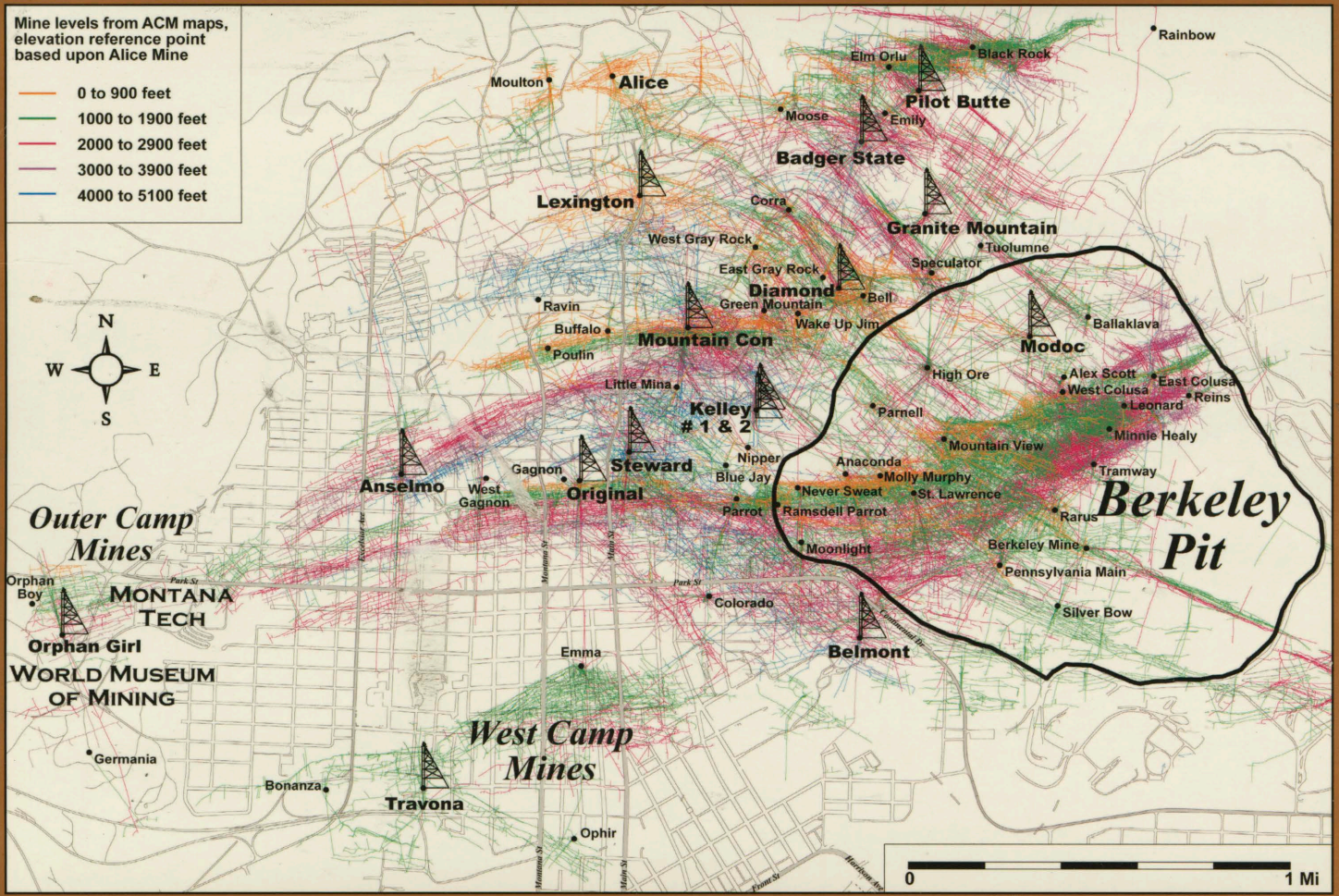
Butte, Montana, Richest Hill on Earth



Montana Bureau of Mines and Geolo

Nov. 7, 2013

Montana Bureau of Mines and Geology
Earth Science Information

Butte, Montana: Richest Hill on Earth
100 Years of Underground Mining
by Ted Duaime, Patrick Kennelly, and Paul Thale

This map shows 10,000 miles of underground mine workings, broken down by depth, over a base map of Butte with modern roads and landmarks. A full-size wall map is available in our offices or at ***www.mbmg.mtech.edu***.

GREAT FALLS MT 594
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Carol & Ivan-

No news - just an esoteric card - that very few folks might appreciate. You seemed likely candidates. Butte should long since have collapsed! Your book sales not at all! Love - Marcelle

Ivan & Carol Doig
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The Butte Miner

MINING IN BUTTE—A BRIEF HISTORY

Long before the first pick ax bit into an unblemished Butte hill, relentless forces of nature were setting the stage for one of the greatest mining epics the world has known. Granitic rocks, the "parent material" of Butte's mineral wealth, first formed some 78 million years ago deep within a primeval earth. Slowly it pushed up to within a few miles of the surface.

Earth shattering pressures continued to pry against the granite, forming large, extensive fractures into which mineralizing solutions deposited copper, silver, gold, lead, zinc, manganese, and many other metals. These too were driven toward the surface while the surface itself was being chipped away by the erosive forces of wind and water. The allied efforts of the two geologic processes exposed the large vein deposits which millions of years later would generate so much of Butte's history.

What took the forces of nature countless centuries to produce was discovered, excavated and reprocessed by man in but a blink of geologic time. History books note that the first white men to probe the area were a group of explorers led by Judge C. E. Irvine in 1856. That expedition recorded

Butte was truly a town of limitless opportunity. With the miners came the investors and entrepreneurs, a handful of whom would rise high above the calloused throngs. These were the copper kings. The copper barons and their internal war would open a spirited new chapter of Butte debauchery, albeit raising it to levels of opulence previously unknown in these rustic parts.

The "war of the copper kings" was waged by three indefatigable, though often unscrupulous businessmen with an uncanny instinct for ferreting out ore, power and profit: William A. Clark, Marcus Daly and F. Augustas Heinze. In their decades—long grapple for control of the copper wealth, each left his personal signature on the politics, culture, economics, and landscape of the region and the state. Millions were spent to buy support for their empires, with many a miner enjoying a full belly, cigar box and wallet as a direct result of their fiscal coercion. They were men of intelligence and refinement, yet they battled like fighting cocks.

The *Butte Miner* and the *Anaconda Standard,* rival political tabloids of the "copper kings" illustrate this wide-open era with these headline stories which ran the morning after the 1889 municipal elections. The *Butte Miner* story: *"By coercion, intimidation and bribery, the returns show*

The Miner's Union Hall after the labor violence of June, 1914.

many points to carry materials, tumbling and roaring into bins for transfer to dump cars and hoisting to the surface.

LIFE AND DEATH IN THE BUTTE MINES

The Butte hill circa 1900.

LIFE AND DEATH IN THE MINES

"I rustled at the Diamond - I rustled at the Bell;
I rustled all summer - and I rustled like hell."
Miner's Anthem

It was tough, dangerous work, but surprisingly few miners would have traded it for any other profession. The pay was decent and when the works were not shut down due to faltering markets or labor disputes, the town was on a roll.

Mining also offered a man relative independence in his work. In the inky depths, the miner usually toiled alone or with a small group. A shift boss delegated daily chores and left the miners to complete them. If a man didn't take to a mine, or vice versa, it was easy to hire on at another, often times without even missing a shift.

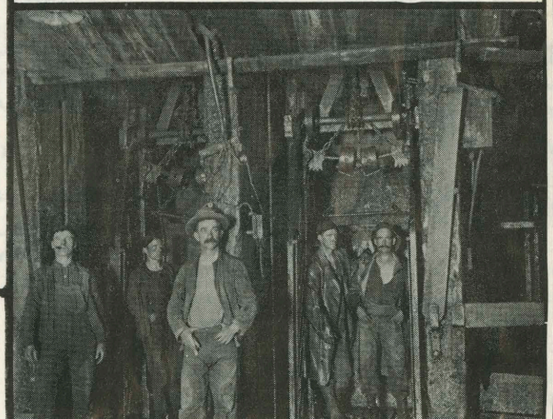
"I've been hired and fired ten thousand times,
Tis Matty Kiely who dug their mines.!"

Drill, dynamite and muck stick (shovel) were the ball, bat and glove of the mining game. A shout of "fire" meant that dynamite fuses in the drill holes had been lit. After the blast, the shattered ore was loaded into cars that in the early days were pulled by mules to the main shaft. There the ore was lifted up to the surface in skips. The loaded skip

"Spittin' a round" deep inside the Butte hill.

The mules themselves figure prominently in the early mining folklore of the region. Around 1910 there were at

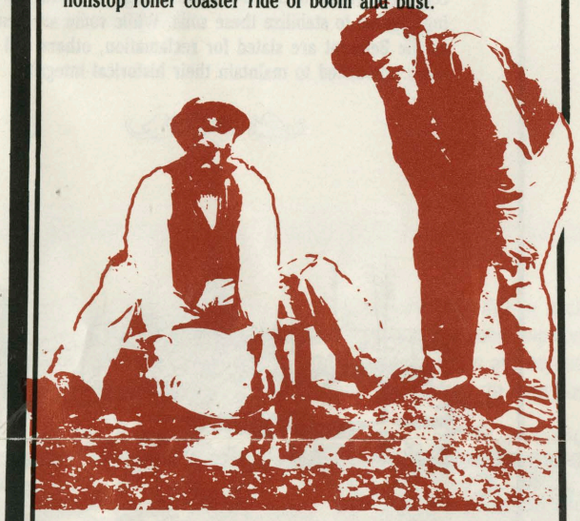
pay ore and which was waste. Hoisting engineers were charged with the delicate task of raising and lowering the skips and cages. Mining engineers mapped out the game plan, and foremen and shift boss made sure it was carried out.



horn sharpened for digging." Apparently prehistoric prospectors had already tested the ground for mineral wealth. The origin of those earlier prospectors and the purpose for their excavation still remains a mystery.

Gold was discovered in 1864 and Butte City, named for the large butte now sporting the "M," became the youngest fledgling in the ranks of other famous and sometimes infamous regional boomtowns such as Bannack and Virginia City. The rush was on. Grizzled miners with goldpan in hand and a brace of pistol in their belt flocked to the Butte diggings. While work proceeded at a feverish pace, few of the claims were profitable. As one historian noted, "The dance halls panned out more gold than the richest placers!"

By 1874 most of the shallow diggings had played out. The population dwindled to less than sixty and the town appeared ready to dry up and blow away like tumbleweed. This was Butte's rude introduction to what would become a nonstop roller coaster ride of boom and bust.



Early Montana placer miners.

One man who stuck, William Farlin, had specimens of rock from his prospect hole assayed and found them rich in gold and incidental silver and copper. Farlin kept this knowledge secret for a time, letting the mining population thin out and laying claim to other abandoned works. Finally, in the frosty stillness of New Year's Eve 1875, he made his move with the establishment of the Travona mine. His few lonely pistol shots to celebrate the nation's centennial year also signaled a revival of the camp. The next phase of Butte's surge to the top was about to commence.

In just three months, the already forgotten placer camp was transformed into the leading mining town of the territory. But this time it was silver, not gold, that was to be crowned "king of the hill."

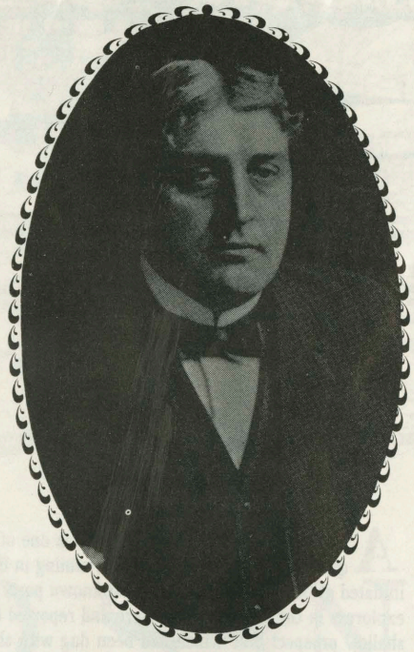
This new patriarch demanded much of his subjects, but commands were expediently obeyed. Smelters were required for the processing silver—within five years a half-dozen newly constructed processing plants belched thick black smoke. Transportation was needed to market the ore—in 1881 the hissing of the first locomotive to breach the Rocky Mountain isolation arrived on the glistening rails of the Utah and Northern Railroad. Its piercing whistle added to the crescendo of frontier development.

But it was human resources—men tough enough to survive the rigors of life underground, that would forge the town into one of the greatest hardrock mining camps in North America. Just as ore was extracted from a conglomeration of rocks and minerals, so the Butte miner was derived from over a dozen nationalities and a thousand walks of life. Immigrants hailed from Ireland, Scotland,

Silver Bow County. A more disgraceful election was never before witnessed in Montana. The freedom of the ballot and honesty in elections has become a farce in light of the methods used by the Dalycratic healers." The *Anaconda Standard* story: *"In spite of the wholesale buying of votes, repeating and fradulent balloting as indulged in by unscrupulous opposition, the forces of honesty and decency in Silver Bow County were rewarded yesterday when the entire Democratic ticket won by a handsome majority. That the lying and the thieving tactics of the Clark forces availed them little is proven by the results of yesterday's balloting."* As one curbside editorialist succinctly observed, "The hell of it is, the two papers were both damn near telling the truth, if they only knew it!"

At times their verbal, legal and financial battles erupted into violence which spilled into the underground workings. One skirmish, deep in the bowels of the earth, involved the looting of copper from the Michael Davitt Mine by a troop of Heinze's miners in an adjacent shaft. Upon discovery of this invasion, Davitt miners defended their ore with high pressure hoses and dynamite. Heinze's men retaliated with slaked lime and smoke screens. The subterranean battle raged through a mile-and-a-half of tunnel with, as one of Heinze's engineers put it, "More powder burned than in the entire Russo-Japanese War."

While the copper kings and their forces traded both legal and physical blows, it was a new contender, the Amalgamated Copper Company owned by Standard Oil interests, which eventually landed the knockout punch. Heinze, Daly and Clark all sold out or were forced out of the industry by 1927, unable to resist the Amalgamated and later the Anaconda Company's concerted effort to dominate the global mining and refining of copper.



F. Augustus Heinze, copper king extraordinaire.

Both before and after the Amalgamated takeover, miners almost religiously united for workers' rights under the union banner. Strikes were nearly as common and often as debilitating as the razor sharp subzero temperatures that slice into Butte each winter.

Labor and management were often at odds, with both

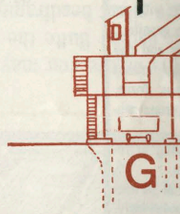
No one is certain what is contained in the vast areas filled with solid rock. Multiplied several hundred times, you have some idea of the underground geography of Butte hill."

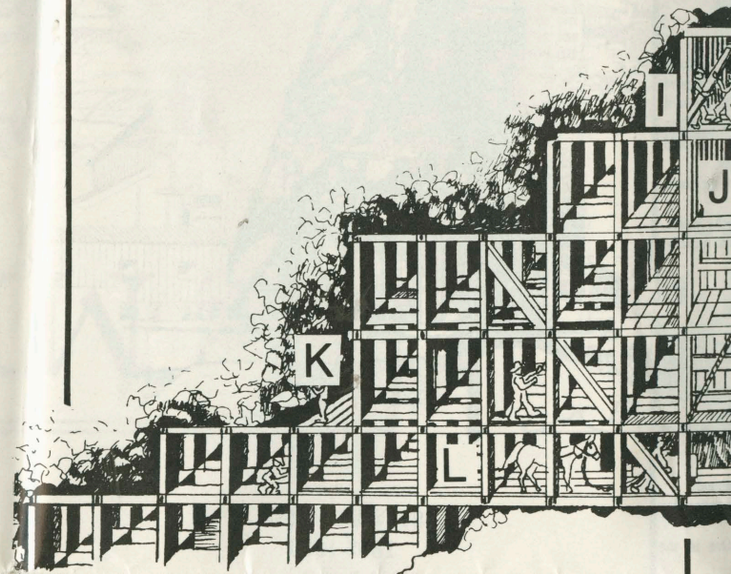
The days of working underground were already on the wane when open pit excavations began at the Berkeley in 1955. Foreign competition, high labor costs, copper substitutes, widely disseminated ore deposits, lower demand, and lower prices deflated the industry and forced the implementation of more cost-effective open pit operations. One by one the underground mines were abandoned, and with sump pumps shut down, they began to fill with groundwater.

While the Berkeley Pit breathed life into a struggling industry for another quarter century, it was no savior, only a brief reprieve. The same forces which closed the shafts eventually undermined the economics of operating the pit. In 1982 it too fell silent save the steady trickle of water stealthily rising in its depths.

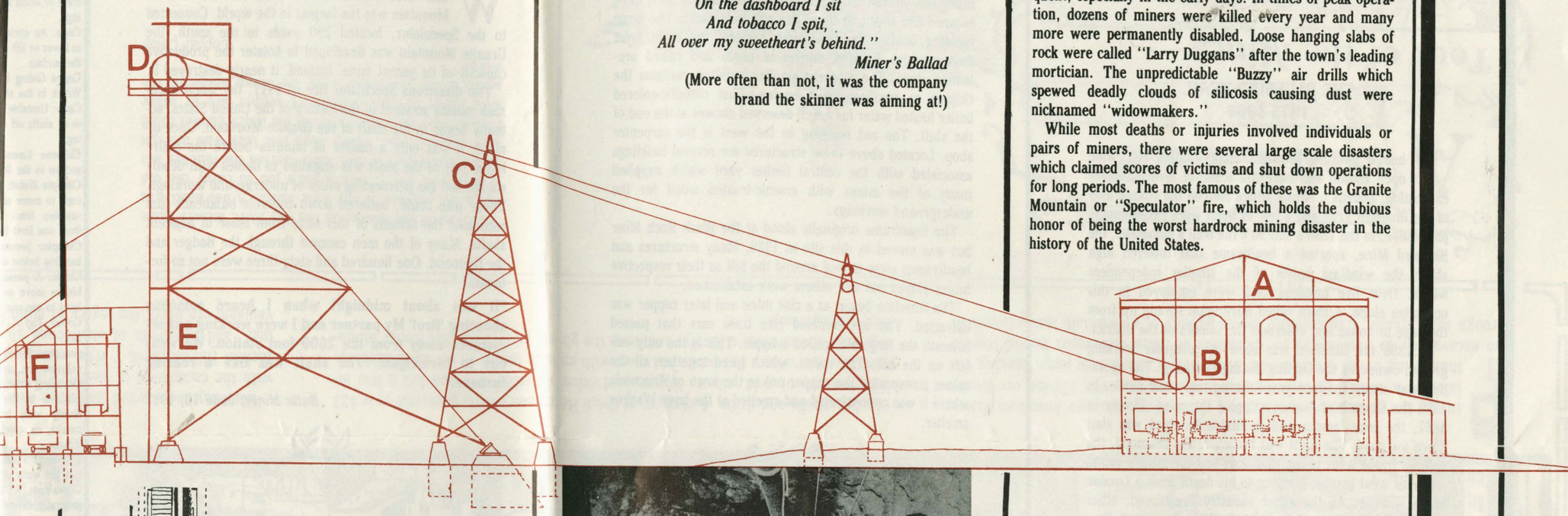
For now mining in Butte is suspended. The copper boom has shifted 6,000 miles to the south. While operations may one day resume, it will never again be on a par with the heyday of the industry when over 15,000 men speaking a dozen different tongues trooped up the hill, crowded themselves into steel cages and disappeared deep into the earth.

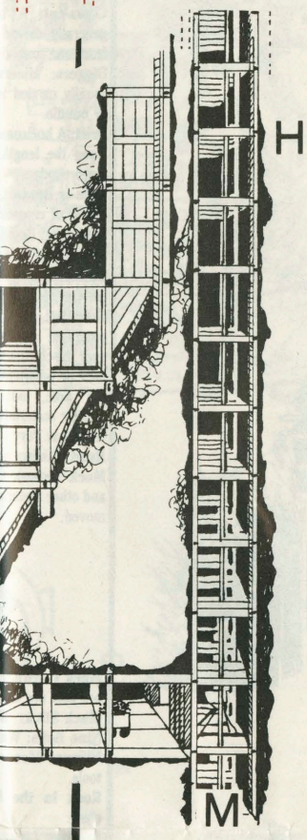
But like the headframes and the scattered mine dumps, the memories of Butte's great copper industry remain indelibly etched on the character of the community. She was "the richest hill on earth," and in more than just a monetary sense. Mining has ceased but a rich cultural heritage survives. Take a look for yourself.





wheel located at the top of the steel headframe and coiled around a large drum in the hoist house. Initially, steam powered the hoist engine that in the later days was driven by electricity. The ore was dumped from the skip into an ore bin on the front of the headframe. After the ore was crushed, it was loaded onto Butte, Anaconda & Pacific trains to be hauled to local smelters and later to Anaconda to be concentrated and smelted.





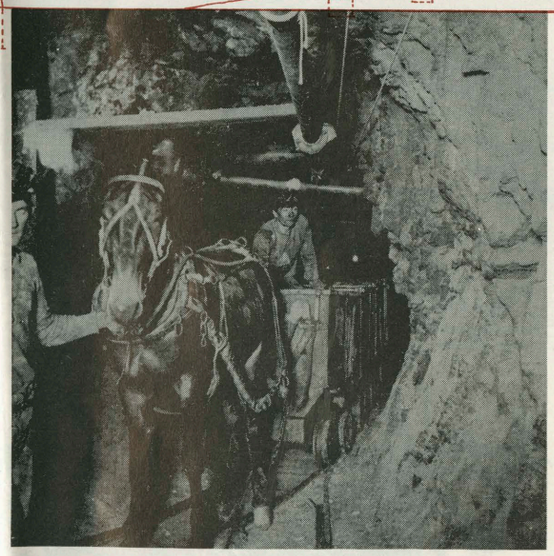
A-Engine Room
B-Hoist
C-Idler Towers
D-Sheave Wheels
E-Head Frame
F-Tipple
G-Ore Cars
H-Shaft
I-Miners Timbering
J-Stoped Out Area
K-Ore Body
L-Mule
M-Sump

least a thousand mules or horses working underground. Though treated well, they would live much of their working lives in subterranean darkness. Serious illness, old age, suspension of operations, and periodic "vacations" were the only reasons for a mule to be returned to sunlight. The duration of a shutdown was sometimes gauged by whether or not the animals were hauled to the surface. When working, mules were usually hitched to a train of six ore cars, each filled with a one-ton load. The trains were driven by a skinner and his assistant, a swamper.

"My sweetheart's a mule in the mines.
I drive her with only one line.
On the dashboard I sit
And tobacco I spit,
All over my sweetheart's behind."

Miner's Ballad

(More often than not, it was the company brand the skinner was aiming at!)



"My sweetheart is a mule in the mines."

Shafts, adits, stopes, and other excavations were supported by mining timbers of various shapes and sizes. Tremendous amounts of wood consumed by the mines kept tree cutters scrambling through the surrounding forest. The larger mines demanded nearly two railroad cars of timber per day.

In addition to the miners, skinners, swampers, and loggers, there were a multitude of other mining occupations that played an integral role in the industry. In early days

A typical "station" at the 1600 level of the Original Mine.

It took a special daring to pack oneself into a steel sardine can, known as "the cage," to be dropped like a rock thousands of feet to a hot, stifling and often times unstable drift of crosscut. Despite precaution, accidents were frequent, especially in the early days. In times of peak operation, dozens of miners were killed every year and many more were permanently disabled. Loose hanging slabs of rock were called "Larry Duggans" after the town's leading mortician. The unpredictable "Buzzy" air drills which spewed deadly clouds of silicosis causing dust were nicknamed "widowmakers."

While most deaths or injuries involved individuals or pairs of miners, there were several large scale disasters which claimed scores of victims and shut down operations for long periods. The most famous of these was the Granite Mountain or "Speculator" fire, which holds the dubious honor of being the worst hardrock mining disaster in the history of the United States.

Fortunately there were several connections to adjacent mines. Although some of these were bulkheaded, the concrete walls were quickly battered down by the desperate men. Hundreds escaped in this manner, but scores of others were not so fortunate. Fire trucks, ambulances, rescue teams, and loved ones crowded around the smoking shaft, but it would be days before the mine could be safely entered.

There were some 900 men working in the Speculator and its connected sister shaft, the Granite Mountain, the evening of June 8, 1917. The winds of war had blown new life into the mining industry and the Speculator was working at full capacity. A snarled cable dangling in the main shaft was putting up stiff resistance to all attempts to free it. Somehow, the carbide lamp of one of the repairmen came into contact with the frayed outer insulation of the cable. Like a match to straw, the cable exploded into flames. Buffeted by a powerful downdraft, the entire length of the cable ignited, transforming the 3,600 foot shaft into a blazing inferno. Within minutes, flames were billowing out of the shaft collar on the surface and smoke and gas permeated every level of the works.

The survivors recounted many acts of heroism and self-sacrifice. One man, Manus Duggan, took charge of a group of twenty-nine panic-stricken miners, directing them to construct a makeshift partition of timber, canvas, dirt, and clothing in an effort to block the smoke from entering their crosscut. Leaving his men behind the crumbling bulkhead, he set out to locate a safe passageway to the surface. Manus never returned, but huge fans eventually cleared the smoke

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4400 Feet Deep

The Steward, named for her discoverer, was a prolific producer of both silver and copper. The brick engine room identifies it as a Clark mine, Clark preferring brick over wood to protect his expensive machinery.

The headframe of the Steward is another relic of the days of the Copper kings. It was erected in 1898 at a cost of less than $9000. The cage of the Steward was raised and lowered by a steam driven engine which was later converted to compressed air. The engine is still in place.

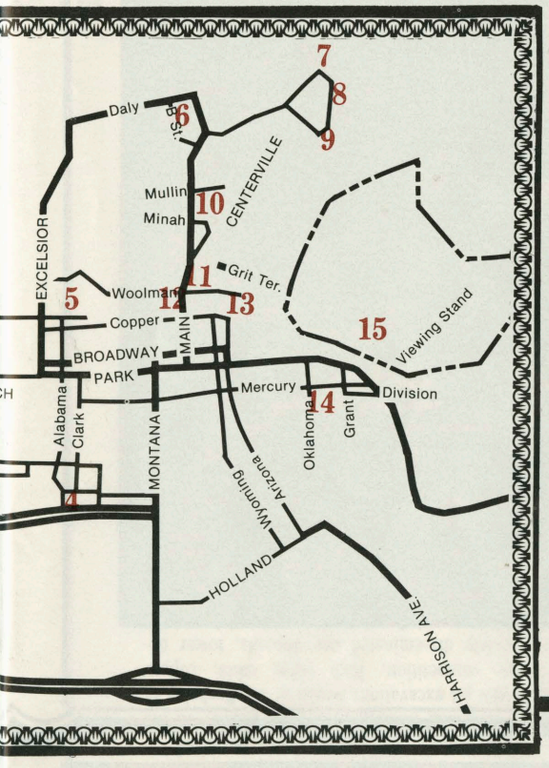
Unlike the Orphan Girl, the Steward was known as a hot, uncomfortable mine to work in. Its most torrid drift was unaffectionately referred to as "the Chinese Laundry."

above the sheave wheels of one of the mines. But the spirited miners, always game for competition, turned the decorating into a contest until nearly every headframe was bedecked with lights, signs and greenery. Though their glory days are over, a few of the mines still shine at "XMAS."

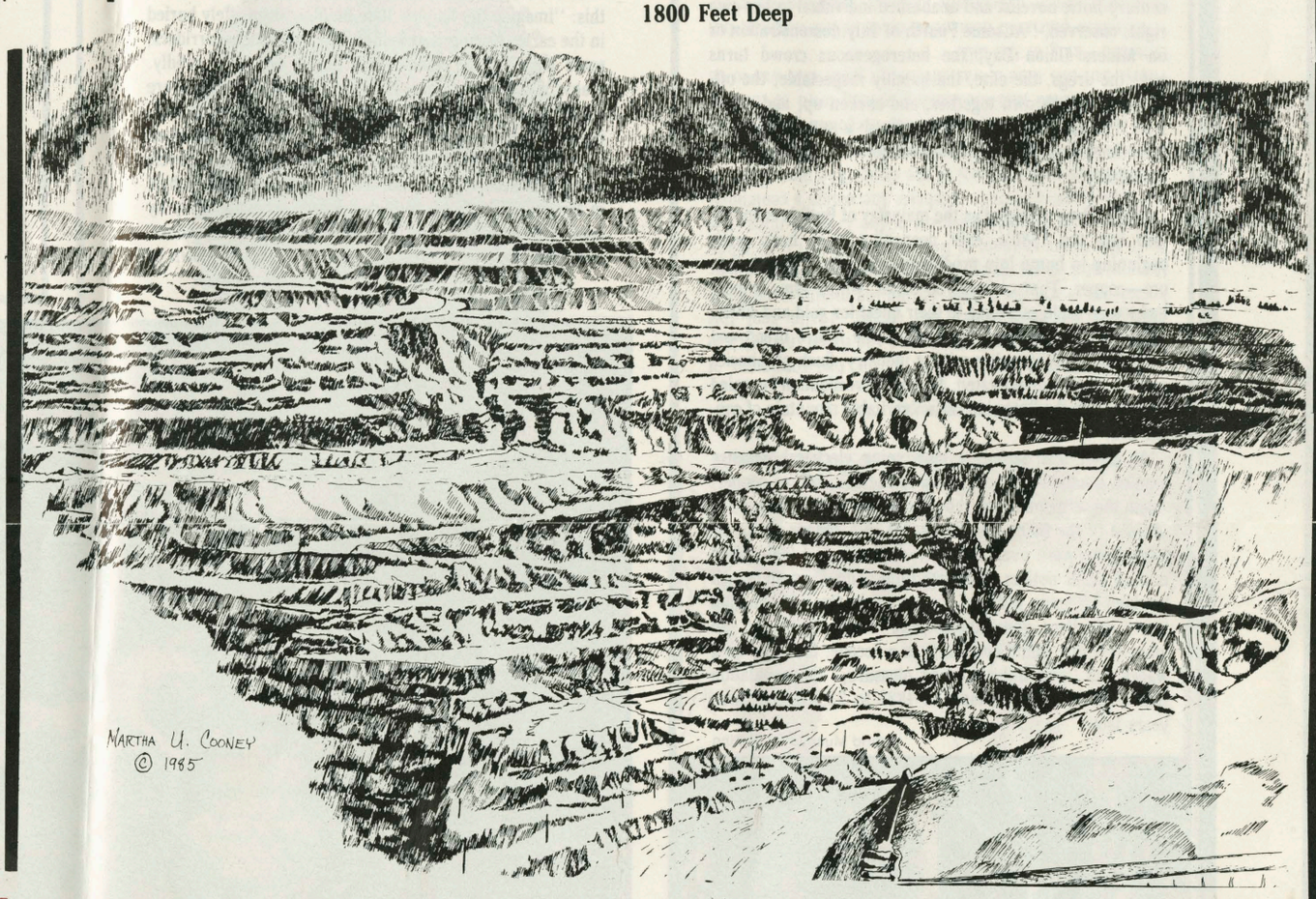
maker shop, a blacksmith shop, a large machine shop, and a tin shop. The vast array of mining machines and equipment used on the hill were maintained and repaired in these buildings.

The Kelley was the last underground mine to close.

MARTHA U. COONEY
1985



BERKELEY PIT
1955-1982
1800 Feet Deep



MARTHA U. COONEY
© 1985

The Berkeley Pit was the largest truck-operated open pit mine in the entire United States. Nearly a billion and a half tons of material were extracted from this mile wide hole with giant shovels that could muck nine tons of rock at a swipe and trucks that could haul thirty-six. There are twenty-five miles of road within the excavation, none with a grade greater than ten percent.

The open pit was cheaper to operate than the underground mines. As copper prices plummeted and the orebodies became more widely dispersed, production costs soared. It was a logical direction for the Anaconda Company to take, but it was also controversial. The increased mechanization forced the layoff of many of the underground miners and several neighborhoods were swallowed up by the ever-expanding excavation. Most heartbreaking for the citizens of Butte was the razing of Columbia Gardens—an oasis of greenery, flowers, amusement rides, and a dance pavillion—that for decades provided miners and their families a reprieve from the dirt and roar of the mining city.

In 1982 the Berkeley also succumbed to the deteriorating metals market. Since then the Anaconda Company has silenced its pumps and the pit is slowly filling with groundwater.

"Mining operations are in suspension at this time, with the promise of more to come since there is as much ore left as has been removed in over one hundred years."

Butte Chamber of Commerce

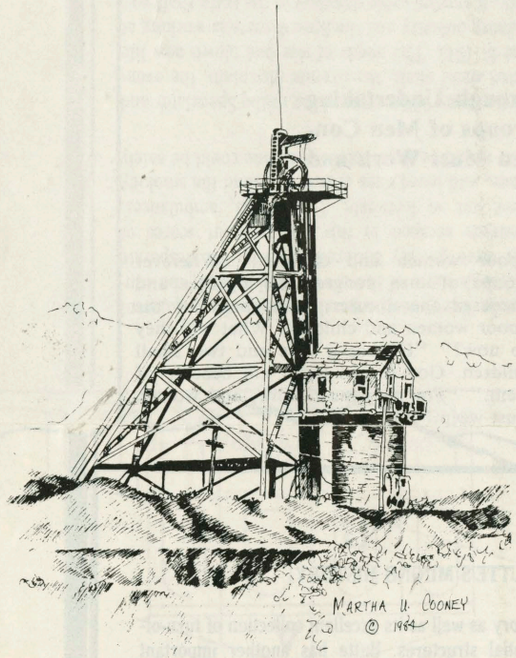
"Gonna be some big holes in South America before this one gets any bigger."

Butte Resident

plagued many of the more lucrative works. Originally a Marcus Daly mine, the Orphan Girl was eventually purchased and operated by the Anaconda Company after years of litigation.

A prospector's isolation from the rest of the hill prompted her lonesome discoverer to christen the mine "Orphan Girl." An adjacent shaft was named the Orphan Boy, just to give her some company. The Boy's underground network of tunnels was eventually incorporated into the workings of this mine.

Good ventilation kept the inner works cool (55°-65°F) as compared to some of the "hot boxes" where temperatures often rose above 100°F. She was a good mine to rustle and while no longer producing ore, the Girl serves as the home for the World Museum of Mining, providing the public with a wealth of information on Butte's mining heritage.



-4-

TRAVONA MINE
1874-1954
1500 Feet Deep

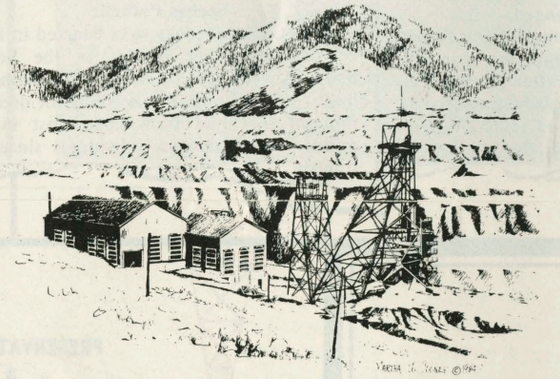
It was on this piece of ground that Butte rose from the dead. Here on New Year's Eve, 1874, prospector William Farlin established a silver mine which spurred the transformation of Butte from "played-out gold camp" to "booming silver city." He named the mine the "Asteroid" in hopes that it would outshine his other claims. Dreams do come true and the mine produced hundreds of thousands of dollars worth of silver and later a fortune in manganese. Eventually, it was sold to copper king William Clark and the name was changed to the Travona, a province in the Balkans.

1876-1957
3260 Feet Deep

This mine, sold by its initial owner for a team of white horses, eventually produced millions of dollars worth of silver and zinc. Like most of the other mines on the hill, the "Lex" was originally a shallow, open mine or glory hole. As larger amounts of material were removed, a wooden gallows frame was erected to handle the increased load of men and ore. Eventually, it was replaced with a steel headframe transplanted from the Adams mineyard.

The Lexington lies within the city limits of Walkerville, Butte's northern neighbor. While the separation between the two cities is hardly discernible, Walkerville taxes on ore were high, while in Butte they were low. They say dynamite solved the problem. A tunnel was blasted from the Lexington down to the vicinity of the Anselmo and ore was removed through the "Butte exit!"

Labor disputes in Butte often erupted into violence. The spotlight on top of this headframe combed the surrounding terrain from dusk till dawn during strikes to foil attempts at sabotage against the company. The metal sheaths around the cages protected scab labor from periodic sniping by desperate strikers.

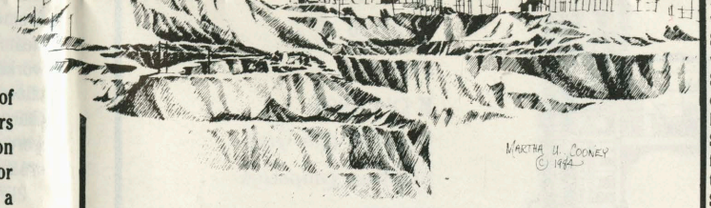


-7-

BADGER STATE MINE
1883-1966
4169 Feet Deep

The Badger, like most of the works on this end of the hill, was principally a copper-bearing mine. Before the Berkeley Pit was excavated, dozens of other mines pierced the surrounding landscape, all of them extracting copper.

The two buildings behind the substation to the west housed huge pumps that supplied compressed air to the inner depths of the Badger and many other mines. Still visible at the Badger are the headframe, hoist house and chippie house. The two steel towers are called "idler towers." They support the tremendous weight of the slack hoist cables.



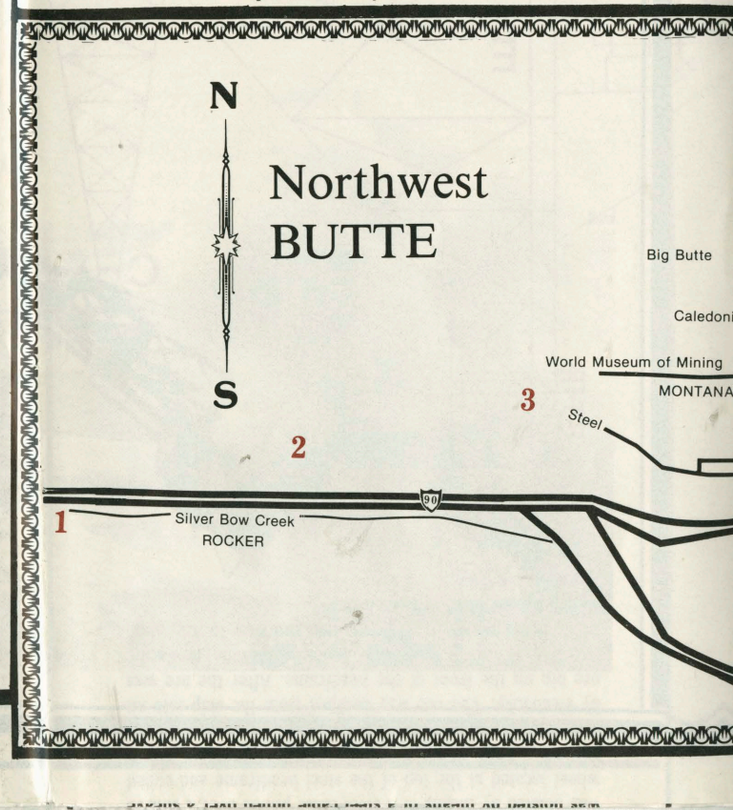
-9-

BELL-DIAMOND MINE
1882-1928
3609 Feet Deep

The Diamond was named by a prospector for the configuration formed by its claim stakes. Originally owned by mining entrepreneur William Clark, this mine figured prominently in his battle with Daly and Heinze for control of the Butte copper industry, contributing millions of dollars worth of the red ore to his then burgeoning coffers. The mine was ultimately sold to the Anaconda Company in 1895.

Erected in 1898, the headframe of the Diamond is the oldest left standing on the hill. In the early days, the miners commuted to work on a streetcar line which ran to within a few hundred yards of this site. Among the mineyard buildings here that have gone the way of the trolley was the "rope house," which fabricated the flat, seven-inch cables used before the advent of round cable to hoist cages and skips.

The large wheels scattered about the mineyards are called "sheave" wheels. Originally, they bedecked other headframes around the hill and guided the hoist cable in and out of the shaft.



A SELF-GUIDED TOUR OF

Probing the ground with a sharpened elkhorn, an unknown American Native initiated a mining adventure that would culminate with 170-ton ore trucks thundering out of a man-made crater nearly a half mile deep. Linking the two excavations in time would be thousands of miles of sinuous tunnel blasted through solid granite, transforming the underbelly of a mountain into a labyrinth of adits, shafts and drifts. A century of these Herculean efforts garnered over $22 billion worth of gold, silver, copper, and other valuable ores and left a few incredibly rich, others flat broke but most with enough tender to set up housekeeping, feed and educate a family, and keep the ghosts away from this Rocky Mountain mining camp.

Someday the scarred landscape tha
with the cacophony of hardrock min
Richest Hill on Earth." What remains
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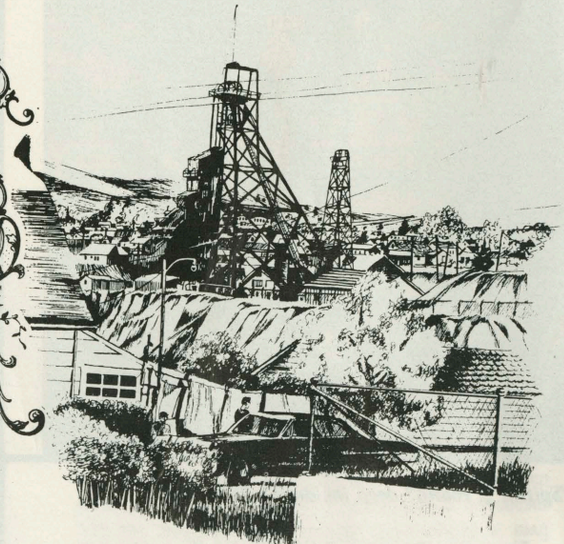
A Self-Guided Tour of the Mines of Butte

-1-

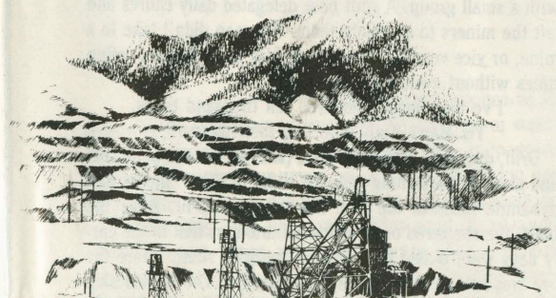
FIRST GOLD STRIKE 1864



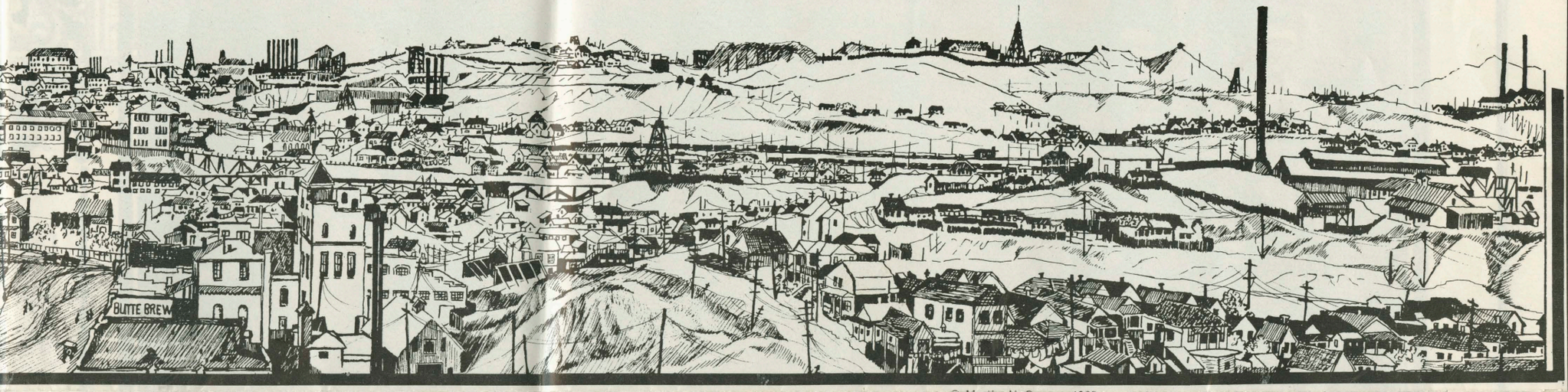
Frustrated in their attempts to strike pay dirt in

"In many of the mines, on the day shift, miners came up to the surface to eat their lunch. A hot meal was appreciated and it was a kid's job to carry the old man's lunch pail to him. Kids carried the lunches but they made it pay. There were few lads who did not return from this chore without his lunch bucket filled with three or four pounds of copper ore or other scrap metal purloined from the scrap heaps of the works."

Copper Camp

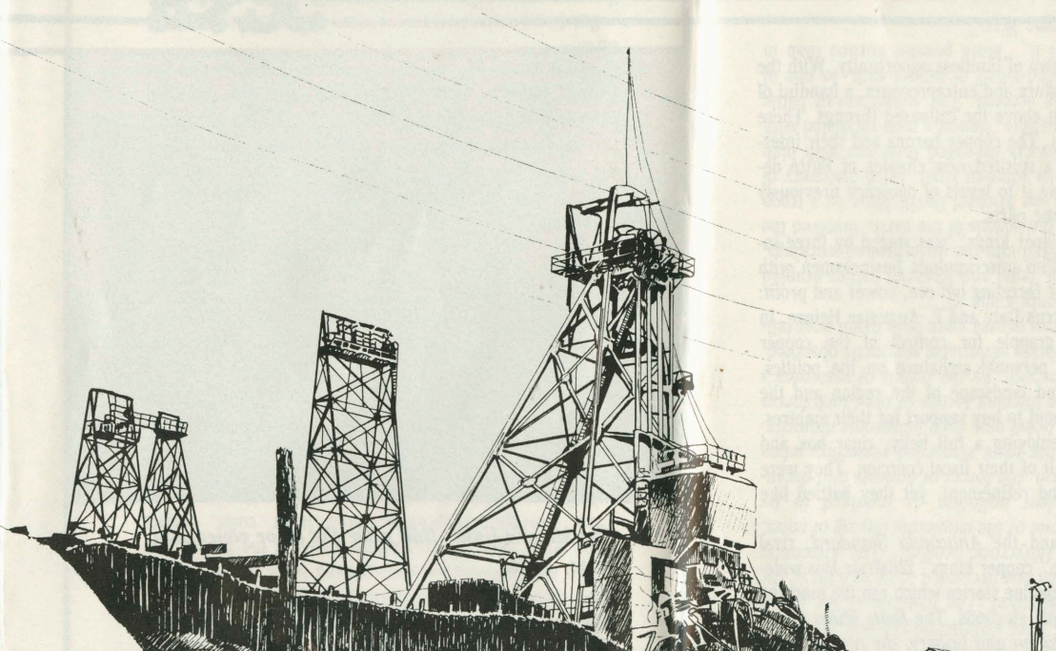


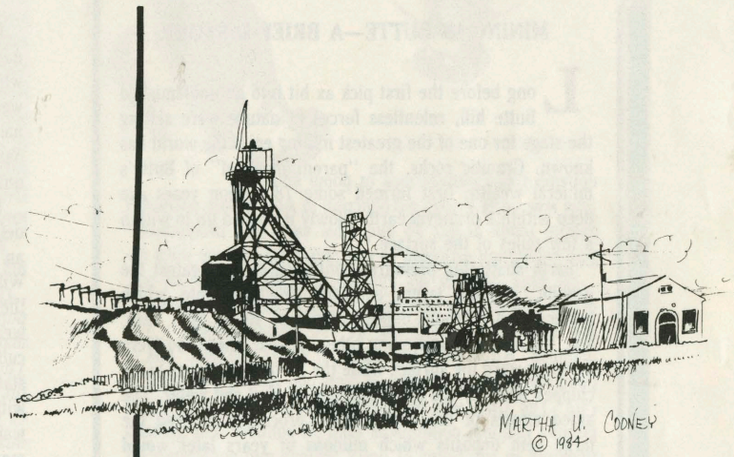
THE MINES OF BUTTE



prawls before you may once again rattle that gained Butte the accolade of "The w are silent headframes, windswept tail- s—vestiges of a bygone era. But, like in Butte is not readily visible with just a surface glance. Dig deeper and you will find a history as rich and colorful as its notorious mineral wealth.

This self-guided tour will introduce you to some of the major characters in this drama—the headframes, mines and mineyards. The route is ten miles long and will guide you through over a century of mining history in the Butte area. Use the enclosed map for orientation and look for the signs with this symbol The numbers on the signposts correspond to the text in this pamphlet. With information included here and a footloose imagination, chippie hoists should whine from the strain of cages packed with miners and the ground rattle from subterranean blasts.





BELMONT MINE

diggings near Virginia City, Bad Parker, P. Allison and the Esler brothers set off for virgin territory to probe for the yellow ore. On a May evening in 1864, they hauled some gravel down to a nearby creek, washed it in their heavy prospecting pans, and there it was...gold!

One of the men, elated with the find, mentioned to his companions that the last rays of sun glinting off the bend in the creek looked to him like a "great silver bow." Word of the gold spread like a range fire and soon there were hundreds of miners in the area. The camp of Silver Bow was founded and an incredible mining epic began.

THE BLUEBIRD TRAIL
1875-1900

Though pock-marked and empty today, this wide open terrain was once the scene of feverish silver excavation. Dozens of small mines pierced the rolling hills of the Bluebird Trail and a few of them were exceptionally productive. In the 1880's and 90's the trail's namesake, the Bluebird Mine, sported a headframe that towered high above the windlass hoists of the smaller independent works. Over five hundred men were employed in this operation alone. A town called Burlington sprang up from the sage to house and entertain the miners of the district.

In 1886 the Bluebird was sued for allegedly working ground owned by the Darling Mining Company. The operation was closed for four years during this court battle. In 1892 the silver bust further crippled the mine. Finally in 1897, the once famous and profitable Bluebird was shut down for good. The hoist was moved to the Diamond, the gallows frame went to the Blue Jay, and the mine's young manager went insane, jumping to his death from a London office window. As the silver industry floundered, other works in this area soon followed suit. Even Burlington closed up shop and was salvaged for lumber to build a fledling boomtown called Butte City.

THE ORPHAN GIRL MINE
1875-1956
3200 Feet Deep

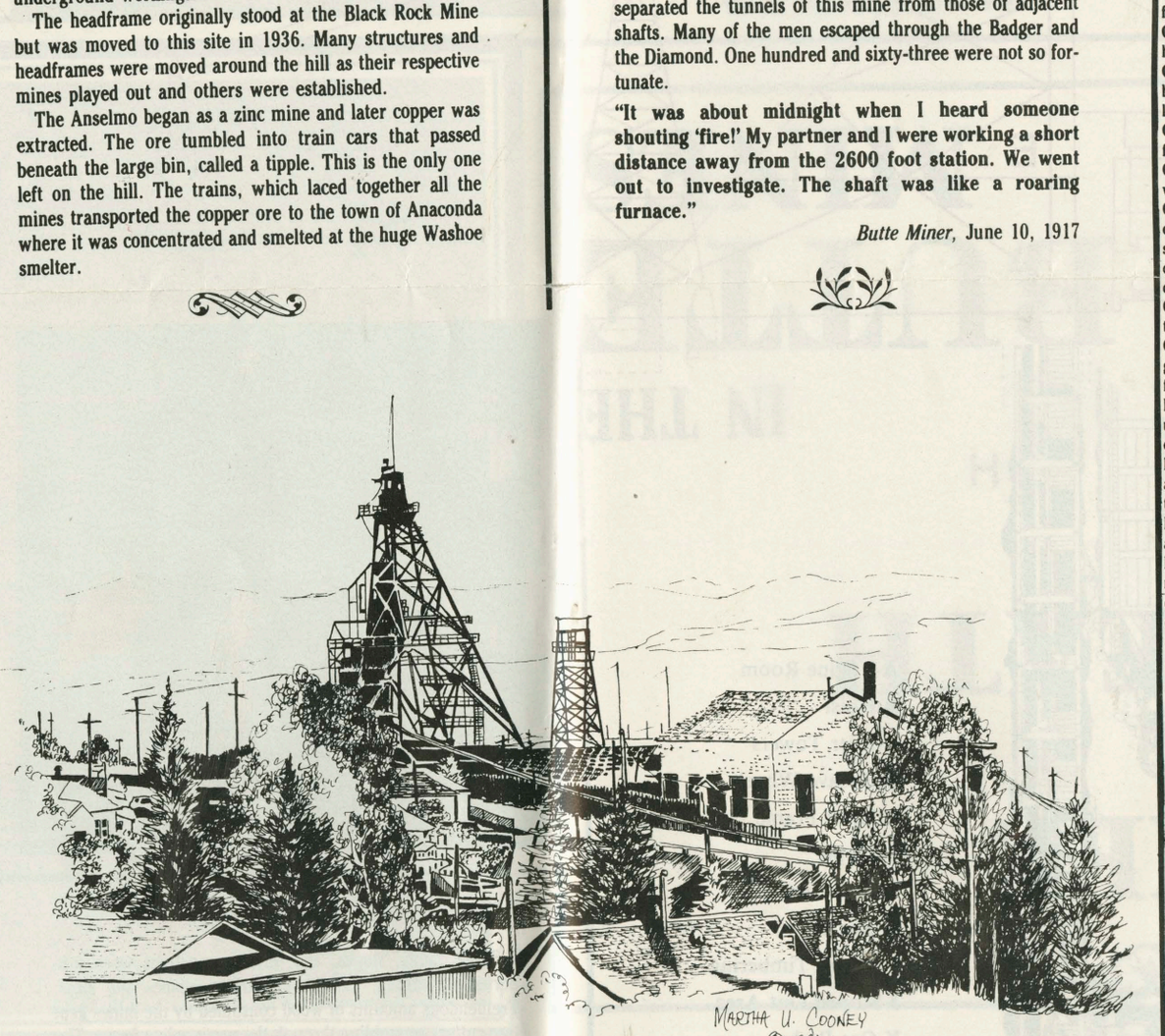
While the "Girl" was not a headline maker by Butte standards, it nevertheless was a solid producer of silver, zinc and lead. Over seven and a half million ounces of ore were hauled from her depths, enough to plunge the

ANSELMO MINE
1887-1959
4301 Feet Deep

Of all the works that stud the Butte skyline, it is the Anselmo which most closely resembles an operating mineyard. Almost all the early structures at this mine have escaped the wrath of time, fire and bulldozers. The large building behind the headframe protects the main hoist engine which lowered miners in cages and raised ore-laden skips. The adjacent smaller building contains the chippie or auxiliary hoist engine. That metallic-colored boiler heated water for a well deserved shower at the end of the shift. The red building to the west is the carpenter shop. Located above these structures are several buildings associated with the central timber yard which supplied many of the mines with arsenic-treated wood for the underground workings.

The headframe originally stood at the Black Rock Mine but was moved to this site in 1936. Many structures and headframes were moved around the hill as their respective mines played out and others were established.

The Anselmo began as a zinc mine and later copper was extracted. The ore tumbled into train cars that passed beneath the large bin, called a tipple. This is the only one left on the hill. The trains, which laced together all the mines transported the copper ore to the town of Anaconda where it was concentrated and smelted at the huge Washoe smelter.



LEXINGTON MINE

GRANITE MOUNTAIN MINE
1887-1944
3700 Feet Deep

When first installed, the hoist at the Granite Mountain was the largest in the world. Connected to the Speculator, located 200 yards to the south, the Granite Mountain was developed to bolster the productive capacity of its parent mine. Instead, it nearly destroyed it.

The disastrous Speculator fire of 1917, the worst hard-rock mining accident in the history of the United States, actually began in the shaft of the Granite Mountain. Once ignited, it was only a matter of minutes before the entire lower half of the shaft was engulfed in flames with deadly smoke and gas permeating miles of underground workings. Those who could, battered down concrete bulkheads that separated the tunnels of this mine from those of adjacent shafts. Many of the men escaped through the Badger and the Diamond. One hundred and sixty-three were not so fortunate.

"It was about midnight when I heard someone shouting 'fire!' My partner and I were working a short distance away from the 2600 foot station. We went out to investigate. The shaft was like a roaring furnace."

Butte Miner, June 10, 1917

MINER

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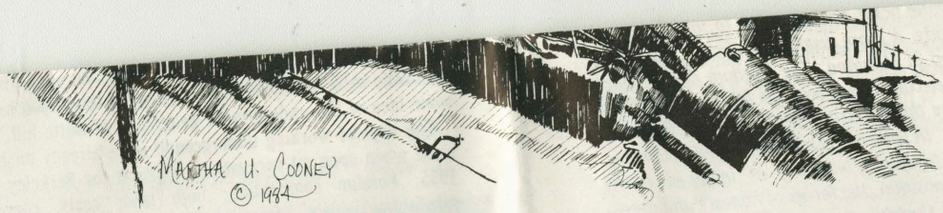

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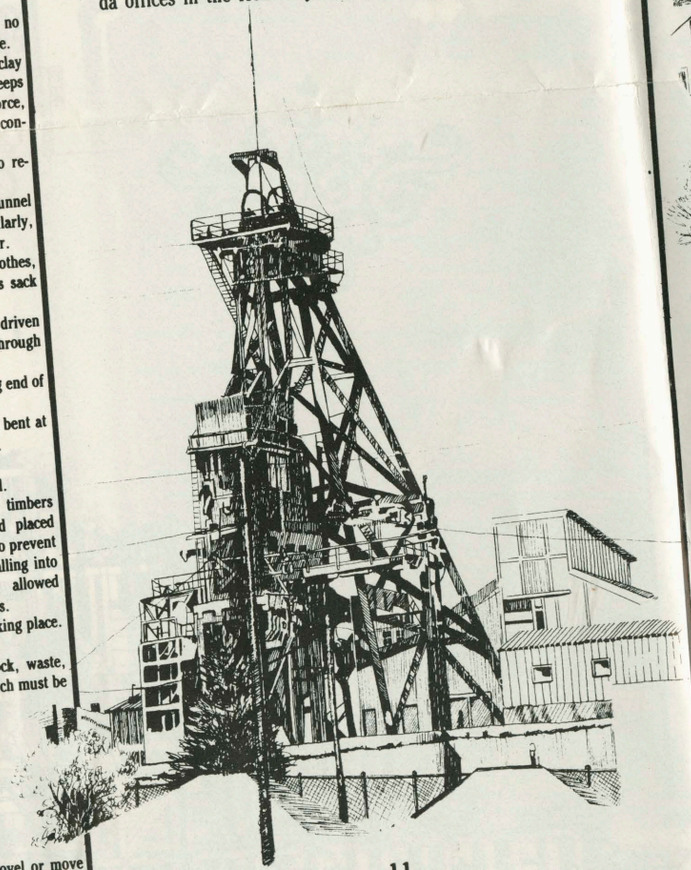
-10-

MOUNTAIN CON MINE
1890-1974
5291 Feet Deep

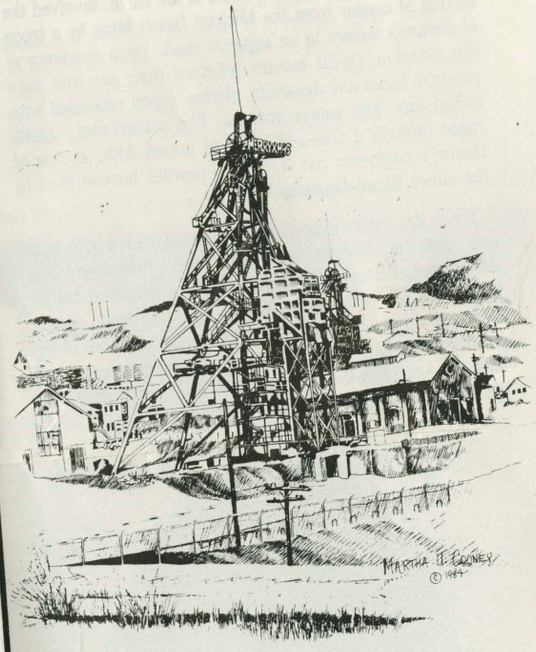
Standing at an elevation of 6135 feet, the "Con" is over a mile high and a mile deep—the deepest on the hill. Originally called the Mountain Consolidated, the name was later shortened by tongue-twisted immigrant miners.

This was a copper mine, and one of the biggest producers in the industry. Tons of copper were hauled from its depths. The mammoth ore bins, now collapsed, housed the copper until it was loaded onto horse-drawn wagons and in later years into train cars of the Butte, Anaconda and Pacific Railway. Mining wastes were also dropped into the bins to await shipment to dumping sites.

The foundation for the mine superintendent's house can still be seen amongst the evergreens. Each day a chauffeured limosine would arrive to deliver him to the Anaconda offices in the Hennessy Building.



FOR YOUR OWN SAFETY, DO NOT ENTER
ANY OF THE MINEYARDS OR WORKS



-12-

ORIGINAL MINE
1878-1940
3569 Feet Deep

As the name implies, the Original was one of the first quartz lodes on the hill. In fact, mining in Butte was initiated at this site. In 1856 the first known party of white explorers in the region arrived here and reported finding a shallow prospect hole which had been dug with sharpened elk horn. It has been speculated that this was the work of early Native Americans. From these humble beginnings rose the 127-foot structure that still stands today.

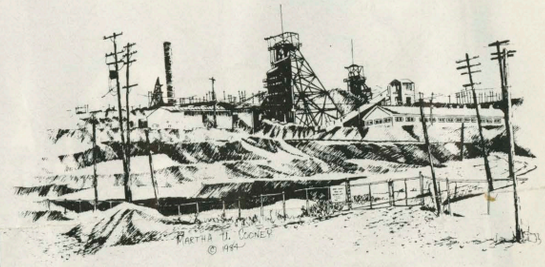
While most of the headframes are unique, one-of-a-kind steel sculptures, those of the Original and the Steward are identical in design. The only difference is the Christmas

3700 Feet Deep

The Belmont was one of the hotter works, shunned by miners from northern climates but attractive to muckers from Mexico and other tropical Latin American countries. They often sought work here, just as the Irish flocked to the Mountain Con.

The Belmont was a copper mine. Tons of the red ore were hauled up through this nearly seventy-year-old headframe, which originally stood at the Cora. The steel headframes were often built directly over the existing wooden headframe which would continue to operate until the new structure was functional. Not a day of work was lost.

Mining reclamation has leveled the landscape surrounding the mineyard, as well as most of the mineyard itself. Lime was liberally applied to neutralize the acid soils and a coating of sweet fill dirt frosts the tailings. Vegetation is being planted to stabilize these soils. While some areas such as the Belmont are slated for reclamation, others will remain untouched to maintain their historical integrity.



-14-

KELLEY MINE
1949-1980
4810 Feet Deep

The Kelley Mine, with its two shafts, is actually the youngster on the hill. It represents the most technologically advanced workings, with a concrete-lined shaft installed to reduce the hazard of fire. The cage could hold fifty miners, a giant step from the early days when cages were built to hold but six men. The headframe is also the tallest on the hill. Even the mining process itself took on new proportions with block-caving mining techniques, which increased production to over 15,000 tons a day.

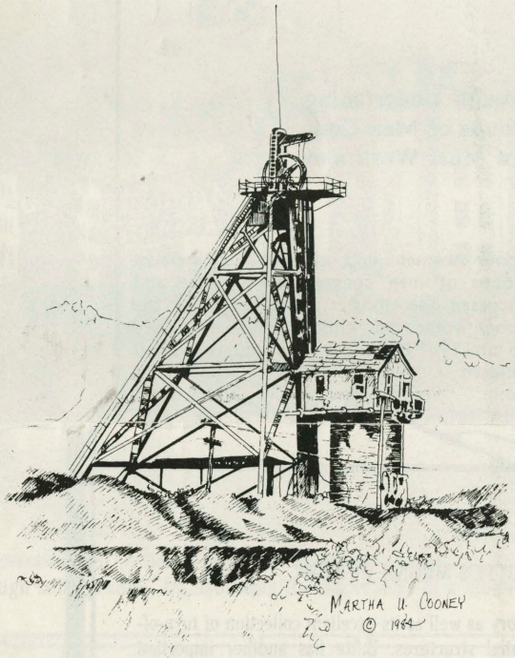
By the time the Kelley came on line, all of the mines still operating were owned by the Anaconda Company and their workings were interconnected. The major role of the Kelley was to serve as a hoisting shaft for ore from other works.

Among the buildings still standing is the central heating plant, the structure with the large smokestack. Not only did this coal-fired furnace warm the buildings and mines of the Kelley, but heat was also pumped to several other mineyards and mines and even to some of the larger downtown buildings, including the Thornton Block and the Hennessy Building.

plagued many of the more lucrative works. Originally a Marcus Daly mine, the Orphan Girl was eventually purchased and operated by the Anaconda Company after years of litigation.

A prospector's isolation from the rest of the hill prompted her lonesome discoverer to christen the mine "Orphan Girl." An adjacent shaft was named the Orphan Boy, just to give her some company. The Boy's underground network of tunnels was eventually incorporated into the workings of this mine.

Good ventilation kept the inner works cool (55°-65°F) as compared to some of the "hot boxes" where temperatures often rose above 100°F. She was a good mine to rustle and while no longer producing ore, the Girl serves as the home for the World Museum of Mining, providing the public with a wealth of information on Butte's mining heritage.



-4-

TRAVONA MINE
1874-1954
1500 Feet Deep

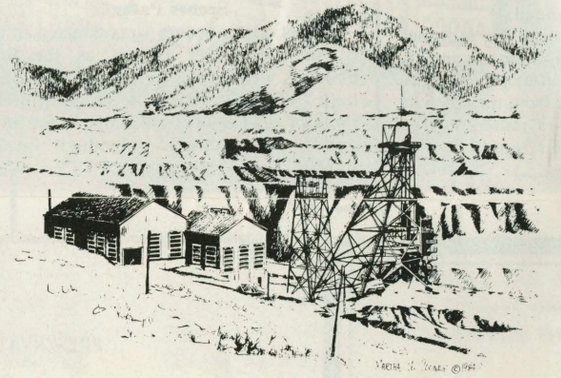
It was on this piece of ground that Butte rose from the dead. Here on New Year's Eve, 1874, prospector William Farlin established a silver mine which spurred the transformation of Butte from "played-out gold camp" to "booming silver city." He named the mine the "Asteroid" in hopes that it would outshine his other claims. Dreams do come true and the mine produced hundreds of thousands of dollars worth of silver and later a fortune in manganese. Eventually, it was sold to copper king William Clark and the name was changed to the Travona, a province in the Balkans.

1876-1957
3260 Feet Deep

This mine, sold by its initial owner for a team of white horses, eventually produced millions of dollars worth of silver and zinc. Like most of the other mines on the hill, the "Lex" was originally a shallow, open mine or glory hole. As larger amounts of material were removed, a wooden gallows frame was erected to handle the increased load of men and ore. Eventually, it was replaced with a steel headframe transplanted from the Adams mineyard.

The Lexington lies within the city limits of Walkerville, Butte's northern neighbor. While the separation between the two cities is hardly discernible, Walkerville taxes on ore were high, while in Butte they were low. They say dynamite solved the problem. A tunnel was blasted from the Lexington down to the vicinity of the Anselmo and ore was removed through the "Butte exit!"

Labor disputes in Butte often erupted into violence. The spotlight on top of this headframe combed the surrounding terrain from dusk till dawn during strikes to foil attempts at sabotage against the company. The metal sheaths around the cages protected scab labor from periodic sniping by desperate strikers.



-7-

BADGER STATE MINE
1883-1966
4169 Feet Deep

The Badger, like most of the works on this end of the hill, was principally a copper-bearing mine. Before the Berkeley Pit was excavated, dozens of other mines pierced the surrounding landscape, all of them extracting copper.

The two buildings behind the substation to the west housed huge pumps that supplied compressed air to the inner depths of the Badger and many other mines. Still visible at the Badger are the headframe, hoist house and chippie house. The two steel towers are called "idler towers." They support the tremendous weight of the slack hoist cables.

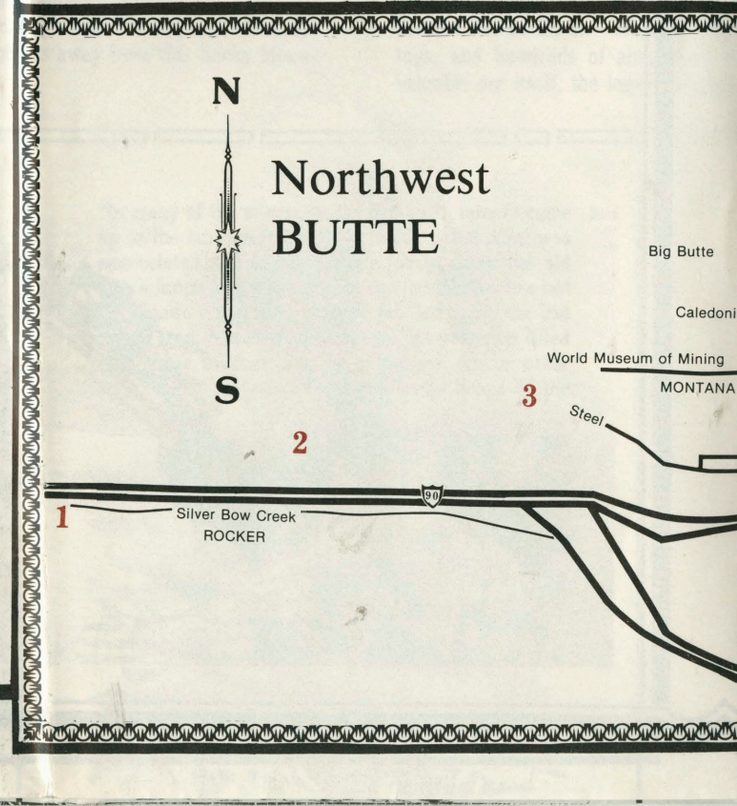
-9-

BELL-DIAMOND MINE
1882-1928
3609 Feet Deep

The Diamond was named by a prospector for the configuration formed by its claim stakes. Originally owned by mining entrepreneur William Clark, this mine figured prominently in his battle with Daly and Heinze for control of the Butte copper industry, contributing millions of dollars worth of the red ore to his then burgeoning coffers. The mine was ultimately sold to the Anaconda Company in 1895.

Erected in 1898, the headframe of the Diamond is the oldest left standing on the hill. In the early days, the miners commuted to work on a streetcar line which ran to within a few hundred yards of this site. Among the mineyard buildings here that have gone the way of the trolley was the "rope house," which fabricated the flat, seven-inch cables used before the advent of round cable to hoist cages and skips.

The large wheels scattered about the mineyards are called "sheave" wheels. Originally, they bedecked other headframes around the hill and guided the hoist cable in and out of the shaft.



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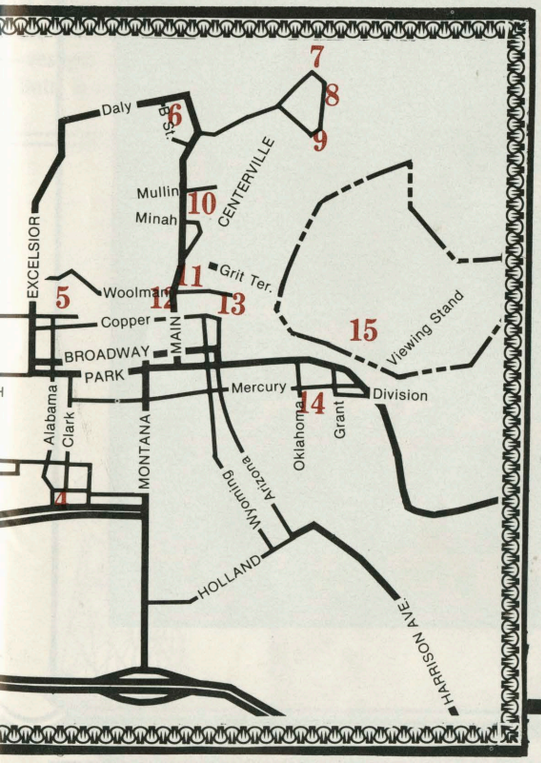
The Steward, named for her discoverer, was a prolific producer of both silver and copper. The brick engine room identifies it as a Clark mine, Clark preferring brick over wood to protect his expensive machinery.

The headframe of the Steward is another relic of the days of the Copper kings. It was erected in 1898 at a cost of less than $9000. The cage of the Steward was raised and lowered by a steam driven engine which was later converted to compressed air. The engine is still in place.

Unlike the Orphan Girl, the Steward was known as a hot, uncomfortable mine to work in. Its most torrid drift was unaffectionately referred to as "the Chinese Laundry."

MARTHA U. COONEY
1985



The open pit was cheaper to operate than the underground mines. As copper prices plummeted and the orebodies became more widely dispersed, production costs soared. It was a logical direction for the Anaconda Company to take, but it was also controversial. The increased mechanization forced the layoff of many of the underground miners and several neighborhoods were swallowed up by the ever-expanding excavation. Most heartbreaking for the citizens of Butte was the razing of Columbia Gardens—an oasis of greenery, flowers, amusement rides, and a dance pavillion—that for decades provided miners and their families a reprieve from the dirt and roar of the mining city.

In 1982 the Berkeley also succumbed to the deteriorating metals market. Since then the Anaconda Company has silenced its pumps and the pit is slowly filling with groundwater.

"Mining operations are in suspension at this time, with the promise of more to come since there is as much ore left as has been removed in over one hundred years."

Butte Chamber of Commerce

"Gonna be some big holes in South America before this one gets any bigger."

Butte Resident

The Berkeley Pit was the largest truck-operated open pit mine in the entire United States. Nearly a billion and a half tons of material were extracted from this mile wide hole with giant shovels that could muck nine tons of rock at a swipe and trucks that could haul thirty-six. There are twenty-five miles of road within the excavation, none with a grade greater than ten percent.

above the sheave wheels of one of the mines. But the spirited miners, always game for competition, turned the decorating into a contest until nearly every headframe was bedecked with lights, signs and greenery. Though their glory days are over, a few of the mines still shine at "XMAS."

maker shop, a blacksmith shop, a large machine shop, and a tin shop. The vast array of mining machines and equipment used on the hill were maintained and repaired in these buildings.

The Kelley was the last underground mine to close.

BERKELEY PIT
1955-1982
1800 Feet Deep