970). Fluxes were required in the smelting process. Quartz was used as flux and was obtained from many local mines (Renfree c. 1960s:1).

Untold numbers of trees were cut for the needed timber in the mine tunnels as well as the fuel for the open ore fires and the smelter furnaces. The burning ore caused toxic

sulphur dioxide gasses to be released into the air which killed whatever vegetation it touched. Fruit orchards as far away as Anderson and Happy Valley were killed overnight from the toxic fumes when the winds or breezes were able to carry them that far. Farmers eventually organized and sued the mines. But falling copper market prices, together with the lawsuits, eventually put the mines and smelters out of business except for Iron Mountain Mine which operated intermittently until 1963 (Martin et al. 1981:88).

Balaklala Mine Smelter

The smelter for Balaklala Mine was completed near Coram in 1906 (Figure 5a). At the time of completion, the smelter was the largest and most modern on the Pacific Coast. A Cottrell fume control device was installed in 1910 as a result of farmer protests in an attempt to control the release of toxic fumes into the air. A successful court suit by the Shasta County Farmers' Protective Association closed the smelter in 1911 (Kristofors 1973:25,26).

Iron Mountain Mine Smelter and Roasting Stalls

T32N R5W, Sec. 17. Construction commenced in 1895 on two large blast furnaces for Iron Mountain Mine capable of smelting 300 to 400 tons of ore per day. By late 1896, both furnaces plus 80 roasting stalls were operating (Kett 1947:11). This smelter eventually became the first successful smelter in Shasta County (Martin et al. 1981:88). It was located at the present-day location of the Spring Creek Powerhouse (Figure 13a).

In 1898, Mountain Copper Company acquired almost 3,000 acres of timberland in the Big Bend area on the flat, wooded banks of the Pit River for the purpose of supplying cordwood fuel for steam boilers, railway locomotives, ore heap roasting at Keswick, and to obtain timbers and lagging for mining operations at Iron Mountain Mine. The trees were cut in the spring and early summer so they would be partly dried before being floated down the Pit River and eventually to Keswick on the Sacramento River on a 65-mile long log drive. The delivery point was at Keswick where a sheering boom was placed across the river to a receiving pond where a chain conveyor belt carried the wood to a loading platform alongside the railway track. This practice was discontinued in 1901 when crude oil became available for use in steam plants and locomotives (Kett 1947:117,118).

In 1904, the smelter was treating an average of more than 1000 tons of sulfide ore per day. Service water for the smelter was pumped through a 16" pipe from the Sacramento River near the mouth of Spring Creek for a distance of

approximately 4,500 ft. Pumping installations included a Babcock-Wilcox steam boiler, a Corliss-Hamilton engine, and an old-style Cornish plunger pump (Renfree c. 1960s:4).

A federal investigation took place between 1898-1904 for alleged fume damage to vegetation caused by fumes released from the smelter resulting in the closure of the smelter in 1907 (Kristofors 1973:25).

Mammoth Copper Mining Company Smelter

The Mammoth Mine smelter was built at Kennett in 1905 and enlarged in 1907 (Figure 5b). Upon completion of the enlargement, it replaced Balaklala's smelter at Coram as the largest smelter on the Pacific Coast. It was the largest copper producer in California during its peak production years of 1908-1919 (Kristofors 1973:26). During peak operations, as many as 2,300 men were employed at the mine (and smelter) which included as many as 20 different nationalities from around the world (Martin et al. 1981:88). The smelter and mine closed in 1919 because of a decline in copper prices (Kristofors 1973:26). The smelter briefly reopened in 1923 (Kristofors 1973:80). In 1925, the smelter was sold for salvage and dismantled (Kristofors 1973:26).

STAMP MILLS

Stamp mills were essentially large "hammers" consisting of pieces of heavy machinery dropped vertically onto ore and/or rocks so as to crush the ore into workable dust. This method replaced arrastras. Stamp mills existed at each mine listed below.

Ajax Mine	5-stamp
American Mine	5-stamp (replaced by a 10-stamp)
Benson Mine	2-stamp and 5-stamp
Clipper Mine	10-stamp
Desmond Mine	450 lb. stamps
Gambrinus Mine	10-stamp
Ganim Mine	10-stamp Straub
Gladstone Mine	30-stamp
Iron Mask Mine	5-stamp
Iron Mountain Mine	20-stamp
Lost Confidence	20-stamp (1890)
Mad Ox Mine	10-stamp
Phoenix Mine	10-stamp
Red Rover Mine	10-stamp
Minnesota Mine	10-stamp

Morton & Bliss Mine	10-stamp
Snyder Mill	10-stamp
Texas Consolidated Mine	20-stamp
Truscott Mine	5-stamp & 14-stamp Straub
Uncle Sam Mine	30-stamp
Walker Mine	10-stamp

TUNNELS

Clear Creek Canal Tunnel
See entry under Ditches/Canals.

Diversion and Railroad Bypass Tunnel
T33N R5W, Sec. 15. This tunnel is located beneath Shasta Dam on the west side. It was built to safely bypass the mainline of Southern Pacific Railroad trains during the excavation and early stages of work prior to the completion of the new railroad relocation, and to divert the waters of the Sacramento River during later stages of concrete work on the dam. The first train through the tunnel occurred in 1939. It is now plugged with a 466 ft. long section of cement (Downing c. 1960s:38,39).

Pertinent Data
(Downing c. 1960s:38,39)

Construction started	1938
Holed through	1939
Length	1820 ft.
Height	28 ft.
Width	26 ft.
Type of construction	Concrete lined
Contractor	Colonial Construction Co., Spokane, WA

Railroad Tunnel
T33N R5W, Sec. 29. This railroad tunnel is located 1/2 mile north of Motion Creek. It is approximately 500' long and 17' wide and was built in the 1880s. It was lined with a concrete reinforcement in 1923. It is slightly curving resulting in the opposite openings not being visible from within. The tunnel structure is apparently stable (Royston Hanamoto et al. 1991:13).

Spring Creek Tunnel
This tunnel inlet is located on the east side of Whiskeytown Lake and travels easterly through the Rock Creek Siphon, then to the Spring Creek powerplant (Bureau of Reclamation 1983:7).

Pertinent Data
(Bureau of Reclamation 1983:7)

Construction period	1960 to 1963
Length	12,707 ft.
Diameter	18.5 ft.
Lining type	Circular
Lining thickness	9'37"

Spring Creek Powerplant Tailrace Tunnel

Construction on this tunnel began in 1960 and ended in 1962. It is 567 ft. long and 21 ft. wide (Bureau of Reclamation 1983:7,8).

DATA RETRIEVED FROM HISTORIC MAPS/PLATS
Compiled by Charles Murphy
(sensitive information deleted from publication)

Section		
	T32N R5W	
3*		
4*		
5*	Road	GLO Plat 1855-1869
6*	Road	GLO Plat 1855-1869
7*		
8*	Road	GLO Plat 1855-1869
9*	Whitehouse	Denny's 1904 Map
10*		
16*		
17*	Road	GLO Plat 1855-1869
	Keswick Station	Denny's 1904 Map
18*		
19*		
20*		
21*		
27		
28*	Waugh's Ferry	GLO Plat 1855-1866
	Waugh's House	GLO Plat 1855-1866
	House	GLO Plat 1855-1866
	Waugh	Denny's 1904 Map
29*		
	T32N R6W	
1		
2*		
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4		
5		
6		
7	House	GLO Plat 1866-1869
	Road	GLO Plat 1866-1869
8	Road	GLO Plat 1866-1869
9	J. Riner's House	GLO Plat 1866-1869
	C. Taylor's House	GLO Plat 1866-1869
	Road	GLO Plat 1866-1869
10		
11*		
12*		
13*		
14*		
15		
16	Whiskeytown Hotel	GLO Plat 1866-1869
	Road	GLO Plat 1866-1869

*Denotes public lands administered by the Bureau of Land Management as of 1995

	Stella	Denny's 1904 Map
17	Road	GLO Plat 1866-1869

T32N R7W

1	Camden's Toll Road	GLO Plat 1868
	Toll Road from Shasta	GLO Plat 1868-1881
	Madame Brown's	GLO Plat 1868
2	Camden's Toll Road	GLO Plat 1868
	Toll Road from Shasta	GLO Plat 1868-1881
11	H. Jackson's House	GLO Plat 1868
	Camden's Toll Road	GLO Plat 1868
	Toll Road from Shasta	GLO Plat 1868-1881
12	Camden's Toll Road	GLO Plat 1868

T33N R5W

5	Trail	GLO Plat 1869-1881
	Power Line	Wiegel's 1908 Map
	Road	Wiegel's 1908 Map
6	Trail	GLO Plat 1869-1881
	Power Line	Wiegel's 1908 Map
	Copper Group Claims	Wiegel's 1908 Map
7	Cable Tram	GLO Plat 1917-1919
	McKinley Group Claims	Wiegel's 1908 Map
	Power Line	Wiegel's 1908 Map
	Wagon Road	Wiegel's 1908 Map
8	Trail	GLO Plat 1869-1881
9	Trail	GLO Plat 1869-1881
10	Trail	GLO Plat 1869-1881
	Power Line	GLO Plat 1936
	McDaniel House	GLO Plat 1936
	Ed Cedar House	GLO Plat 1936
14		
15	Trail	GLO Plat 1869-1881
	Power Line	GLO Plat 1936
16	Road and R.R.	Wiegel's 1908 Map
	Power Line	Wiegel's 1908 Map
	Power Line	GLO Plat 1936
17	Trail	GLO Plat 1869-1881
	Power Line	Wiegel's 1908 Map
	Tram	Wiegel's 1908 Map
	Balaklala Road	Wiegel's 1908 Map
	Balaklala Group Claims	Wiegel's 1908 Map
	Unnamed Mining Claims	Wiegel's 1908 Map
18	Road	Wiegel's 1908 Map
	Tram	Wiegel's 1908 Map
	Balaklala Group	Wiegel's 1908 Map
	McKinley Claims	Wiegel's 1908 Map
19*		
20*	Trail	GLO Plat 1869-1881

	Coram townsite	Wiegel's 1908 Map
	Power Line	Wiegel's 1908 Map
	Flume	Wiegel's 1908 Map
	O & C R.R.	Wiegel's 1908 Map
	Road	Wiegel's 1908 Map
	Aerial Tram	Wiegel's 1908 Map
	Smelters	Wiegel's 1908 Map
21*	Coram Station	Wiegel's 1908 Map
	RR and Road	Wiegel's 1908 Map
22*		
23		
27*		
28*		
29*	Trail	GLO Plat 1869-1881
	Wagon Road	Wiegel's 1908 Map
	O & C R.R.	Wiegel's 1908 Map
	Trinity Copper Properties	Wiegel's 1908 Map
	Flume	Wiegel's 1908 Map
30*	Indian Allotment	Wiegel's 1908 Map
	No. Calif. Power Line	Wiegel's 1908 Map
31*	No. Calif. Power Line	Wiegel's 1908 Map
32*	Trail	GLO Plat 1869-1881
	Copley	Denny's 1904 Map
	Copley Post Office	Wiegel's 1908 Map
	O & C R.R.	Wiegel's 1908 Map
	Wagon Road	Wiegel's 1908 Map
	Unnamed Mining Claims	Wiegel's 1908 Map
33*		
34*	Churntown	GLO Plat 1869-1881
	Old Road	Wiegel's 1908 Map

T33N R6W

1	Statesman Group Claims	Wiegel's 1908 Map
	Mining Claims	Wiegel's 1908 Map
	Wagon Road	Wiegel's 1908 Map
	Trail	GLO Plat 1882-1919
	Uncle Sam Mine	Wiegel's 1908 Map
2	Virginia Mining Co. Claims	Wiegel's 1908 Map
	Mining Claims	Wiegel's 1908 Map
3*	CPRR	Wiegel's 1908 Map
4	CPRR	Wiegel's 1908 Map
5	CPRR	Wiegel's 1908 Map
6*	CPRR	Wiegel's 1908 Map
7*	Gladstone Group	Wiegel's 1908 Map
	No. Ca. Pwr. Co. Line	Wiegel's 1908 Map
8*	Gladstone Group	Wiegel's 1908 Map
	No. Ca. Pwr. Co. Line	Wiegel's 1908 Map
9	Power Line	Wiegel's 1908 Map
10	Electric Pwr. Trans. Line	GLO Plat 1917-1919

	Balaklala Group	Wiegel's 1908 Map
	Trail	GLO Plat 1882-1919
11	Cable Tram	GLO Plat 1917-1919
	Road	GLO Plat 1917-1919
	Balaklala Group	Wiegel's 1908 Map
12	Balaklala Group	Wiegel's 1908 Map
	Aerial Tram	Wiegel's 1908 Map
12	Power Line	Wiegel's 1908 Map
	Road	GLO Plat 1917-1919
	Trail	GLO Plat 1882-1919
	Cable Tram	GLO Plat 1917-1919
13	Spread Eagle Grp. Claims	Wiegel's 1908 Map
	Road	GLO Plat 1917-1919
	Trail	GLO Plat 1882-1919
14*	Balaklala Group	Wiegel's 1908 Map
	Road	GLO Plat 1917-1919
	Electric Pwr. Trans.Line	GLO Plat 1917-1919
	Cable Tram	GLO Plat 1917-1919
15*	Shasta Copper Ex. Co. Claims	Wiegel's 1908 Map
	Trail	GLO Plat 1882-1919
	Electric Pwr. Trans. Ln.	GLO Plat 1917-1919
16		
17*	Gladstone Grp. Claims	Wiegel's 1908 Map
18*	Gladstone Grp. Claims	Wiegel's 1908 Map
	No. Ca. Pwr. Lines (2)	Wiegel's 1908 Map
	Road	Wiegel's 1908 Map
19*		
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21		
22*	Baltic Copper Group	Wiegel's 1908 Map
	Shasta Grp. Ex. Co.	Wiegel's 1908 Map
23*	Road	GLO Plat 1917-1919
24*	Last Chance Group	Wiegel's 1908 Map
	Trinity Copper	Wiegel's 1908 Map
	Motion Copper Group	Wiegel's 1908 Map
25*	Ingersoll Co.	Wiegel's 1908 Map
	Trinity Copper	Wiegel's 1908 Map
26*	Copper Mtn. Group	Wiegel's 1908 Map
27	Trail and Water Tank	GLO Plat 1881
28*	Mad Ox Mine	GLO Plat 1881
	Trail	GLO Plat 1881
	Wagon Road (to House and Orchard in another sec.)	GLO Plat 1881
	Tarantula Group	Wiegel's 1908 Map
	Mad Ox	Wiegel's 1908 Map
29	CPRR land	Wiegel's 1908 Map
30*	CPRR land	Wiegel's 1908 Map
31*		
32*		

33*		
34		
35*		
36		
	Ruins of Old Sawmill	GLO Plat 1882-1919
	House and Orchard	GLO Plat 1881
	Vacant House	GLO Plat 1870-1872

T33N R7W

1*		
2*		
11		
12*	American Grp of Mines	Wiegel's 1908 Map
13*	American Grp of Mines	Wiegel's 1908 Map
	Power Lines (2)	Wiegel's 1908 Map
	Wagon Road	Wiegel's 1908 Map
14*		
15*		
22*		
23		
24*		
25		
26*		
27		
34	Weaverville Turnpike Rd.	GLO Plat 1868-1872
	House and Barn	GLO Plat 1868-1881

T34N R5W

19	Mining Claims	Wiegel's 1908 Map
30	Summit Group Claims	Wiegel's 1908 Map
	Graves Group Claims	Wiegel's 1908 Map
	Power Line	Wiegel's 1908 Map
	Trail	GLO Plat 1881
31	Mining Claims	Wiegel's 1908 Map
32	Trail	GLO Plat 1881
	Gravity Tram	Wiegel's 1908 Map
	Mammoth Co. Mine Complex	Wiegel's 1908 Map
	Aerial Tram	Wiegel's 1908 Map
	Power Line	Wiegel's 1908 Map
	Mammoth Mine	Wiegel's 1908 Map

T34N R6W

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T34N R7W

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12
13 Whitney Denny's 1904 Map
24
25
36 Ruins of Clipper Mill GLO Plat 1917-1919
Shasta Copper Co. Claims Wiegel's 1908 Map

RECOMMENDATIONS

It is the author's belief that further, more intense and in depth research work can be undertaken to supplement this overview which has been limited by funding and time constraints.

1. It is recommended that archaeological surveys for locations of historic features in the Grizzly Gulch area be conducted.

2. It is recommended that further historical interpretation and a more comprehensive study of the history of the South Fork Mountain Fire Lookout Tower be undertaken to determine its eligibility for the National Register of Historic Places. Fire lookouts represent a finite and dwindling historic resource.

3. It is recommended that archaeological ground surveys be undertaken to determine the route of the Clear Creek Ditch and location of its aqueducts for further interpretation and nomination to the National Register of Historic Places.

4. It is recommended that further historical study be conducted at the Desmond Mine and its corresponding claims.

5. It is recommended that further historical study be conducted at the Sunshine Mine.

6. It is recommended that further historical interpretation of the Ganim Mine be conducted to see if it is potentially eligible for the National Register of Historic Places.

7. It is recommended that a more comprehensive study of the history of the town of French Gulch be undertaken. All the information included in this report about the town is strictly a data inventory and succinct overview; more comprehensive research is desirable.

   French Gulch is the location of some of the oldest known and still operating businesses in Shasta County which date back to the time Shasta County was settled and created by Euro-Americans.

   French Gulch was placed on the National Register of Historic Places on March 24, 1972. However, much of the data used in the documentation process is incorrect. These errors should be corrected during the comprehensive study.

8. It is recommended that further historical study be conducted of the remains of the Iron Mountain Mine aerial tramway at Matheson.

9. It is recommended that further historical research into the Southern Pacific Railroad Company tunnel at T33N R5W, Sec. 29 be undertaken with special regard to its eligibility for nomination to the National Register of Historic Places. This tunnel is significant because it was excavated as part of the original railroad track construction during the 1880s by Southern Pacific Railroad Company. As an adjunct, this Redding to Shasta Dam segment of the railroad deserves further analysis.

Middle Creek Hotel (Frisbie and Beauchamp 1973:81)

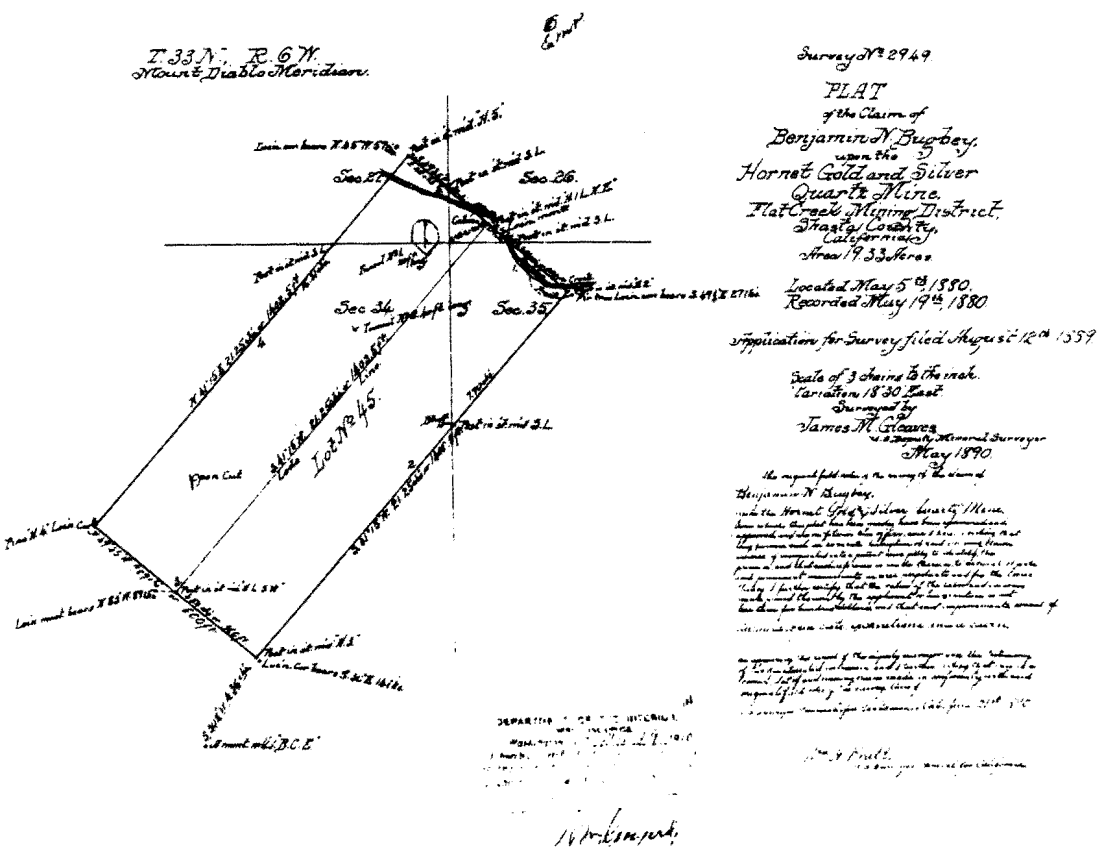
CONCLUSIONS

Historically, the Interlakes Special Recreation Management Area (ISRMA) was a focus of considerable mining and hydroelectric and water control developments. Chronologically, the non-Native American Indian history of the region can be divided into three distinct periods and two distinct mining focuses, i.e., gold and copper. Each mineral was, in its respective historic period, the number one commodity produced in Shasta County.

The first phase of the mining era (Period 1) began to unfold in the late 1840s and consisted of placer gold mining. The first known mining activities took place in Clear Creek a short distance south of the ISRMA, but soon spread out in all directions as more and more gold discoveries were made. Mining methods changed quickly as faster and easier ways were discovered to wash the gravel. The first gold mining was conducted with shovels and pans, but such equipment was soon replaced with rockers, long toms, and sluice boxes. Hydraulic mining began in 1855 (Lydon and O'Brien 1974:56). The Gold Rush mining period ended when the Civil War broke out in the early 1860s causing many men to leave and fight in the war. Gold mining continued, but never quite to the same extent. Mining methods also changed as the surface placers disappeared resulting in hard rock quartz mining. Peaks of production occurred during 1908 to 1915 and again from 1936 to 1941 (Lydon and O'Brien 1974:19). Gold output during The Depression years (the third phase of historic mining) became almost as high as it had been years before during the Gold Rush (Clark 1979:xi).

The second phase (Period 2) of the mining era, where attention was directed to the industry of copper extraction, began in the 1880s. In 1896, copper replaced gold as the number one mineral produced in Shasta County. As was the case during the Gold Rush in previous years, the copper industry was a tremendous economic stimulus to the county. Thousands of men were employed in the copper mines and in association with the many support features associated with it such as smelters, aerial tramways, and private rail lines. Many small towns and communities sprang up to accommodate the growing population (Kristofers 1973:3), some now long gone. But copper mining was very hazardous to the environment. Damage suits were brought against the mines by private citizens, primarily those engaged in agriculture, resulting in the closure of the copper smelters by court order in 1919. Copper mining never recovered after the smelters were closed. Reclamation/watershed restoration of the damaged hillsides began in earnest by the 1930s and continues to some extent to this day.

If the developmental history of the ISRMA had to be reduced to a short statement, it would be mining and, beginning in the 1930s with the initiation of Period 3, development of water control and hydroelectric power (the Central Valley Project). Mining brought Euroamerican men to the area in large numbers just as it continues to do today on a much smaller scale. During the Gold Rush and just after many Chinese immigrants came to work in the mines as well, eventually moving out to other areas and jobs. Mining, in one form or another, as well as the Central Valley Project, guided and influenced much of the history of the study area as well as other portions of Shasta County and beyond.



Historic Mineral Survey Plat (Iron Mountain Mine vicinity)

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APPENDIX 1

HISTORIC PATENTED MINES AND FEATURES WITHIN THE INTERLAKES SPECIAL RECREATION MANAGEMENT AREA

M.S.	NAME	DATE	TOWNSHIP & RANGE		FEATURES
880	Dudley Placer Claim	1878	33N	7W	none
2082	North Star	1883	33N	7W	trail, tunnels
2519	Mtn. Rose	1886	33N	6W	trail to Copley, tunnel, house, quartz mill, road
2520	Black Bear	1886	33N	6W	2 wagon roads, tunnels, sled road, trail
2521	Brown Bear	1886	33N	5W & 6W	sled road
2546	Central Quartz (Old Diggings Mining District)	1887	32N & 33N	5W	boarding house, shafts, tunnel, ore bin, wagon road
2547	Shasta Quartz	1887	32N & 33N	5W	boarding house, shafts, tunnel, ore bin, wagon road
2662	Mockingbird	1887	33N	5W	tunnel, sled road
2663	Gray Eagle	1887	33N	5W & 6W	sled road, open cut
2714	Grizzly Bear	1888	33N	5W	road
2715	Hockeye	1888	33N	5W & 6W	open cuts, trails, road, shaft, tunnel
2725	Empire Quartz	1887	32N	5W	mill, ore bin, buildings, tramway, shaft, wagon road
2849	Grand Prize Wedge Location Wash. Location	1889	32N	5W	road, lodging house, boarding house, tunnels, blacksmith shop, RR, ore bin, shafts
2942	Black Sentinel	1890	32N	7W	sled road, mill, tunnels
2949	Hornet Gold & Silver	1880	33N	6W	open cut, tunnels, cabin, trail

2955	Little Nellie	1890	33N	6W	open cut, ore bin, tunnels, 2 blacksmith shops, trail, road, barn, house, Iron Mtn. wagon road
2977	Ridge Gold	1890	33N & 34N	5W	sled road, ridge road, open cut
2979	Snyder	1890	33N	5W & 6W	roads, dump, tunnels, blacksmith shop, trail sled roads, mill
2998	Sacramento	1890	32N	5W	road, buildings, mill, boarding house, wood road, shaft, bunk house
2999	Josephine	1897	32N	5W	mine road
3021	Texas Cons. Mines & Mill Texas Georgia Belcher Texas #2 Alta & Hellis	1890	33N	5W	roads, mill, wire cable, cabins, shafts, open cuts
3027	Live Oak	1890	32N	6W	road, open cut, trail
3030	Bonanza	1890	33N	6W	2 lodging houses, cabin, tunnels, boarding house, office, storeroom, tramway, blacksmith shop, road
3037	Ohio Hidden Treasure Mountain Side Pioneer	1891	33N	6W	Balaklala house (just outside), open cuts, trails, tunnels
3054	Kit Carson Spanish Millsite	1891	32N	5W	cabin, wagon road, shafts, tunnels, open cuts
3091	Ellis	1891	33N	5W	tunnels, sled roads
3104	J.S. Johnson	1891	33N	6W	roads, tunnels
3109	Newton	1891	33N	5W & 6W	trails, cabin, open cut
3229	Mammoth Garfield	1893	32N & 33N	5W	mill, roads, trail, tunnels

3234	Webster Grab Grub Raven Delta Hornet Madison	1893	33N	6W	tunnels, house, blacksmith shop, trails, dump
3288	South Central Bertha May Shasta Mill Site	1895	32N & 33N	5W	pipe line, tunnel, shop
3322	Santa Clara Scottish Chief	1895	33N	5W	tunnels, roads, shaft, house, open cuts, trails, cabin
3422	Kahny Consolidated Mayflower Mamoth Rocky Gulch	1896	32N	5W	roads, dump, blacksmith shop, shafts, placer wash, tunnel, smoke stack, house, cabin
3439	North Pole Location Little Annie (Walker Consolidated Mines)	1897	32N	5W	trail, shaft, mine road
3446	Balaklala El Monte Fortune Mule Alice Dump Huckleberry Feldspar El Capitan Windy Camp Cleveland	1897	33N	5W & 6W	trails, tunnels, cabin
3462	Bandana Suprise Don Pedro	1897	32N	6W	shafts, office & house, road, tunnel, shaft house
3464	Kangaroo	1897	32N	5W	road, open cut, cabin, placer workings
3465	Evening Star Donkey Location Progress Location	1897	32N	5W	wagon road, tunnels, shafts, house, open cut
3485	Last Chance	1897	32N	5W	roads
3536	Richmond	1898	33N	6W	house (just outside), roads, tunnels, trail

3543	Busy Bee	1898	33N	6W	tunnels
3574	Great Eastern	1898	32N 33N	5W	tunnels, trail
3575	Jealous (Flat Creek Mining District)	1898	32N	5W	cabin, prospect shaft, tunnels, mine road
3576	Carrie	1898	33N	5W	pipe line, power house, office, roads
3578	Great Eastern	1893	33N 32N	5W	tunnels
3585	Minnesota Consolidated	1898	32N	6W	mine road, mill, tunnels, blacksmith shop, boarding house, office & store, powder house
3622	Queen Ann Placer	1899	32N	5W	shop, house, road, open cuts
3631	Extension	1899	32N	5W	7 houses, open cut, roads, shafts, tunnel
3636	Kingsnake Placer	1899	32N	5W	pipeline, RR, open cut trail
3717	Owl Gray Squirrel Gold Bar	1899	33N	6W	open cuts, tunnels, cabins
3728	Alice	1899	32N	5W	shafts, tunnels, 2 cabins
3737	Dunn Bros.	1899	32N	5W & 6W	open cuts, shafts, stable, boarding house, blacksmith shop, tunnel
3744	Hidden Treasure Great Eastern Wedge Big Dipper Keystone Last Link	1902	33N & 32N	6W	tunnels, Iron Mtn. RR, bunk house, stage road
3839	Shasta King Lookout Last Chance Grandview Sunnyside Addenda	1900	33N	6W	open cuts, tunnels
3840	Lost Desert Protection Golden Age Anything Tar Flat June Bug	1900	33N	6W	open cuts, sled road, boarding and bunk house, trails, tunnels, cottage
3847	Nonsutt	1900	32N	5W	open cut, road, boarding house

3894	Smokey Placer	1901	32N	5W	2 cabins, shaft
3905	Sulphide Yellow Jacket Rose Bud Oxide Choporral Copper	1901	33N	6W	mine road, tunnel, trail
3937	Lawson Butte Sheep Spring Columbia Montana 99 Colorado Marlin Nescot Rosin Interview Beaten Copper Blue Jay Big Buck Doe Sunshine Comet Bories Poker 44 Black Oak Pine Bur Sage Lester	1901	33N	6W	tunnels, cabins, boarding house, trails, open cuts
3982	Treat	1902	32N	6W	open cuts
3983	Little Rover	1902	32N	6W	ore road
4047	Lyon's Cons. Louise Black Marie Emma	1902	33N	5W	tunnels, cabin, open cut
4050	A.A.A.	1902	32N	5W	school house, shafts, 8 dwelling houses, barn, hall, road
4056	Switchback	1902	32N	5W	RR, open cut
4057	Time Check	1902	32N	5W	RR, tunnels, shaft, open cut
4060	Wasp Baltic	1902	33N	6W	tunnels

4062	Live Oak Bookkeeper Gopher Bell	1902	32N	5W	cabin, tunnels, shafts
4065	Grand Surprise	1902	32N	5W	tramway, tunnel, pipeline, smelter
4068	Goodwin Placer	1902	32N	5W	tram road, cabin, open cut, tunnel, blacksmith shop, shaft
4072	Old Ben Placer	1902	32N	5W	RR, cabin, tunnel
4091	Lucky Cuss Polar Star	1903	32N	5W	tunnel, house, RR, cut
4092	Mitchell Bros. Mine #1, 2, 3	1903	32N	5W	RR, tunnel, open cuts
4107	Statesman Prohibitionist Republican Democrat Socialist Mugwamp Politician Senator Judge President Congressman	1902	33N	6W	wood roads, flume, open cuts, road, shaft, trails, cabin, tunnels
4108	Keswick Consolidated	1903	32N	5W	RR, tunnels, bunker, open cut, ore shed, spur track
4127	Kiln	1903	32N	5W	RR, tunnel
4128	Sundown Sunset Elevator Sunrise	1903	32N	5W	tunnels, RR
4136	Crown Point	1903	32N	6W	house, wagon road, RR, tunnel
4138	Monte Cristo Claremont	1903	33N	6W	tunnels, sled road
4139	Newport Cons. Harbor Light Alice Fraction	1903	33N	6W	wagon road, sled road, tunnels
4141	New Year	1903	33N	6W	tunnel

4143	Butte Normandi Black Metal New Eldorado Copper Alps Wintun Dewey Grand Prize Himalaya Hobson Omega Oro Blanco Sampson Seaver South Fork Western	1903	33N	6W	tunnels
4144	McKinley Big Chief Blue Jay Cold Spring Copley Creek Dry Creek Emma Star Frozen North Garnet Iron Cap Jasper Lucky Boy McKenzie McKinley Pony Rainbow Rain Crow Rocky Gulch Ruby Spring Gulch Sunny South Trade Dollar Trail White Grouse	1903	33N	5W & 6W	road, tunnels, Copley trail

4145	Blaine Alta Bryan Hill Jefferson Cold Feet Snow Slide Chingapin Cold Stream Babe in the Woods Last Choice Blenheim Triangle	1903	33N	6W	tunnels, cross cut
4146	Cold Water	1903	33N	6W	tunnel
4148	Great Verde Blue Vein Copper Bank Red Copper	1903	33N	6W	5 adits
4165	Pine Fir He She It Helena Gladstone Jumbo Giant Mill Site Helena Mill Site	1903	33N	6W	wagon road, tunnels, bunk house, houses, Gladstone Mill, road
4225	Good Hope	1904	33N	6W	tunnel
4226	Good Medicine	1904	33N	6W	tunnel
4244	Phil Sheridan US Grant WT Sherman	1904	33N	6W	tunnel, crosscut
4261	Triumph Gold Nugget	1904	33N	6W & 7W	tunnels
4322	Lafayette Cons. Confidence	1904	33N	5W	mess house, open cuts, RR, store, barn, 2 bunkhouses
4371	Standard	1904	33N	7W	tunnel
4372	Letitia	1904	33N	7W	tunnel
4416	Rainbow Backbone Northstar Eureka	1905	34N	5W	open cuts

4417	Mammoth IXL #1 AJAX Crown Point Graves Kenneth Monarch Keystone Monogram	1905	34N	5W	wagon road, open cuts, blacksmith shop, tunnels, engine house, boarding house, aerial tramway, shafts
4418	Elephant Central Lamb	1905	34N	5W	open cuts, wagon road, tunnel
4431	Blue Diamond	1905	32N	5W	cabin, open cut
4441	McKinley Teddy Garfield	1905	34N	5W	tunnels
4501	Rocky Gulch Creek	1906	33N	6W & 5W	road, tunnels
4502	Cocktail	1906	33N	6W	tunnel
4505	Mayflower June Bug Domino Future	1906	34N	5W	open cuts, wagon road, tunnels
4513	Old Cal Old Judge Summit Sampson Mt. Shasta	1906	32N & 33N	5W	open cuts, tunnels
4521	Bennington Cons. Concord Darset Yorktown Prescott Northstar Alta King Warren	1906	33N	6W	mess house, tunnels, shaft, Iron Mtn. RR, open cut
4599	Indiana Sunrise Last Chance Bay State	1907	33N	5W	tunnel, shafts
4676	Congress Saratoga Harbor Light Extension	1907	33N	6W	tunnels, tram road
4681	Blue Danube	1908	32N	6W	house, tunnel, open cut, shop
4691	Cottonwood Placer	1908	33N	5W	county road

4754	Dump Holcomb	1908	33N	6W	tunnels
4784	Skookum Hiyu Hard Cash Mtn. Crest Yellow Pyrite Last Dollar	1907	33N	6W	shafts, tunnels, cabin
4807	Hillside	1910	33N	6W	None listed
4813	Potlatch R.S. Copper	1909	33N	6W	tunnel, open cuts
4899	Summit Group Texas Iowa Oregon Main Yankee Keystone West Eureka Copper Queen Dorothea Yellow Jacket Jay Bird Keno Josephine Red Gossan Pine Crag	1913	34N	5W	trails, many tunnels, sled road, cabin, compressor house, shaft, power line
4924	Olive Placer	1911	32N	5W	3 bunkhouses, master house, house, road,, tram, road
4946	Lost Confidence	1911	32N	5W	RR, cuts, shaft
5353	Bornite No's: 1,2,3,4,5,6,7,8 Blue Bell	1917	34N	5W	tunnels
5438	Thistle Lode	1919	32N	6W	None
5447	Midget Lode	1921	33N	6W	tunnel, open cut
5449	Highland Lode	1921	33N	6W	None listed
5458	Cloud Burst & Red Gossan Lodes	1919	32N	6W	None
5748	Flatbush & Bowery Belle Lodes	1923	32N	6W	open cut
5803	Metropolis and Wilson Lodes	1925	32N & 33N	5W	store, road, house
5828	Kitchener Lode	1925	32N & 33N	6W	RR, tunnel

5829	Ole Hanson Lode	1925	33N	6W	RR
5831	Prince Albert & Velvet Lodes	1925	33N	6W	tin scrap plant, roads, 3 dwellings, school, 2 garages, electric trams, flume, tunnel
5832	Clemenceau Wilson Pershing Foch & Hughes Lodes	1926	32N & 33N	5W	road, bunkhouse, cook house, bucket tram, scale house, warehouse, RR, station
6207	Esther Lode	1937	32N & 33N	5W	Bucket tram, tunnels
6228	Lost Shaft Connecting & Janice Lodes	1938	32N	6W	shop, compressor, roads

APPENDIX 2

CALIFORNIA INVENTORY OF HISTORIC PLACES
and
NATIONAL REGISTER PROPERTIES

The following historical places or locations determined eligible for the National Register of Historic Places are located inside the Interlakes Recreation Area:

French Gulch Historic District

T33N R7W. Sec. 22. In 1935, the town of French Gulch was designated as California Historical Landmark #166. On March 24, 1972, the downtown French Gulch district along both sides of French Gulch Road was placed on the National Register of Historic Places (National Archives of the United States 1978:5177).

French Gulch is a Gold Rush era mining town first prospected in 1849 (California Department of Parks and Recreation 1976:84). The earliest known major pack trails, and later stages, passed through French Gulch northward to Yreka and southeastward to Shasta. According to the California Department of Parks & Recreation (1976:84):

> Mid-late-19th century small mining town in area first prospected 1849, with 1-2-story frame structures along Main Street, many with false fronts and verandas, abandoned mines nearby include stamp mill and other original machinery. Orchard included, developed from trees brought by ship around Cape Horn...

According to the National Register of Historic Places Inventory - Nomination Form 10-300, July, 1969 (page 198):

> A town of 250± inhabitants in a narrow canyon between a hill and Clear Creek. Almost all the buildings face a single main street. Improvements include a hotel, a Post Office, a public school, a Catholic Church, two cemeteries, two stores, an IOOF Hall, a Playhouse or legitimate theater (in the former school building) and several dozen dwellings mostly of considerable age. There are large yards, numerous trees, white picket fences, an irrigation ditch of fresh water alongside the main street for part of its length, and a pleasant trout stream in a rocky bed behind

the town. Above and below the town are the scars of placer gold mining operations...

Of important note is the fact that little of the actual town of French Gulch lies within the recreation area. Therefore, only limited historical information regarding the town is included in this report.

Iron Mountain Mine and Keswick Smelter
Both places were placed together on the California Inventory of Historic Places (California Department of Parks & Recreation 1976:89).

Keswick Dam
T32N R5W, Sec. 21. Paperwork was submitted by the Bureau of Reclamation in 1994 to the Office of Historic Preservation for eligibility consideration of Keswick Dam for the National Register of Historic Places. It is an important secondary structure of the California Central Valley Project (CVP), and is an integral structure for the operation of Shasta Dam.

Keswick Smelter Site
See Iron Mountain Mine.

Reid Mine in Old Diggins
This location has been placed on the California Inventory of Historic Places. According to the California Department of Parks & Recreation (1976:105), the mine was worked by Spaniards in approximately 1900.

Shasta Dam
T33N R5W, Sec. 15. Shasta Dam is the key structure of the Central Valley Project, one of the nation's major water development projects, and one of the largest concrete gravity dams ever built in the United States. Shasta Dam and powerplant were deemed eligible for the National Register by the Office of Historic Preservation in Sacramento for both historical and engineering significance based on a 1990 submission by the Bureau of Reclamation.

Whiskeytown
T32N R6W, Sec. 9. The townsite of Whiskeytown has been placed on the California Inventory of Historic Places but most of the original town is now under the waters of Whiskeytown Lake (California Department of Parks & Recreation 1976:118). It is also California Historical Landmark #131.

The townsite was first settled by gold miners in 1849 and called Whiskey Creek for a barrel of whiskey which fell

into the creek. The major part of town now lies beneath Whiskeytown Lake (California Department of Parks & Recreation 1976:164). Whiskeytown is located within the boundaries of the Whiskeytown National Recreation Area.

The following California historic places are not located within the Interlakes Recreation Area, but are close by:

Father Rinaldi's Foundation

California Historical Landmark #483. Catholic Church stone foundation built through efforts of Father Rainaldi [correct name spelling] at Shasta. But, the foundation never materialized into a church (California Department of Parks & Recreation 1976:192,193).

Pioneer Baby's Grave

California Historical Landmark #377. The last remaining known gravesite in a pioneer Jewish cemetery (California Department of Parks & Recreation 1976:150). Located 3/4 of a mile west of Shasta alongside Hwy. 299W.

Shasta (State Historic Park)

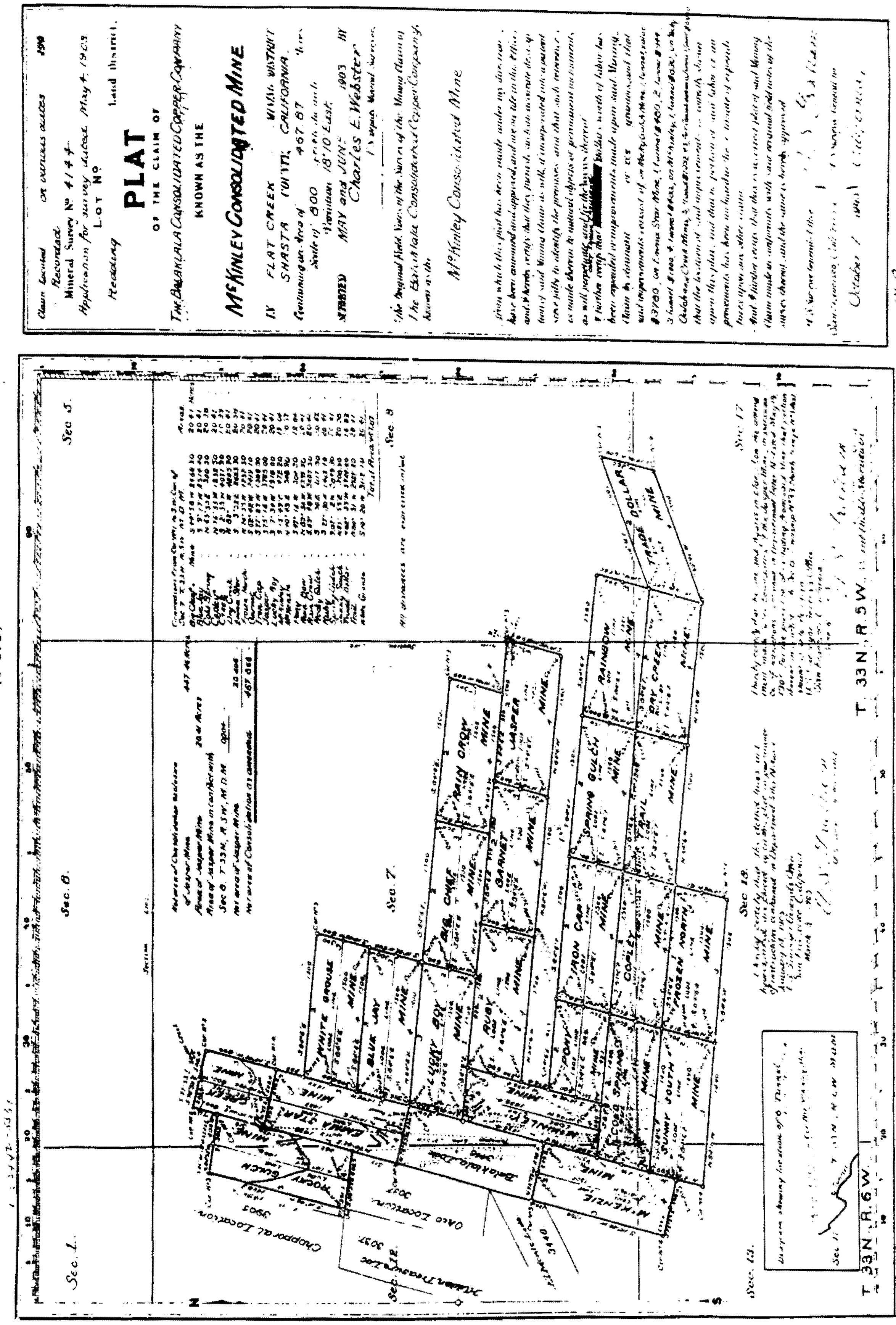
California Historical Landmark #77. This was once a renowned Gold Rush mining and freighting town. It had many influences on the study area and is located just south of it. It served as County Seat from 1851 to 1888. A number of standing structures and the partial remnants of 2-story brick commercial buildings remain and are maintained by the State (California Department of Parks & Recreation 1976:110).

Shasta Courthouse

California Historical Monument. It is located within the borders of Shasta State Historic Park.

Tower House Historic District

T32N R7W, Sec. 3. This was placed on the National Register of Historic Places on July 2, 1973 (Federal Register 1978:5177). It is a Gold Rush era mining complex and includes Bickford Mine (El Dorado), and the 1850s era Tower House Hotel, barns, bridges, and dwellings (California Department of Parks & Recreation 1976:116). The district is located within the boundaries of the Whiskeytown National Recreation Area and is administered by the National Park Service. The district lies on the outside southwestern edge of the Interlakes Recreation Area.



(4-875)
Mineral Survey No 4144
PLAT
OF THE CLAIM OF
THE BALAKLALA CONSOLIDATED COPPER COMPANY
KNOWN AS THE
McKINLEY CONSOLIDATED MINE
IN FLAT CREEK MINING DISTRICT
SHASTA COUNTY, CALIFORNIA
Charles E. Webster
McKinley Consolidated Mine
Sec. 6.
Sec. 5.
Sec. 7.
Sec. 8
Sec. 1.
Sec. 12.
Sec. 13.
Sec. 18.
Sec. 17
T. 33 N. R. 5 W.
T. 33 N. R. 6 W.