The World Turned Upside Down:

A History of Mining on Coal Creek and Woodchopper Creek, Yukon-Charley Rivers National Preserve, Alaska

Douglas Beckstead
Historian

U.S. Department of the Interior
National Park Service
2003

As the nations principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public lands and natural and cultural resources. This includes fostering the wisest use of our land and water resources, protecting our fish and wildlife, preserving the environmental and cultural values of our national parks and historical places, and providing for the enjoyment of life through outdoor recreation. The Department assesses our energy and mineral resources and works to assure that their development is in the best interests of all. The Department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

Cover (clockwise from top right):

Bull Gear on the Coal Creek Dredge, Douglas Beckstead, 2003.

Fireweed at Coal Creek, Douglas Beckstead, 2001.

Coal Creek Dredge, Douglas Beckstead, 2001.

Gold in Dredge Riffles, photo courtesy of Dale and Karen Patty, n.d.

Coal Creek Miners, August 1927, photo courtesy of Sherrie Harrison.

Title page

Assembling the Atlas Diesel Engine, Spring 1935, George Beck Collection, photo courtesy of Max Beck.

United States Department of the Interior

National Park Service

Yukon-Charley Rivers National Preserve
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Fairbanks, Alaska 99701

August 30, 2004

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To whom it may concern:

The National Park Service recently published my manuscript on gold mining on the upper Yukon River titled: *The World Turned Upside Down: A History of Mining on Coal Creek and Woodchopper Creek in Yukon-Charley Rivers National Preserve, Alaska*. I am happy to provide a copy of it for your reading pleasure.

If you have any questions regarding this publication, please feel free to contact me at (907) 455-0630 or via e-mail at: doug_beckstead@nps.gov.

Sincerely,

Douglas Beckstead

Enclosure

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PREFACE

When one undertakes a project involving researching and writing history, several things happen. One, your desk is quickly over-run by hundreds of pieces of paper; some large, some small, some printed, some scribbled. Two, you develop bonds with the personalities of the individuals you are researching. And three, you develop good friendships with those people who have offered their help in sharing information about their own lives and the lives of their family members who were involved with the focus of the research.

First, my once clean and orderly desk quickly became the dumping ground for hundreds and hundreds of pages of notes, not unlike the ground behind a dredge where the rocks fall from the stacker. Occasionally I had to "dredge" through the piles trying to make some sort of order out of them. Having experience as an archivist and making a good filing system helped. Every now and then, an issue would come up or a person's name would surface and I just knew I had something on them, but where?

Second, as my research continued, beyond the statistics of how many millions of cubic yards of placer ground was processed through the dredges, how many millions of dollars of gold was recovered, beyond the hundreds of claim location notices and powers-of-attorney recorded in Circle and Eagle, the people began taking shape. Women like Flora Brentlinger, who along with her husband Fred, owned and ran the Woodchopper Roadhouse and had claims on both Woodchopper and Coal Creek. Bessie Currie Olson arrived early on the creeks with her husband James H. Currie when they staked their first claims on Iron Creek, a tributary of Woodchopper. She outlived James, later marrying Emil Olson and continuing to work her claims. In a letter dated 1933, she was still working her claims with hired help. Other women, including Mary L. Lewis and Margaret Chambers may have had connections to the Dawson demimonde before, and possibly after, staking their claims on the creeks.

Some people were mysteries before this study began. People had heard stories about "Miss Bissell" who lived with Frank Slaven at his roadhouse. No one really knew who she was or where she came from. Rumors abounded however about her possibly being from red-light district in Fairbanks and only after Slaven's money. As it turns out, Mary Bissell was not an inmate of "The Line." In fact, she appears to be Slaven's niece who came to live with him on the Yukon. Later, in 1938 when he left the country headed for Seattle, she went with him and was there when he crossed over his last summit.

The men of the creeks are equally as notable. Frank Bennett, the old man who lived in his meticulous cabin on Mineral Creek in the mid-1930s, came to Alaska in 1889 when he worked at the Treadwell Mines outside of Juneau. When you visited Frank, you took your shoes off and wore slipper-like shoepacks he kept by the door. Like many of the others living out on the creeks, Bennett liked his booze. He even had his own still that

kept him stocked. Glen Franklin, who knew Bennett, commented that "he didn't have much of a singing voice, but when he tied one on, he sure tried."

Many of those who found their homes on the creeks were immigrants from Europe. Martin Adamik, of Hungary, learned to speak English by reading Shakespeare. He talked "like a machine gun" whenever someone came to visit him but he rarely if ever went over to visit the dredge camp. Martin first came to the creeks in 1910 when he filed for an associated claim with three others. Adamik passed away in the spring of 1958 while three of his friends from the camp were visiting his lonely cabin to check on his well-being after spending yet another winter in solitude. Martin is buried on a rise not too far from his claims, his cabin and his gardens keeping silent vigil over the creeks.

Phil Berail was a man characterized by three things, first his love of solitude and independence. Berail worked for the dredging companies during the summer as their hydraulic foreman. When winter descended on the creeks and the crews left for their homes, Berail worked as the camp watchman, sometimes taking his team of huskies and heading off into the hills for a winter of trapping. Come spring he would come down the trail, grizzled, dirty and a few pounds thinner, looking like "something out of a Norse myth" ready to start work for another season. He always had his own private cabin at the mines whereas the rest of the crew lived in bunkhouses. Phil's second trait was his great, almost super-human strength. Berail would not wait for help from others to tackle a heavy job, nor would he wait until the CAT arrived to move a 300-foot dredge line. If it had to be done, Phil did it, regardless. Finally, Phil was impervious to pain. On one occasion he cut off his finger, wrapping only a dirty old rag around it to stem the blood flow, and went back to work. On another occasion, he broke his arm. He put it in a sling and went back to work. Several days later, the sling was gone and Berail was working away. Finally, after falling from a truck as an old man, he broke his hip. He walked around at Slaven's Roadhouse to show the crew that he was not really in all that bad of shape. They were finally able to convince him that he needed to go to Fairbanks for proper treatment.

There is Frank Rossbach, the former baker's apprentice, known on the creeks as *The Dutch Kid*. Rossbach started out in Germany when he ran away signing on as a cabin boy on a tramp steamer to see the world. Eventually landing in Tacoma, he bought passage on a steamer for Skagway and from there walked the rails of the White Pass & Yukon Route to Whitehorse. From there, he floated down the Yukon River to Dawson where he met John Holmstrum who had claims on Mineral and Alice creeks off Woodchopper. Twenty one years old at the time, Rossbach appears to be one of the youngest individuals working on the creeks. His partner and mentor, John Holmstrum, returned to Europe, so Rossbach took on George McGregor as his partner for the next three years until Rossbach too returned to Europe.

George McGregor, "one of God's people," lived on Woodchopper Creek from the mid-1920s until the early 1960s when he finally moved to Eagle. Like most of those living on the creeks, McGregor loved his solitude. Yet, he took an active part in the community of

miners when he would visit the dredge camps to get his mail and bring the camp cook fresh salmon from his fishwheels, never accepting money in return.

There are those people living today, who have helped with this project. The men who worked the mines in various capacities that granted their time to answer what at times must have seemed like frivolous questions reaching far back into their memories to remember a person, a place, a time long since forgotten. Many thanks go out to Charles "Chuck" Herbert and Glen Franklin, both of whom worked for Alluvial Golds and Gold Placers, Inc. in the early days. Dietrich Rossbach and Sonja Rossbach Defrances, Frank Rossbach's son and daughter, gave generously of their time, their memories, and the stories their father told them of his adventures in Alaska. Leona Beck shared not only her memories of her grandfather, Samuel Downs Harvey, but also many letters written between he and his family, photographs and personal items that Sam had when he was on the creek. As a historian, the opportunity to hold an item, in this case, Sam's billfold, makes the project so alive. Sherrie Harrison, Frank Slaven's great, great niece, has helped sort out many questions regarding Frank and the "mystery woman" who lived with him. Although the quest to learn more about Miss Bissell continues, I know that I'm no longer along but it is a team effort. It was through their kindness that I found photographs of many of the early miners from the creeks. These people served to bring the names to life and put people into the history of the creeks.

When I first started searching for the early miners of the creeks, I started with the most recognizable name on the list, Frank Slaven. I was surprised to find that there was a Frank Slaven living in Arizona who has a passion for genealogy and family history. When I first contacted him, he said without a doubt that he was not part of the same family lines as the Frank I was searching for. Now, after several years of searching, and sharing information about "Dead" Frank with "Arizona" Frank and Sherrie Harrison, the two of them have finally decided that they are in fact distant cousins.

The financial and corporate history of Gold Placers, Inc. and Alluvial Golds, Inc. is complicated at best due in part to the fact that Alexander Duncan McRae was Canadian and, although he turned out to be one of the most powerful and influential men in Canada during the first half of the 20th century, little has been written about him. However, his two granddaughters, Lucile Askins and Maureen Hudspeth, have been very helpful with answering questions about their family and helping me make sense of some of the players.

There have been many people around the National Park Service who have put up with tales of my latest discoveries and offered their own insights into things to look at and records to track down. Ralph Tingey, my supervisor at the time, always supported this project, encouraging me to go farther and dig deeper. I owe a debt of thanks to the members of the Biological Resources Division who have shared their office space with me while working on this project. It has been fun representing the "dead and un-natural" resources while working among the "warm and fuzzy" resource folks. Special thanks have to go to Alex Carter, their team leader, who allowed me to take up residence in their corner of the world. Thanks also go to the team members: Ruth Kalerak, Janis Meldrum,

Judy Alderson, Nancy Deschu, Sue Mills and Bruce Greenwood. Moreover, to Page Spencer, who always had an interest in what I was up to, or just a humorous joke in the morning, a special thanks. We did not start on the best of terms many years ago, but today I count her among my colleagues, and most of all as a friend.

Most importantly, a special thanks has to go out to the Patty family. In particular Dale and Stanton, the two sons of Ernest and Kathryn Patty who grew up on the creeks before staking their own claims on life. While Stanton went on to make his name as a journalist traveling the world, Dale, the youngest son, is credited as being the youngest person to work as a journeyman winchman at the age of 18. Starting as a mechanic's helper, where he laid on his back greasing CATs, he eventually became the vice-president of the company. That's what I call "climbing the corporate ladder!" Dale and Stanton have answered hundreds of e-mails with questions that at times forced them to dredge up memories from their childhoods (pun intended). Sometimes answering the same question phrased differently several times. Thanks for the dredge driving lessons, Dale!

To Karen Patty, Dale's better half, truly special thanks for letting a historian kidnap her husband for two days in 1998 to talk about "the old days" and then again for nearly three weeks in 2001. She made available her personal memoirs of her days on the creeks when, as a young bride and mother, she followed in the Patty family tradition of raising a family, including a set of twins, on the creeks. She may not know it, but without her help, this study would truly be lacking. Thanks, Karen!

A special thanks goes out to Tom Patty, Dale and Karen's son who, like his father, grew up at the mine. It was truly a wonderful opportunity to spend ten days on the creeks talking about what a young lad remembered of the mines and miners working the creeks. It was a great opportunity to be there when Tom visited the house he and his two brothers grew up in on Woodchopper Creek and to see his expression when he found the toy box on the front porch that still held some of his toys.

Two people, Sylvia Burns and Jim "Tundra Jim" Halloran took the time to carefully read the entire manuscript and put their two cents into editing and improving the final product. Both receive my undying thanks.

And finally, to my wife Carol and children, Jeremiah and Rebekkah, for putting up with all my talking about my latest "find" regarding the creeks and my monopolizing the computer at home for either writing or responding to e-mail for this project. At times it was obvious that they did not have a clue what I was rambling on about, but nonetheless, they always listened. Their questions kept me on the right track or got me back on-track if I had strayed far off. Thanks!

For all that provided information to build this history upon, the information you gave me was correct. Errors in interpreting your information are strictly mine.

DB
Fairbanks, 2003

*The title of this history, *The World Turned Upside Down,* may be most familiar as the tune played at the surrender of the British Army at Yorktown in 1781, signifying the end of the American Revolution. In the case of this study, it is used in reference to the basic action of dredges. They invert the ground as they process the paystreak in the search for gold. The fine materials are deposited at the rear of the dredge whereas the larger gravels and cobbles are laid down further astern by the stacker. As a result, the ancient stream beds are literally "turned upside down."

INTRODUCTION

The human quest for gold predates written history. It has been considered a precious metal since ancient times and has stimulated world exploration, conquest and trade for nearly six millennia. Although the European search for gold in the Western Hemisphere dates to the fifteenth century, it was not until the early nineteenth-century when gold mining began actively in North America. Discoveries were made first in North Carolina, followed by Georgia in 1829, Alabama about 1830, then Virginia, Tennessee and eventually New Mexico. The most significant discovery, simply because of its profound impact on developing the western United States, occurred at Sutter's Mill in California in 1848. Other western territories (later states), Australia, Russia and South Africa saw subsequent discoveries throughout the middle- and late-nineteenth century. Finally, the Canadian Yukon and Alaska saw the last major gold strikes made just before the turn-of-the-century.[1] Today, gold mining is making a resurgence in various locations around the world owing primarily to two factors. First, vastly improved exploration and recovery techniques allow miners to work profitably areas with lower gold concentrations. Second, increased values associated with gold that make working these areas profitable. Mines such as the Fort Knox operation north of Fairbanks, Alaska, are using techniques and technologies that were not only unknown to the early prospectors working the creeks, but were more than likely beyond their wildest dreams.

Today, most gold is fabricated.[2] It is used in making jewelry. However, there is a growing market for gold in various industries including electronics, telecommunications equipment, computers and spacecraft due to its excellent conductive capabilities, resistance to corrosion, and other desirable physical and chemical properties. Although gold is important to industry and the arts, it retains its unique status among all commodities as a long-term store of wealth. Because of this, most of the gold bullion produced throughout the world went into vaults of government treasuries until late in the twentieth century when private investors began to purchase and trade in it.[3]

The Price of Gold

For nearly two centuries the value assessed to a troy ounce[4] of gold, also referred to as the "price" of gold, has varied only slightly. The US government set the price of gold at $19.393939 in 1786, it was raised in 1834 to $20.689656. Three years later it declined ever so slightly to $20.671835. The Gold Standard Act established this price in 1900

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[1] U.S. Bureau of Mines, "Gold," in *Mineral Facts and Problems* (Bulletin 675), 1985 ed. 1.

[2] Used here, the term "fabricated" refers to commercial gold – that which is worked as part of an industrial or artistic process, or refined for the purposes of private investment exclusive from all forms of gold bullion.

[3] U.S. Bureau of Mines, "Gold," in *Mineral Facts and Problems* (Bulletin 675), 1985 ed. 1.

[4] Troy ounces [ounce (troy)] rather than avoirdupois ounces [ounce (av)] measure precious metals. A troy ounce is equivalent to 1.097 ounces (av). There are 12 ounces (troy) to the English pound as opposed to 16 ounces (av).

when it set the value of the U.S. dollar at 0.05 troy ounce. It remained constant until 1934 when President Franklin D. Roosevelt lowered the value of the dollar from 0.05 troy ounce to 0.0286 troy ounce of gold. This executive action effectively raised the value of gold to $35.00 an ounce.[5]

After World War II, the U.S. dollar replaced the British pound sterling as the leading reserve currency. The value of gold held steady until 1968 when foreign governments realized that the United States did not have sufficient gold reserves to convert all of their dollars into gold, thus weakening international confidence in the U.S. dollar. For the next several years, the U.S. and other industrial nations sought unsuccessfully to maintain a gold standard.

In August 1971, the U.S. suspended converting dollars into gold at a fixed exchange rate. This action weakened the influence previously held by the U.S. government on gold prices on the London gold market, and it thus resulted in prices dropping. In the Smithsonian Agreement of December 1971, the U.S. Treasury raised the official U.S. gold price from $35 to $38 an ounce. In 1972, daily prices quoted in London ranged from a low of $44 to a high of $70. The U.S. government again raised its official price from $38 to $42 per ounce on October 18, 1973. This was hoped to aid in settling the international price of gold but proved a total failure. London prices continued to vary widely through 1973 ranging from $63.90 to $127.00.[6]

That year, most of the industrial nations allowed their currencies to float – in other words, they no longer backed them with gold reserves. Consequently U.S. prices ceased to be meaningful. On December 31, 1974, the United States deregulated the price of gold, allowing it to be bought and sold on the open market.[7] International gold prices had been rising from 1970 through 1975; they then dropped in 1976 and rose steadily from 1977 through 1980, breaking the $800 mark in 1979.[8] Recent history has shown the value of gold fluctuating widely reaching highs near $700 an ounce.[9] Today the price averages between $325 and $350 an ounce.

Gold Mining In Yukon-Charley Rivers National Preserve

Gold mining is an important part of the cultural and natural history of Yukon-Charley Rivers National Preserve. The Preserve's enabling legislation specifically identifies it as one of the reasons Congress deemed the area worthy of protection as a national preserve.[10]

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[5] J. Wells, *Placer Examination*, Technical Report #4, U.S. Bureau of Land Management, 1972.
[6] U.S. Bureau of Mines, *Annual Report* (1990).
[7] U.S. Bureau of Mines, *Annual Report* (1990).
[8] Clive McKeef, "NY gold prices slide to 18-year lows, gold miners sell," Reuters, December 9, 1997. (Located at http://www.pathfinder.com/money/latest/rbus/RB/1997Dec09/685.html).
[9] Hagler, Bailly & Company, *Historical and Economic Analysis of Placer Mining in Interior Alaska, Draft Report.* Bureau of Land Management, Office of Minerals Policy Analysis and Program Coordination (Washington DC, December 15, 1987), 2.9-2.10.
[10] Public Law 96-847, 94 Stat. 2371, 16 U.S.C. Sections 3101-3233.

Early exploration and discoveries in the vicinity predate those made in the Klondike by as much as a decade or more. For many years, early miners confined their operations to working small placer deposits. Here they used a variety of means, including drift mining (digging a shaft down to bedrock then following the "pay streak" horizontally), open cut methods (working a cut laterally) and hydraulicking (using water, under pressure, to wash gold bearing gravels through a sluice).

Because they lacked the capital to bring in the equipment necessary to exploit their claims to their fullest extent, many simply continued working their claims with fairly simple tools, scratching out enough money to pay for a grubstake that allowed them to keep mining the following season. In some cases, solitary miners worked over the winter, stockpiling the "pay dirt" until the following summer, when water again flowed, allowing them to run it through a sluice recovering the gold.

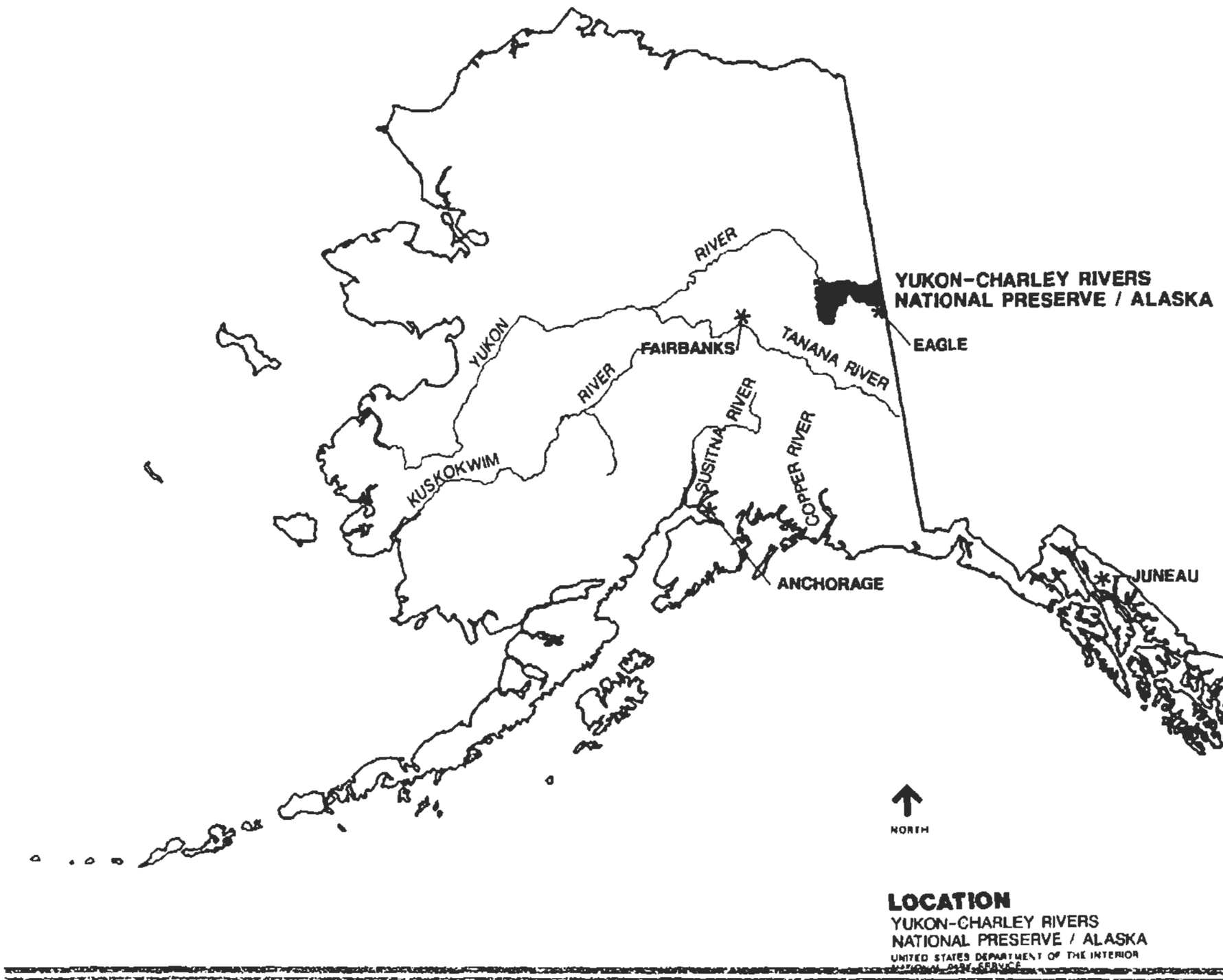

Figure 1: Yukon-Charley Rivers National Preserve is located in interior Alaska, along the US-Canadian Border

With the exception of activities around Dawson on the Canadian side of the border, and on Mastodon and Deadwood Creeks, south of Circle, mining on the upper Yukon River basin continued in this manner until the early 1930s. Small operators, working several claims by hand, season after season.

CHAPTER ONE:
EARLY MINING ON THE UPPER YUKON

Early Mining in the Circle District

In Alaskan and the Canadian Yukon, the best known period of mining history was the great Klondike Gold Rush of 1897-98. By the time the thousands of prospectors landed at Dawson City in the Yukon Territory, most found the valuable ground already staked. Consequently, many of them either returned to their homes empty-handed or fanned out into the surrounding areas hoping to find new areas where they could make their fortunes. Many continued down the Yukon River to the already established Fortymile mining district and some went farther down river to the Eagle district. Approximately 150 miles farther down the river from the Eagle District lay the town of Circle, the jumpin-off point to the Circle district.

The first discoveries along the upper Yukon were made in the mid-1880s and production began in tributaries along the Fortymile River. Following these, in 1893, two Creoles named Pitka and Sorresca made additional discoveries in what later became the Circle Mining District. Their initial discoveries were somewhere on Birch Creek. News of the discovery started an influx of prospectors into the area and in the following spring (1894) discovery of the placers on Mastodon Creek. As prospectors continued to probe the drainages surrounding Birch and Mastodon creeks, gold was also discovered on Independence, Miller, Deadwood, and Boulder creeks, all within the Circle mining district.[1] In 1895, gold was found on Eagle Creek with discoveries made on Harrison and Porcupine Creeks later that winter. By 1896, active mining was taking place on all the principal streams in the Circle District. Although many other streams in the District would be mined as commercial placers, the Birch Creek and Mastodon Creek discoveries occurred well before those of the Canadian Yukon that sparked the Klondike Rush.[2]

Gold mining continued to develop throughout the region between Circle and Dawson. Coal Creek and Woodchopper Creek lie within the Circle mining district, approximately 110 miles downstream from Eagle and 50 miles up from Circle (Figure 1). Thsese creeks constituted one of three main gold mining areas within the Circle District. The other two were Mastodon Creek and Deadwood Creek. The placers found on these creeks saw the entire gamut of mining techniques used. Miners typically began with early pan and sluice work, followed by hydraulic and open-cut techniques and eventually dredge operations. The Coal Creek-Woodchopper Creek area includes Ben Creek and Sam Creek as well as their tributaries. However, only Coal and Woodchopper Creeks evolved to having dredges operating on them.

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[1] J.B. Mertie, Jr., *Gold Placers of the Fortymile, Eagle, and Circle Districts Alaska*. USGS Bulletin 897-C (Washington DC: Government Printing Office, 1938), 205-206.
[2] Mertie (1930), 206.

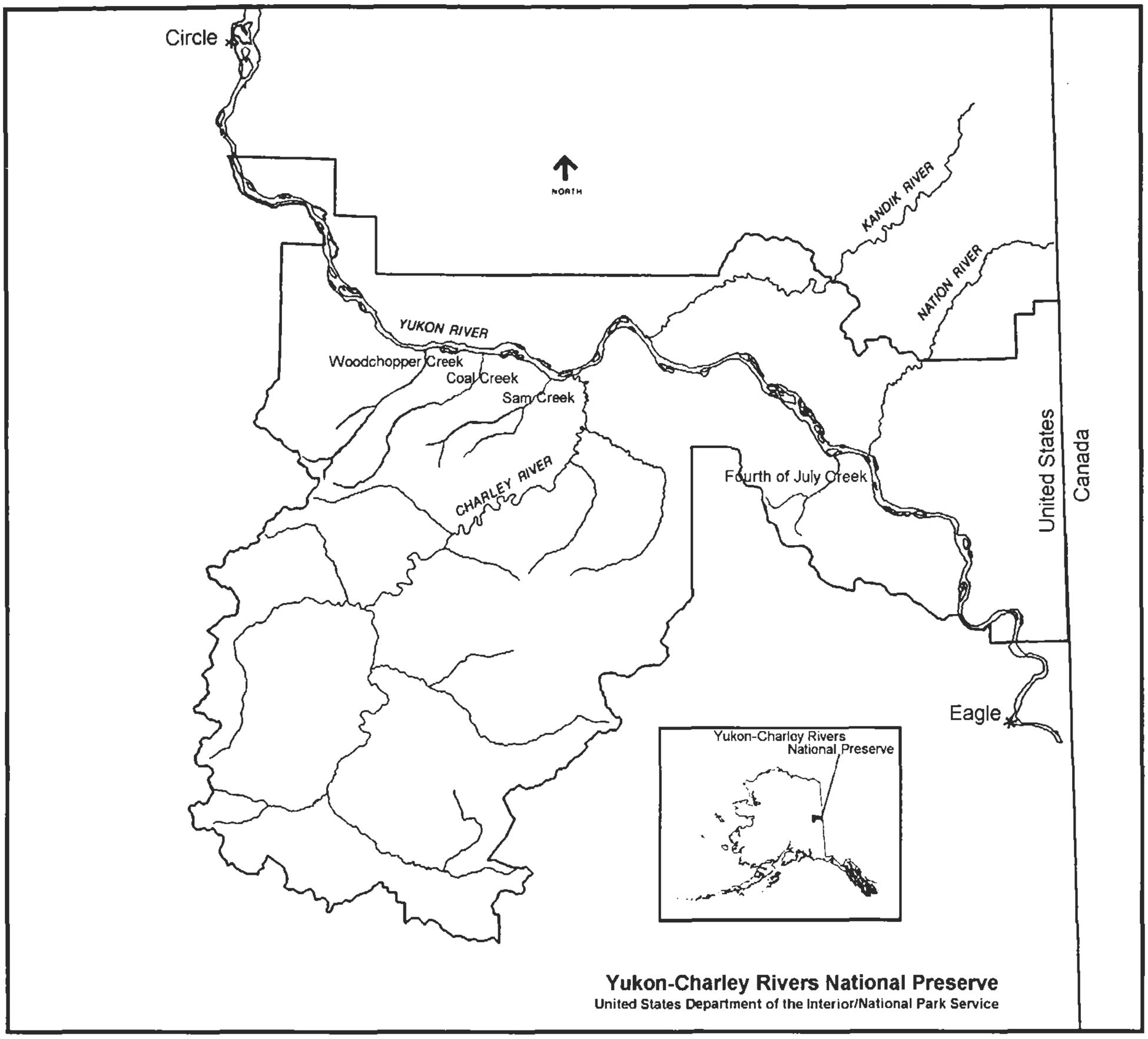

Figure 1: Yukon-Charley Rivers National Preserve, Alaska

Early Mining on Coal Creek and Woodchopper Creek

Because of their association with dredging, many people assume that Coal Creek and Woodchopper Creek's mining history started with gold. That however is not the case, at least on Coal Creek. The first record of mining activities comes on July 13, 1901. Mark E. Bray filed a bill of sale for 160 acres of coal mining ground he described as "situated on a small creek 8 miles from the Yukon."[3] As a result the creek earned the name "Coal Creek."

[3] Deeds, Bill/Sale, Options to Purchase, Book 1, Circle District, 1900-1906, page 149. This record is on BLM microfilm No. 254.

D.T. Noonan[4] filed the first placer mining claim on Coal Creek for the "Gertrude Bench" claim on November 11, 1901.[5] After Noonan's claim, over the next six years, individuals who eventually became well associated with mining activities on both Coal and Woodchopper Creeks staked additional claims. These include men like Frank Slaven, who, with assistance from Sandy Johnson (who had claims on Sam Creek), built the roadhouse at the mouth of Coal Creek. They also included W.P. Beaton and James Pendergast, both for whom tributaries to Coal Creek are named. A man by the name of Nels Nelson joined Slaven and the others with claims stretching from the mouth of Coal Creek approximately 10 miles upstream. Slaven's claims, along with those of Harold Malstrom and Frank Forrest in which Slaven shared interests in, occupied the upper 16,000 feet of the valley from Boulder Creek upstream beyond Colorado Creek. The Beaton and Nelson claims took in the lower 25,000 feet of the creek from the Yukon River to the mouth of Boulder Creek.[6]

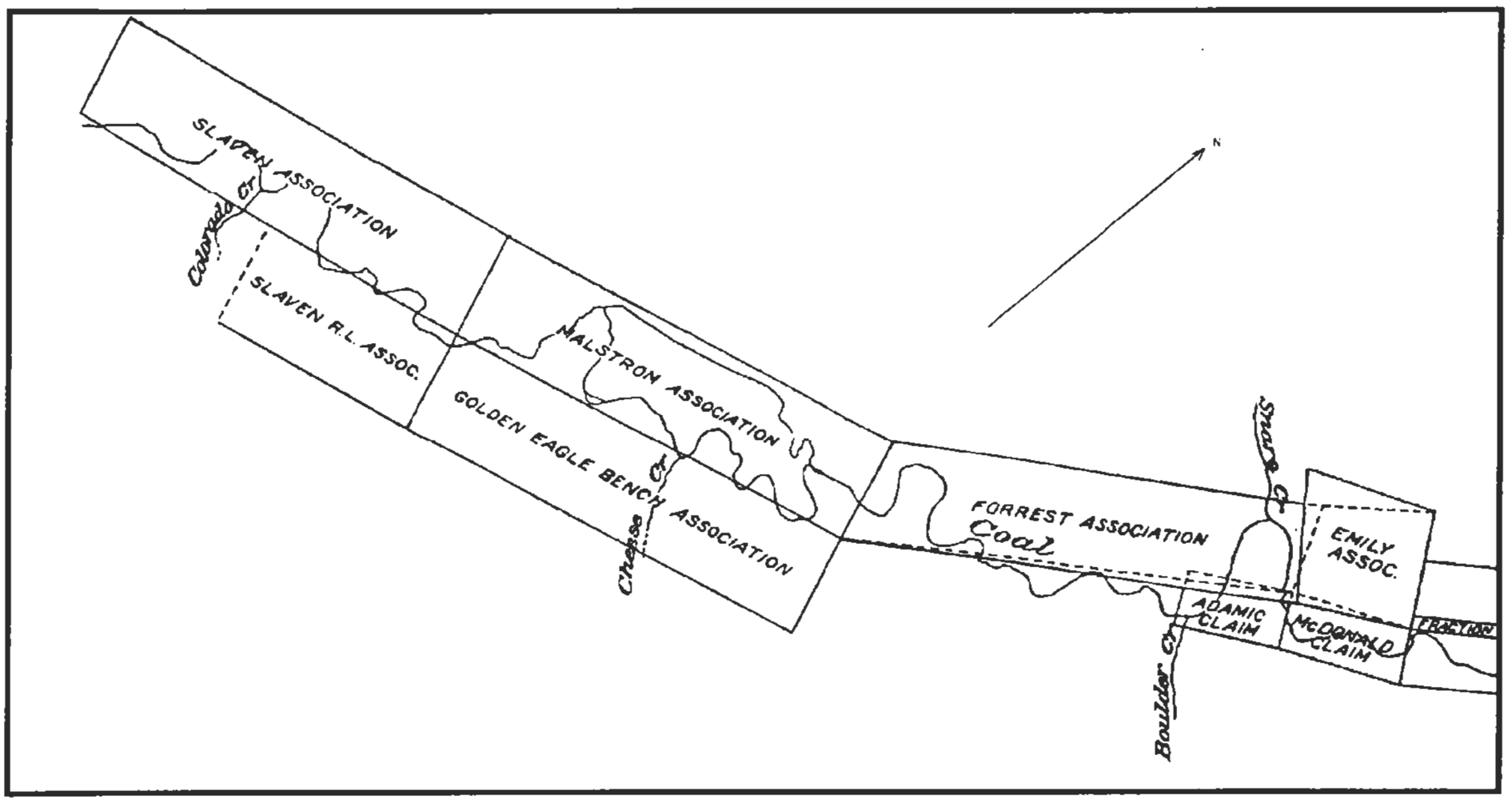

Figure 2: Upper Coal Creek Claims

Of the two creeks, prospectors found gold on Woodchopper Creek first. Ira B. Joralemon wrote his initial report on the conditions in Woodchopper Creek in 1935. In it, he notes

[4] A number of historians, in writing information about Coal Creek have erroneously given credit to "D.J. Noonan." Examining the original recorder's records one finds that the middle initial is actually a "T" rather than a "J". This in turn makes it easier to track Mr. Noonan through various other gold rush records such as *Filson's Pan for Gold Databases* on the World Wide Web at http://www.gold-rush.org; and *Polk's Alaska-Yukon Gazetteer*. As an example of misidentifying Noonan, see the National Register nomination for the "Coal Creek Historic Mining District" (page 14).

[5] "Notice of Location," Circle District -- Book 1, Locations, page 325.

[6] Ira B. Joralemon, "Report on Coal Creek Placers, Circle District, Alaska," August 23, 1934. Located in the Charles Janin manuscript collection, Henry E. Huntington Library, San Marino, California. Hereafter: Janin MSS Collection. Also, J.B. Mertie, *Gold Placers of the Fortymile, Eagle, and Circle Districts, Alaska,* Geological Survey Bulletin 897-C (Washington DC: Government Printing Office, 1938), map following page 50.

the placers on Woodchopper Creek and its tributaries, Mineral Creek and Iron Gulch, were worked "in a small way" for the preceding 40 years. In the 1920s, George McGregor staked some of the richest claims on the creek. In 1926, he and his partner, Frank Rossbach, staked the Discovery Claim at Mineral Creek. Between 1926 and 1935, McGregor staked five claims on Woodchopper Creek. [7] McGregor and the other claimants on Woodchopper Creek sold their claims to Alluvial Golds Inc. in 1935 marking the shift from small, individual miners to large corporate mining companies.

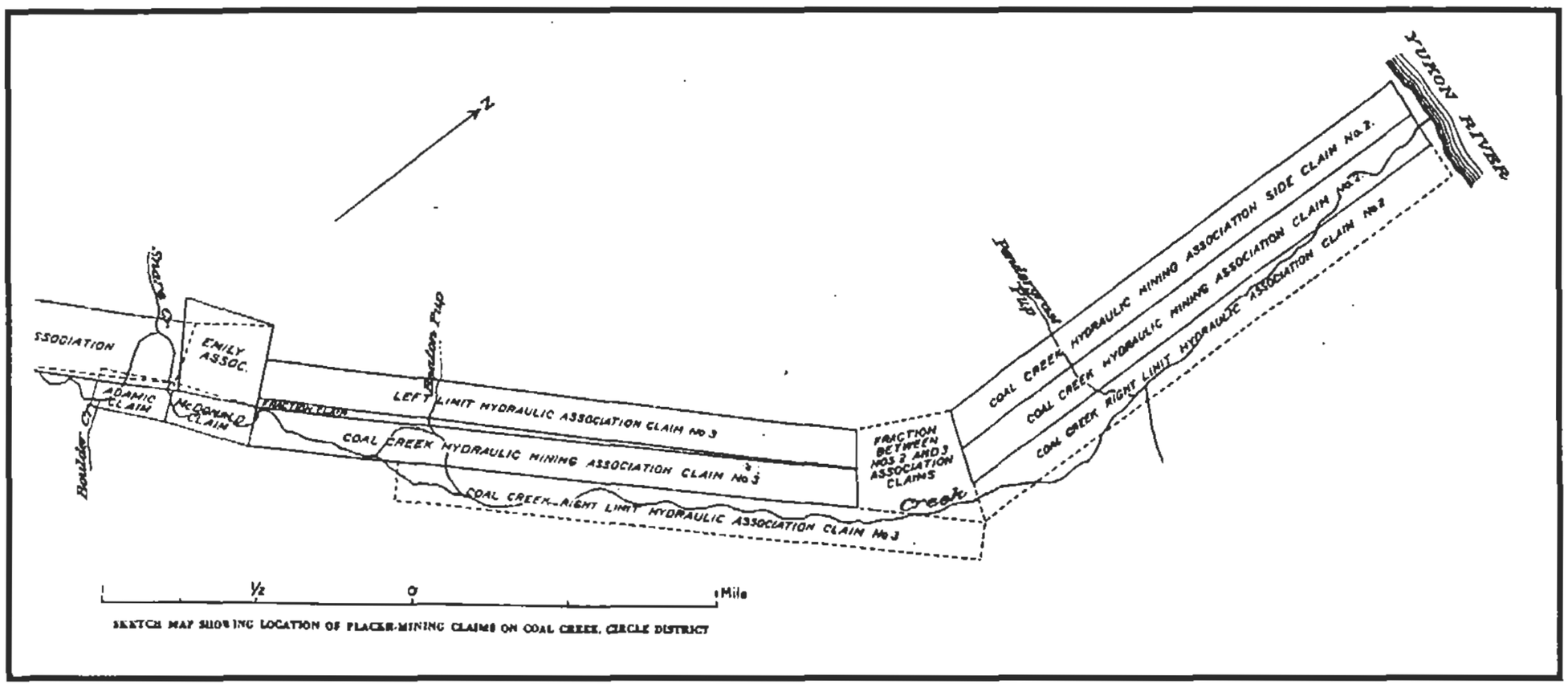

Figure 3: Lower Coal Creek Claims

Surveys and reports from the United States Geological Survey (USGS) show that Woodchopper Creek and its tributaries were being worked more heavily than Coal Creek through the first third of the twentieth century. Although their names are not as well known to the region as those in Coal Creek, John Boyle, Frank Bennett, A. McDonald, S.O. Lee and C.I. Moon held the claims in Woodchopper Creek in the 1930s and eventually sold their interests to Alluvial Golds. In addition, George McGregor is the only personality still associated with the drainage. McGregor started as a prospector/miner then turned to trapping and fishing after selling his claims to Alluvial Golds Inc. One interesting highlight to the Woodchopper Creek claims is that a woman, Mrs. Bessie Olsen was the owner of record on several interests on claims as well as two claims outright.[8]

[7] George McGregor is best known for his cabins at the mouth of Woodchopper Creek. They are on the National Register of Historic Places as part of the "Yukon River Lifeways" thematic nomination. (See: "Yukon River Lifeways, Thematic Nomination" in National Park Service files, Anchorage, Alaska).
[8] Ira B. Joralemon, "Report on Alluvial Golds, Inc, Woodchopper Creek Property, Circle Dist., Alaska," December 28, 1935. Copy in "Coal Creek Operating Reports," Yukon-Charley Rivers National Preserve.

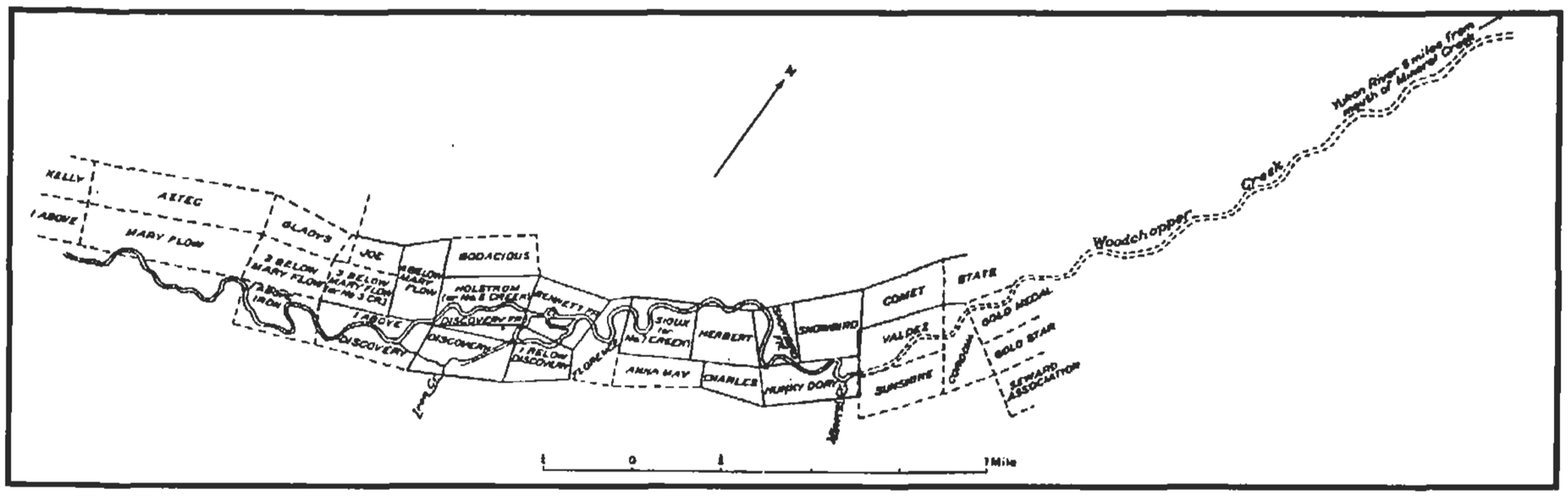

Figure 4: Woodchopper Creek Claims

Transportation and Communication

Placer mining in Alaska has undergone many changes throughout its history. Many of these focus on technological advances, from shovel and pans, to dredges,[9] to modern prospecting and recovery techniques involving computers. Mining on the Upper Yukon was no different from any place else in the territory.

One of the greatest hindrances to any mining activity in Alaska has been the difficulty associated with the lack of a transportation infrastructure. In 1903, Alfred Hulse Brooks; a geologist with the United States Geological Survey commented that:

> The general backwardness of the Yukon field compared with that of Nome is, of course, in a large measure due to the differences in [gold] values, but must also be assigned to the isolation of the region. So long as developments are dependent on the present inadequate transportation facilities, the region will be handicapped. With the uncertainties of the river-steamboat service, the entire absence of roads, and the scarcity of trails, the placer miners of the Yukon district have had to face conditions which would have utterly disheartened less resolute men.[10]

This lack of reasonable transportation limited the amount of development work accomplished on many placer claims in the upper Yukon River region.

The original supply routes into the country came from Seattle and points south, through Skagway, and down the Yukon River to Eagle and thence farther downstream to the various creeks. To access Ben Creek, the original supply trail to the mining operations followed Sam Creek from its mouth at the Yukon. Winter mail carriers, such as the Biedermans, used this route, crossing over to Coal Creek when encountering bad ice

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[9] The dredge operated by Alluvial Golds Inc. on Woodchopper Creek was the last to operate in the Circle District. Edward H. Cobb, *Placer Deposits of Alaska*, USGS Bulletin 1374 (Washington DC: Government Printing Office, 1973), 119.

[10] A.H. Brooks, *Placer Mining in Alaska in 1903*, USGS Bulletin 225 (Washington DC: Government Printing Office, 1904), 56.

conditions on the Yukon. Ernest Patty built a spur road to Ben Creek from the Gold Placers Inc. road on Coal Creek enabling heavy equipment to reach Ben Creek from Coal Creek. Constructing the landing strip at Ben Creek, facilitated by this spur road, further enhancing mining operations there.[11]

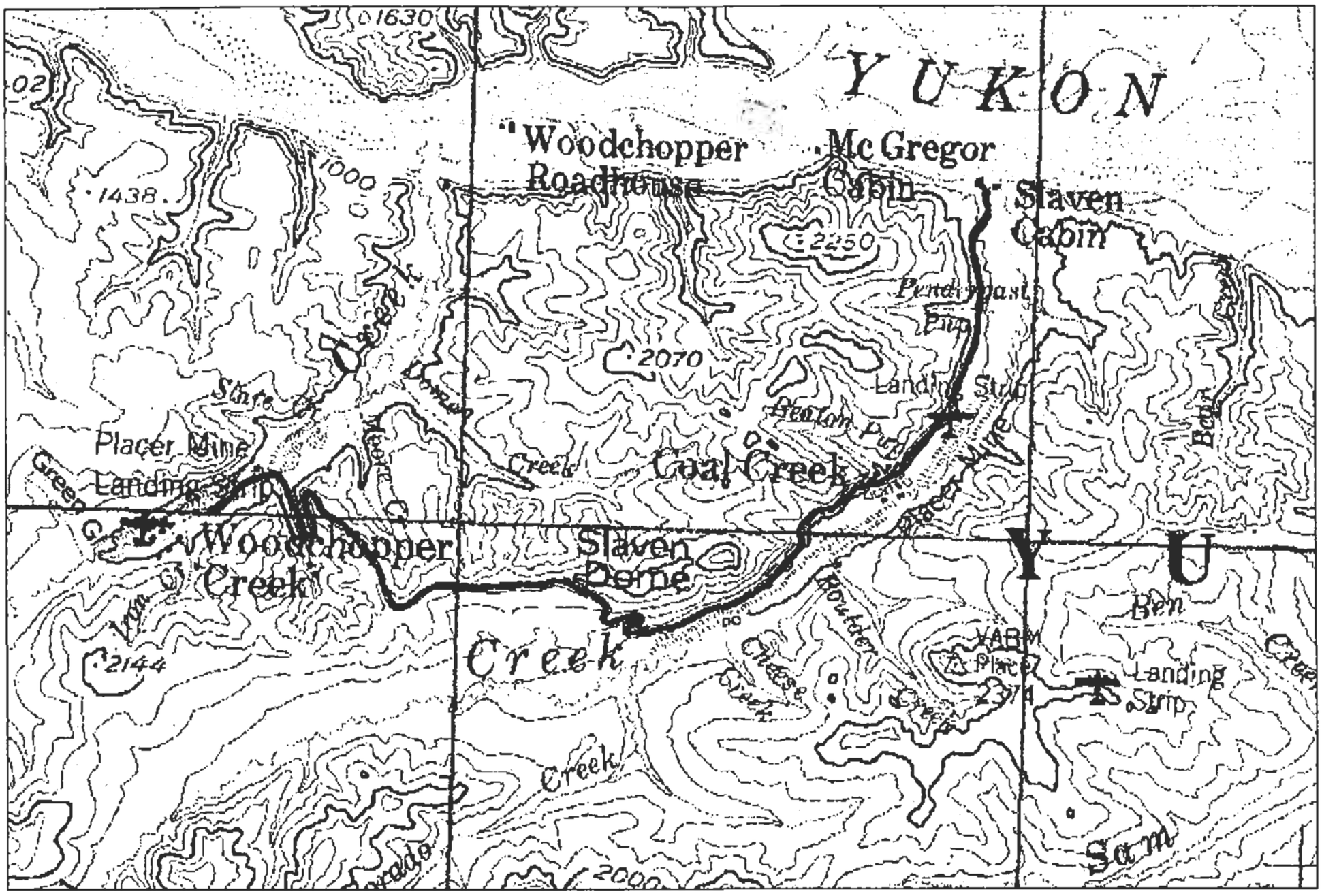

Figure 5: Coal Creek to Woodchopper Creek Road (USGS 1:63 360).

To service Coal Creek, steamboats and barges on the Yukon initially transported all materials and supplies. James Ducker's study of transportation in the Upper Yukon River area states that in 1922; the Alaska Road Commission (ARC) assumed responsibility for an eight-mile stretch of trail up Woodchopper Creek.[12] This trail in-turn branched over to Coal Creek (by way of Mineral Creek) and down the Coal Creek Road where it branched further to Boulder Creek, Ben Creek and Sam Creek (Figure 5). In the early years, the ARC primarily confined its work to building bridges along the trail. Later, in 1932, following a period of severe flooding, the ARC took an active role in rebuilding parts of the old dog sled trail. They went so far as to float logs from the headwaters of Woodchopper Creek to repair bridges that had washed out. The ARC constructed the road from Slaven's Landing, up the Coal Creek valley to Camp No. 1 which was located near the mouth of Cheese Creek. After they began work on Camp No. 1, in the summer

[11] Melody Webb Grauman, *Yukon Frontiers: Historic Resource Study of the Proposed Yukon-Charley National River* (Fairbanks: Anthropology and Historic Preservation Cooperative Park Studies Unit, University of Alaska, 1977), 436, 445, and 457.
[12] James Ducker, *Alaska's Upper Yukon Region: A History*, Bureau of Land Management, Anchorage, Alaska, 1983), Chapter 7, pg. 14.

of 1935, Gold Placers Inc. extended the road over to Woodchopper Creek to support the dredging operations there. This road follows the Coal Creek valley upstream until it makes several switchbacks to climb a steep portion and then follows the ridge for about a mile and a half before dropping down Mineral Creek and on to Woodchopper Creek. [13] In addition, a telephone line ran along the road's right-of-way providing communication between the two camps. According to Dale Patty, who managed the mining operations from 1954 to 1960, he "sometimes felt like opening a window and yelling" because of the poor quality of communication offered by the crank-style, battery operated telephone.[14]

By the late 1930s, operations at Mastodon and Deadwood Creeks were linked by road, and in the cases of some smaller operations, trails, to the Steese Highway, which ran between Fairbanks and Circle. Operations in and around Coal Creek were still dependent on getting their equipment and supplies by way of boats on the Yukon River and to a limited degree, by air support. This situation has not changed, even at the dawning of the 21st century.

Early Development Work on the Coal Creek and Woodchopper Creek Placers

During 1905, L.M. Prindle, of the USGS, reported that Coal Creek, Woodchopper Creek, Washington Creek and Fourth of July Creek produced at least $15,000. According to several unsubstantiated reports, the figure had a potential to rise as high as $30,000.[15] Alfred H. Brooks, also of the USGS, reported the same year that the majority of this production came from Woodchopper Creek.[16]

Several years later, the drainages between Woodchopper Creek and Fourth of July Creek held enough promise for mineral development that L.M. Prindle and J.B. Mertie, Jr. of the USGS prepared a special report on the region for the *Mineral Resources of Alaska: Report on Investigations in 1911*. The authors provide a detailed description of the region, concentrating on each creek. In it, they also discuss the geological history of the area and provide educated predictions on the source for the mineralization. In their description of Coal Creek, they erroneously state that gold was discovered here first in 1910. In their description of recovered gold, they note that "pieces worth $12 to $14"

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[13] Dale Patty, personal correspondence to the author, June 25, 1998 and Melody Webb Grauman, *Yukon Frontiers: Historic Resource Study of the Proposed Yukon-Charley National River* (Fairbanks: Anthropology and Historic Preservation Cooperative Park Studies Unit, University of Alaska, 1977), 473-74.

[14] Dale Patty, personal correspondence to the author, June 25, 1998.

[15] L.M. Prindle, *The Yukon-Tanana Region, Alaska,* USGS Bulletin No. 295 (Washington DC: GPO, 1906), 23.

[16] A.H. Brooks, *Report on the Progress of Investigation of Mineral Resources of Alaska in 1905,* USGS Bulletin No. 284 (Washington DC: GPO, 1906), 126.

had been found – and this was all during the work before actually beginning mining operations.[17]

Prindle and Mertie found the paystreak in Woodchopper Creek to be even better than that in Coal Creek. They estimated it actually consisted of two parallel channels twelve to fourteen feet wide, with a possibility of a third channel eighty feet wide. After removing the over-burden, which varied up to 30 feet thick, the paystreak averaged 1 1/2 to 4 feet thick. Here, the gold was "course," with the largest nugget found having a value of $30. Miners on Woodchopper reported their gold had values ranging from $19.09 to $19.30 per ounce.[18] According to Prindle and Mertie, "these were the highest values found in the Yukon Province."[19]

By 1912, the USGS reported that "from seven to fourteen men were engaged in mining on Woodchopper Creek," primarily on its tributaries: Mineral Creek, Iron Creek and Alice Gulch. Coal Creek and its tributaries Boulder and Rose Creeks had between ten and twenty men "either prospecting or mining." That year, there were also a few men, mainly pros-pectors, working on "Sams Creek" and some on Fourth of July. However, the report does not provide production figures.[20]

The following year, there were ten men working on Fourth of July Creek. Others were preparing to begin work "whenever the water supply was adequate." Reports from early in the season showed that Woodchopper Creek held promise as a "better producer than ever before" with twenty men working the creek and its tributaries year round. Coal Creek operations continued to be small scale with "six or eight" men mining on it.[21]

The values associated with the placer at Coal Creek varied considerably from claim to claim. Ira Joralemon, an internationally known geologist who examined the Coal Creek claims in the early 1930s, reports that Nelson and Beaton, after working approximately 50,000 square feet of bedrock, averaged approximately 75 cents per square foot. This is after removing the overburden to get to down to the paystreak lying at or near bedrock.

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[17] L.M. Prindle and J. B. Mertie, Jr., "Gold Placers Between Woodchopper and Fourth-of-July Creeks, Upper Yukon Region," *Mineral Resources of Alaska: Report on Investigations in 1911*, USGS Bulletin 520 (Washington DC: GPO, 1912), 208-209.

[18] At the time, the price of gold was fixed at $20.67 per troy ounce. This figure was for "fine" or pure gold. In naturally occurring gold, other minerals, notably silver, are alloyed with it and decrease its value until removed in the smelting process. Therefore, the "value" quoted for gold at the creeks is often slightly lower than those for fine gold.

[19] L.M. Prindle and J. B. Mertie, Jr., "Gold Placers Between Woodchopper and Fourth-of-July Creeks, Upper Yukon Region," *Mineral Resources of Alaska: Report on Investigations in 1911*, USGS Bulletin 520 (Washington DC: GPO, 1912), 209-210.

[20] C.E. Ellsworth and R.W. Davenport, "Placer Mining in the Yukon District," Mineral *Resources of Alaska: Report on Progress of Investigation in 1912,* USGS Bulletin No. 542 (Washington DC: GPO, 1913), 213.

[21] A.H. Brooks, "The Mineral Deposits of Alaska," *Mineral Resources of Alaska: Report on Progress of Investigations in 1913,* USGS Bulletin No. 592 (Washington DC: GPO, 1914), 360.

Reports state that Slaven's claims, on the other hand, averaged $1.14 per square foot in 1914. All of these claims were said to be "unusually rich."[22]

Several years later, Brooks reported that there were "about 10 mines operating and 25 men employed during the summer of 1914" in what he called the "Woodchopper Creek region." These included ten camps operating in the winter, primarily on Coal Creek. That year, preparations were made to install a hydraulic operation at the mouth of Mineral Creek in the Woodchopper Creek drainage. In 1914, the entire Circle district produced $215,000 worth of gold, an increase over an estimated $175,000 produced the previous year.[23]

The first dredge to work in the district worked on Mastodon Creek, southwest of Circle. It came from Dawson in 1911. The operators found it entirely unfit for further service and dismantled it in 1914. Miners brought a second dredge to work on nearby Mammoth creek that year with expectations that it would be in service during the entire 1915 season. The dredge specifications as reported by the USGS closely resembled those for the dredge eventually put into service on Coal Creek. It had 3 1/2-foot buckets[24] and a close-connected line. Powering the dredge were one hundred seventy-horsepower steam engines, with an estimated daily capacity of 2000 cubic yards and capable of digging ground twelve to sixteen feet deep.[25]

Early mining camp on Coal Creek. This is likely Frank Slaven's claims and operation. Note the gin pole on the left for hauling paydirt out of the ground and the two cabins on the right. Frank Slaven Collection, courtesy of Sherrie Harrison.

[22] Ira Joralemon, "Report on Coal Creek Placers," August 23, 1934: 4-5. The original of this report is located in the Stanton Patty Collection, Ernest and Kathryn Patty Division, at the University of Alaska -- Fairbanks, Rasmuson Library.

[23] A.H. Brooks, "The Alaska Mining Industry in 1914," *Mineral Resources of Alaska: Report on Progress of Investigation in 1914*, USGS Bulletin No. 622 (Washington DC: GPO, 1915), 50, 60-61.

[24] Dredge buckets are measured in by the number of cubic feet they will dig. A 3 ½ foot bucket has a capacity of 3 ½ cubic feet of material in each bite. A corollary to this would be an ice cream scoop with a capacity of 3 ½ cubic feet.

[25] A.H. Brooks, "The Alaska Mining Industry in 1914," *Mineral Resources of Alaska: Report on Progress of Investigation in 1914*, USGS Bulletin No. 622 (Washington DC: GPO, 1915), 60-61.

"Those Who Came Early and Stayed Late, the Miners of Coal Creek." This photo was taken by Walter Harvey in August 1927 while he and his father Samuel Downs Harvey retraced Sam's trek from Indiana to Coal Creek. Back: Nels Nelson, Hattie (Mrs. Robert) Darlington, George Davis. Middle: Robert Darlington, Samuel Downs Harvey, Jack Boyle. Front: Charles Boyle, William P. Beaton[26], Frank Slaven, Charles Armstrong. Frank Slaven Collection, courtesy of Sherrie Harrison.

[26] William P. Beaton is the namesake for Beaton Pup, the tributary of Coal Creek where Camp No. 3 is located. His claims were located at the confluence of Beaton Pup and Coal Creek and, along with Slaven's original claims, proved to be two of the richest locations on Coal Creek.

CHAPTER TWO
WHO WORKED THE CREEKS?

INTRODUCTION

For the most part, recent historical research on Coal Creek and Woodchopper Creek has been confined to the period after Gold Placers, Inc. and Alluvial Golds, Inc. put dredges on the creeks in 1936 and 1937 respectively. This only covers the last half of the active period of mining here. Previously little information was available regarding the preceding four decades when men and women were prospecting, mucking, poking, drifting and sluicing these creeks and their tributaries. This chapter examines those individuals. Since the records are few and far between, a quantitative examination provides an overview followed by biographies, albeit short ones, on some of the more prominent individuals who lived and worked claims on the creeks.

Examining the various record books maintained by the Circle Mining District recorder resulted in a list of 320 individuals whose names appear connected to claims on Coal Creek, Woodchopper Creek and their various tributaries. Based on this, and other archival information including letters and diaries, along with interviews with miners and their descendants, four groups of individuals emerge. The first group, those who "came early and stayed late" consists of people staking claims early on, generally before 1907. They remained on their claims through the mid-1930s when they sold them to the two dredging companies. Among these are Frank Slaven, John Boyle, Sivert O. Lee, Frank Bennett, John Holmstrum[1] and Bessie Currie[2].

The second constitutes individuals who invested in others to prospect and work their claims. Among these are men such as those from the *Dawson Daily News* who grubstaked Frank Slaven and James Pendergast on Coal Creek. Their financial backers include: William McIntyre, William B. Reinhardt, Charles B. Settlemeier, Albert Forrest, Harold Malstrom, Richard Roediger and Arthur H. Dever. This group also held several "associated" claims under the name of the "Coal Creek Dredging and Mining

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[1] Holmstrum's name appears with a number of variant spellings including Holmstrum, Holmstrum, Hulmstrom and Hulmstrum among others. For the purposes of this study, the most common spelling "Holmstrum" is being used throughout. Unlike the case of Frank Rossbach, no living relatives of Holmstrum have been located to clarify the spelling.

[2] Having staked her original claims with her husband James H. Currie in 1904, then following a re-marriage to Emil Olson (possible spelling Oleson), Bessie Currie continues to own claims under the name of Bessie Olson/Oleson through the mid-1930s.

There is a chain of claimants, John Holmstrum, Frank Rossbach and George McGregor that extends this first 'group' even farther. Holmstrum was one of the first to stake claims in 1901. He partnered with Rossbach from 1913 to 1923 when he left the country. McGregor then joined with Rossbach working their claims until 1926 when Rossbach returned to Germany. McGregor remained on Woodchopper and the Yukon until the early 1960s when he moved to Eagle. He is also the author of an extensive collection of journals covering most of the period. As a result, McGregor offers the researcher an opportunity to see the workings of Woodchopper and Coal Creek through his eyes.

Company."[3] Although the *Dawson Daily News* group would also qualify for membership within the first category of individuals, they are not included because their interests were purely of a financial nature.

The last two groups of individuals identified on the creeks include those who came during one of the several rushes to the area, staked claims and never followed through with proving them up or for any number of reasons abandoned them and moved on. The last group includes those who lived outside Alaska and granted power-of-attorney to any of a variety of prospectors and miners who would then stake claims in their names. Although these are similar in nature to those in the second group, these individuals appear to have never come to Alaska, much less worked the creeks. The primarily constitute family and friends of miners working the creeks who likely offered to get their acquaintences in on a "good thing."

It appears that coal claims were the first staked in the drainages. Steamboats were plying the Yukon River bringing passengers and freight from St. Michael on the Bering Sea coast to Dawson. Their primary fuel supply was wood cut during the winter by individuals working as woodchoppers. Steamboats made periodic stops along the river to take on huge quantities of cordwood. Boats traveling upriver would burn upwards of a cord of wood each hour.[4] The transportation companies saw coal as a potential alternative to wood, provided it could be located in sufficient deposits, mined and transported to the riverbank.[5]

On July 13, 1901, Mark E. Bray sold his interests in a coal claim on Snare Creek, located approximately six miles up Coal Creek from the Yukon River, to William Moran.[6] D.T. Noonan and David Petrie witnessed the document. Subsequently this claim changes hands several more times including when it W.W. Chandler, William H. Carpenter, Mary L. Lewis and John Lauchurt relocated it in 1910.[7] It is unclear if any appreciable amount of coal was ever mined from Snare Creek.

Daniel T. Noonan,[8] of Delamar, Nevada, filed the first gold claim on Coal Creek in mid-November 1901.[9] Noonan located his 20-acre claim on the right limit[10] of Coal Creek on

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[3] Notices of Location Nos. 26-49, Circle Mining District, Locations -- Book 3 (1907-09), pp 9-20.
[4] A cord of wood measures four feet by four feet by eight feet (128 cubic feet).
[5] A number of books about sternwheelers on Alaskan rivers have been written, including a number by those who worked on or piloted the steamboats. Among them are: Arthur E. Knutsen, *Sternwheelers on the Yukon* (Kirkland, Washington: Knutson Enterprises Inc., 1979); Melody Webb, "Steamboats on the Yukon," *Alaska Journal,* Vol. XV (Summer): 21-29; and Basil Hedrick and Susan Savage, *Steamboats on the Chena: The Founding and Development of Fairbanks, Alaska* (Fairbanks, Alaska: Epicenter Press, Inc., 1988).
[6] "Bray to Moran," Deeds, Bills of Sale, Options to Purchase, Book 1, Circle District, 1900-1906, p. 149.
[7] "Notice of Coal Land Location, Notice No. 170," Circle Mining District, Locations -- Book 4, pp 62-62.
[8] For many years, Noonan's name has been reported as "D.J. Noonan." Careful examination of the original records shows it to be "D.T. Noonan." No other records have been located identifying anyone named "D.J. Noonan in Alaska or the Yukon during this period. Noonan appears to have arrived in the Yukon in June 1898 when he was recorded by the NWMP at Chilkoot. ("NWMP Records At Chilkoot: Checkpoints Listing People Who Entered the Yukon," in *Filson's Pan for Gold Databases* at http://www.gold-rush.org.)
[9] "Gertrude Bench Claim," Circle Mining District, Locations -- Book 1 (1900-1902), p. 325.

August 23, 1901. The same day, Daniel M. Callahan also located a 20 acre mining claim he called "No. 1 Below Discovery on Magnet Hill," also on the right limit of Coal Creek presumably in the vicinity of Noonan's claim.[11] Unfortunately, Noonan is among those who staked claims and did not follow up with them. He disappears from the record after filing an associated claim for 160 acres on Coal Creek in 1902.[12] Among those listed as Callahan's co-claimants are: D.T. Noonan, R.R. Reed, John Linquist, Edward McGrath[13], Sherman Fraker[14], F. Overgaard, Julius Stankus and Dick Shine.

From 1900 through 1948, there were 565 claims filed on the two drainages. The number of claims filed over the years follows a pattern of peaks and valleys. After Noonan and Callahan staked their claims in 1901, ten others recorded claims that year along with 27 more the following year. In 1903 however no claims were recorded. In 1904, people staked nine claims followed the next year by the largest number of claims (95). Then a steady decline takes place until again it bottoms out with no claims staked in 1909. This trend of rising and falling numbers continues with peaks and valleys in the following years: 1910 (36 claims), 1912 (0 claims), 1916 (22 claims), 1924 (0 claims), 1927 (11 claims), 1929-34 (0 claims), followed by a flurry of locations in 1935 (57 claims). This pattern becomes more evident and is explained by comparing the ebb and flow of locations with the various rushes occurring around Alaska as shown in the following tables:

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[10] The "limits" of a creek or placer area are defined as the banks or edges. Right or left is determined by facing downstream. Therefore, the right limit of Coal Creek, would be the eastern bank of the creek.
[11] "No. 1 Below Discovery on Magnet Hill," Circle Mining District, Locations -- Book 1 (1900-02), p. 326.
[12] Discovery was made on the "D.T. Noonan Association" claim on February 26, 1902. "D.T. Noonan Association," Circle District Locations, Book 1 (1900-02), p. 357.
[13] McGrath's prospecting eventually landed him over on the Kuskokwim River where the village of McGrath was named for him. See: "Clary Craig Database" Dawson City Museum, copy in the possession of the author.
[14] Sherman Fraker and Doc Overgaard mined ventures on Little Eldorado Creek north of Fairbanks. Overgaard, along with Frank Reynolds, was partnered with Jess Rust on "Five Above" on Little Eldorado, Fraker and his partner Otto Nelson worked a neighboring claim. See: Clara Rust, "I Was a Bride on the Little Eldorado, Part One," *Alaska Sportsman*, (March 1963): 14-16; and Clara Rust, "I Was a Bride on the Little Eldorado, Part Two," *Alaska Sportsman,* (April 1963): 24-25, 32-33.

Number of Claims Staked on Coal Creek and Woodchopper Creek With Corresponding Gold Rush Locations And Major Historical Events of the Twentieth Century

Historic Event or Gold Rush Location[15]	Year	Claims Filed
Fortymile	1886	0
Circle	1893	0
Eagle, American Creek	1895	0
Gold found on Bonanza Creek in the Klondike	1896	0
	1897	0
Nome/Seward Peninsula	1898	0
	1899	0
Subtotal (1890-99)		0

Historic Event or Gold Rush Location[16]	Year	Claims Filed
	1900	0
	1901	12
Fairbanks	1902	27
	1903	0
	1904	9
	1905	95
	1906	32
	1907	44
Iditarod	1908	10
	1909	0
Subtotal (1900-10)		229

Historic Event or Gold Rush Location[17]	Year	Claims Filed
	1910	36
	1911	19
	1912	0
	1915	6
World War I begins	1914	16
	1915	16
	1916	22
	1917	6
World War I ends	1918	4
	1919	6
Subtotal (1910-19)		131

[15] Information regarding the various rushes in the Klondike and Alaska was compiled from William R. Hunt, *Golden Places: The History of Alaska-Yukon Mining, With Particular Reference to Alaska's National Parks* (Anchorage: National Park Service, Alaska Region), n.d.
[16] Information regarding the various rushes in the Klondike and Alaska was compiled from William R. Hunt, *Golden Places: The History of Alaska-Yukon Mining, With Particular Reference to Alaska's National Parks* (Anchorage: National Park Service, Alaska Region), n.d.
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Historic Event or Gold Rush Location[18]	Year	Claims Filed
	1920	6
	1921	5
	1922	6
	1923	1
	1924	0
	1925	2
	1926	8
	1927	11
	1928	5
Stock market crashes, Great Depression begins	1929	0
Subtotal (1920-29)		44

Historic Event or Gold Rush Location[19]	Year	Claims Filed
	1930	0
	1931	0
	1932	0
	1933	0
Gold goes to $35.00 an ounce (troy)	1934	6
McRae & Patty begin acquiring claims for Gold Placers Inc.[20]	1935	57
Coal Creek dredge begins operation	1936	20
Woodchopper dredge begins operation	1937	2
	1938	2
	1939	8
Subtotal (1930-39)		95

[18] Information regarding the various rushes in the Klondike and Alaska was compiled from William R. Hunt, *Golden Places: The History of Alaska-Yukon Mining, With Particular Reference to Alaska's National Parks* (Anchorage: National Park Service, Alaska Region), n.d.

[19] Information regarding the various rushes in the Klondike and Alaska was compiled from William R. Hunt, *Golden Places: The History of Alaska-Yukon Mining, With Particular Reference to Alaska's National Parks* (Anchorage: National Park Service, Alaska Region), n.d.

[20] Many of the early claims staked by "those who came early and stayed late" were re-staked in 1935. This appears to be an attempt to clarify and define the claims in preparation for Gold Placers Inc. purchase. Many of the location notices, although signed by the claimants, were in fact filed for recording by Ernest Patty or others working for Gold Placers Inc. at the time.

Historic Event or Gold Rush Location[21]	Year	Claims Filed
	1940	13
World War II begins	1941	4
Order L-208 closes gold mines	1942	0
Coal Creek dredge idle	1943	0
Both dredges idle	1944	32[22]
Woodchopper dredge idle	1945	4
	1946	4
	1947	5
	1948	4
Coal Creek dredge idle	1949	0
Subtotal (1940-49)		66
Total Claims Filed (1890-1949)		565

Each time prospectors made a new discovery elsewhere in Alaska, people who had been unsuccessfully working Coal Creek and Woodchopper Creek without finding gold in the quantities they hoped, joined the rush to the new diggings in their constant search for the next El Dorado. Other contributing factors in the number of claims being staked included international events such as World War I and the stock market crash of 1929. Following the economic downturn of the Great Depression, raising the price of gold to $35.00 an ounce in 1934 brought new life to the once stagnant region.

Years	Claims Filed	Percentage
1900-1909	229	40.5
1910-1919	131	23.2
1920-1929	44	7.8
1930-1939	95	16.8
1940-1949	66	11.7
1900-1949	565	100.0

In examining the occupations of those claiming ground on the creeks, it is interesting to note the variety of jobs people reported. Using the classification system developed by Charlene Porsild in her book *Gamblers and Dreamers: Women, Men, and Community in the Klondike* reveals the following statistical breakdown. Eleven percent of those holding claims on the creeks were involved in professional or white-collar occupations, 19.2% were in commercial activities, 15.5% were skilled, while 47.5% were semi-skilled. The remaining 6.8% fall into the unskilled and service occupations.[23] Comparing Porsild's

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[21] Information regarding the various rushes in the Klondike and Alaska was compiled from William R. Hunt, *Golden Places: The History of Alaska-Yukon Mining, With Particular Reference to Alaska's National Parks* (Anchorage: National Park Service, Alaska Region), n.d.

[22] Location notices filed from 1944 to 1948 represent claims on areas adjacent to, or immediately outside of, those where the dredges were working. They were primarily staked on Colorado Creek (tributary of Coal Creek) and a strong of claims between called "Nos. 40-63 Between Woodchopper and Coal Creek." The claimants were, for the most part, associated in one way or another with Gold Placers Inc. and Alluvial Golds Inc.

[23] Charlene Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: University of British Columbia Press, 1998), 201-209.

findings in the Klondike with those on the creeks reveals that Coal Creek and Woodchopper Creek are simply microcosms of the demographics associated with the Klondike. The percentages made up of each occupational class for those on the creeks was similar to those reported in the Klondike over time as illustrated by the table below:

Occupation	Klondike 1901[24]		Klondike 1885-1914[25]		Coal Creek/ Woodchopper[26]	
	Frequency	Percent	Frequency	Percent	Frequency	Percent
Professional / White Collar	615	9.0	1074	13.9	24	11.0
Commercial	582	8.5	1368	17.8	42	19.2
Skilled Trades	1031	15.1	722	9.4	34	15.5
Semi-Skilled Trades	2986	43.7	4093	53.1	104	47.5
Unskilled Labor / Service	1618	23.7	446	5.8	15	6.8
Total Workforce	6832	100.0	7703	100.0	219	100.0

Porsild's Master Index represents a more accurate depiction of the demographics of the Klondike due to the manner Canadian officials conducted the 1901 census. The 1901 Yukon census reveals a fairly high percentage of individuals (23.7%) in the unskilled labor category. These individuals for the most part constitute entertainers, gamblers, criminals, vagrants, manual laborers, and although most may disagree with Porsild's decision to include them here, wives. When looked at over time, this figure drops dramatically to 5.8% in the Klondike. The largest declines are shown in the number of cooks/waiters/bartenders (377 in 1901 down to 49 in the Master Index), domestic servants (108 in 1901 down to 12), manual laborers (247 down to 23) and wives (564 down to 169). This in part is attributed to the community's evolution from a booming mining town to a more stable community with more "traditional" values. Also, many of those individuals who found themselves without claims, without sufficient employment to provide a living, and without the means to support themselves in Dawson either turned tail and returned from whence they came, or joined the throng rushing off to another Eldorado.

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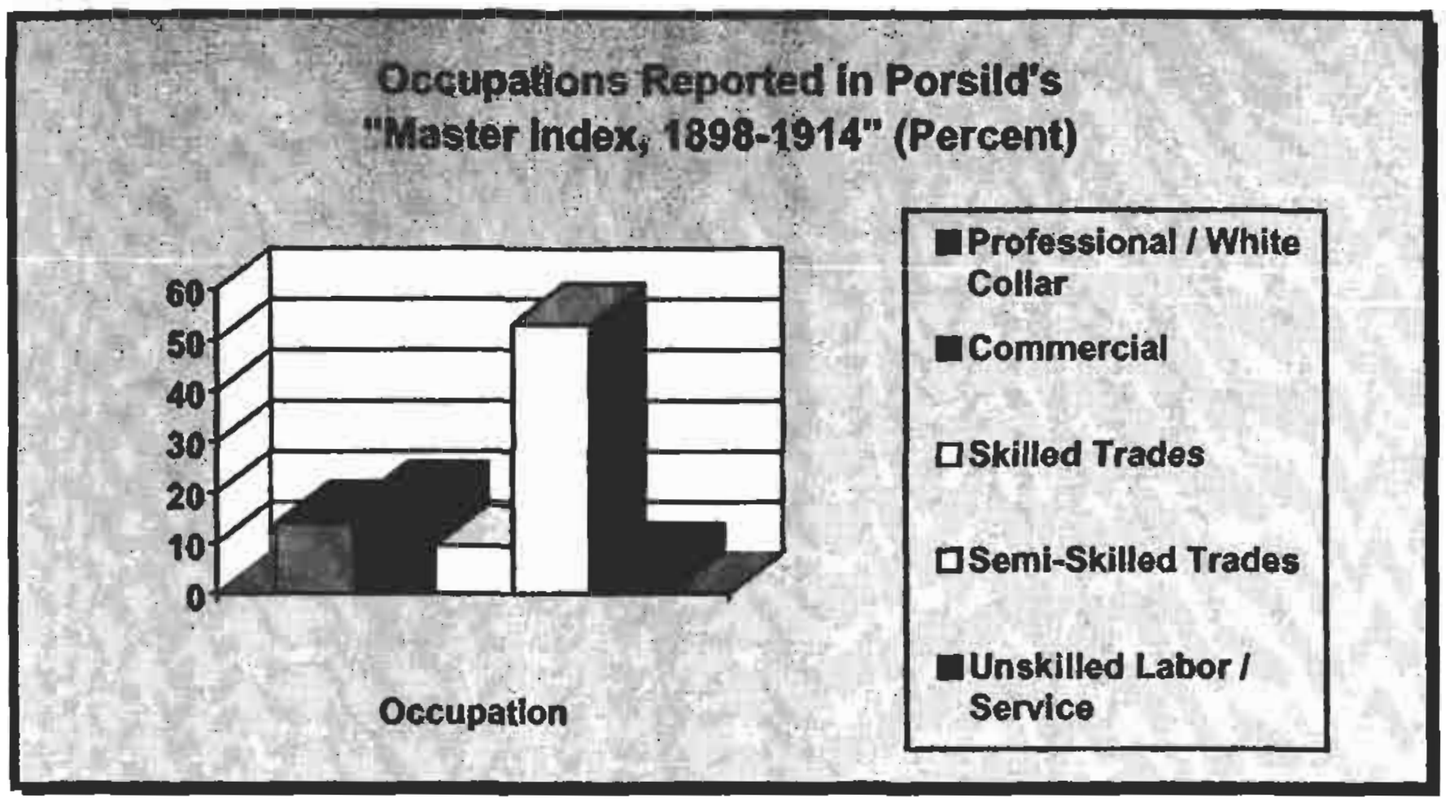
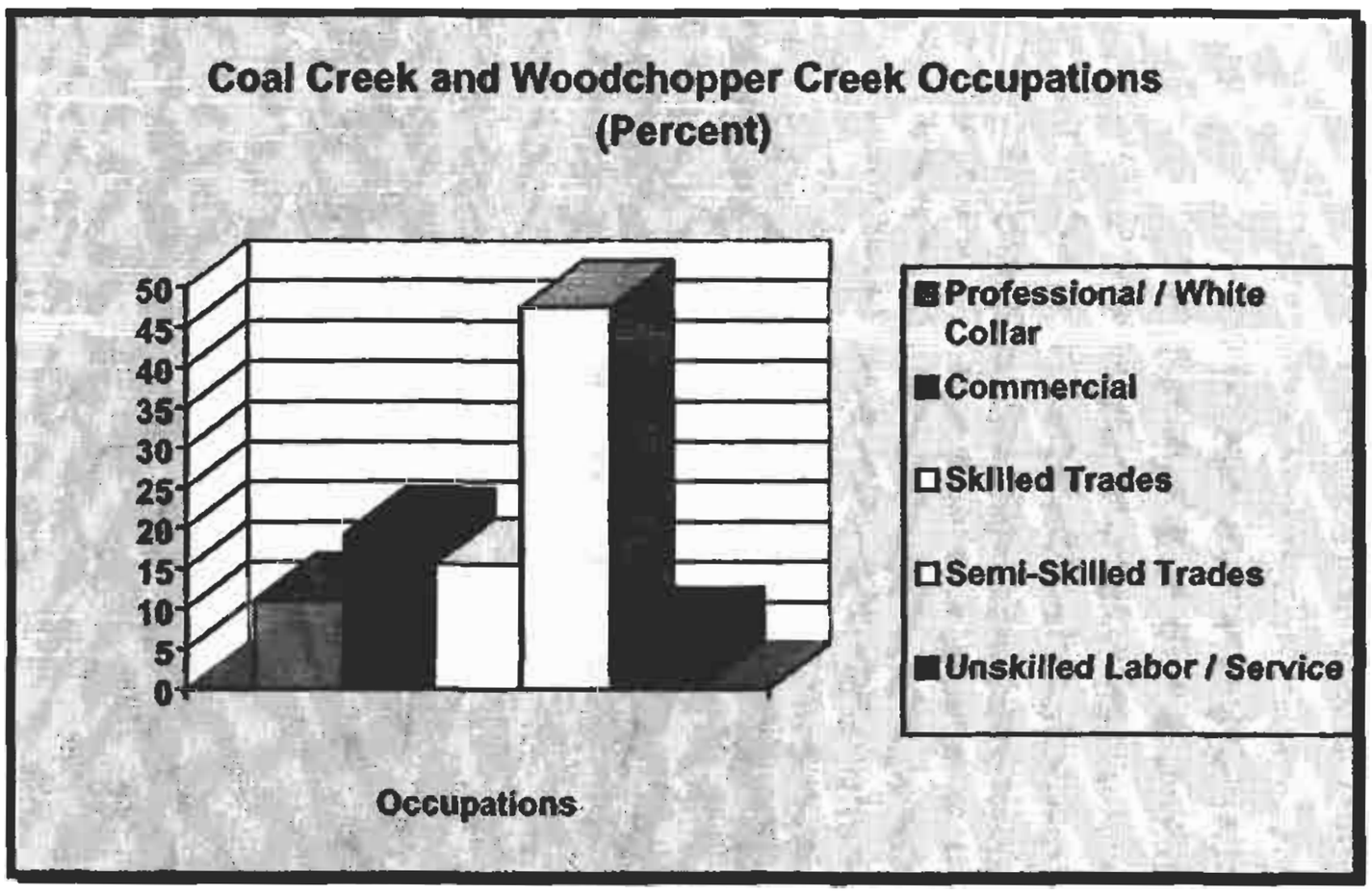
[24] Based on the 1901 manuscript census for the Yukon including 38 census districts for Dawson City proper, Klondike City, South and West Dawson, and Moosehide Village.

[25] Based on Porsild's "Master Index" developed from published and unpublished sources including archival records (census and other official records), diaries, and other written accounts of individuals living in the Klondike from 1898-1914.

[26] Derived from entries in *Polk's Alaska-Yukon Gazetteers* published from 1901 to 1912. They are indexed in David A. Hales, et al, *An Index to: Dawson City, Yukon Territory and Alaska Directory and Gazetteer, Alaska-Yukon Directory and Gazetteer, and Polk's Alaska-Yukon Gazetteer and Business Directory, 1901-1912* (Fairbanks: University of Alaska, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, September 1995).





One would assume that most if not all of the 565 people who filed claims on Coal Creek and Woodchopper Creek would consider themselves miners. In actuality mining accounts for less than half as is illustrated by the following tables (n=219).[27]

[27] Occupations of those working claims in the Coal Creek and Woodchopper Creek drainages were derived from entries in *Polk's Alaska-Yukon Gazetteers* published from 1901-1912. They are indexed in David A. Hales, et al, *An Index to: Dawson City, Yukon Territory and Alaska Directory and Gazetteer, Alaska-Yukon Directory and Gazetteer, and Polk's Alaska-Yukon Gazetteer and Business Directory, 1901-1912* (Fairbanks: University of Alaska, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, September 1995).

Professional/White Collar Occupations	
Advertising Solicitor	1
Attorney/Lawyer	1
Bookkeeper	1
Commissioner/Government Official	1
Company President/Vice President	3
Journalist	1
Layman[30]	4
Physician	1
Postal Inspector	1
Postmaster/Assistant Postmaster	3
Reporter	1
Publisher	2
Secretary	2
Stenographer	1
Treasurer	1
Total	24 (11.0%)

Commercial Occupations	
Bartender/Saloonkeeper	7
Broker/Custom House Broker	1
Cigars/Confections[28]	1
Clerk	9
Coal/Lumber/Fuel	1
General Store/Agent/Manager[29]	9
Hotel Manager/Lodgings	4
Manufacturer's Agent	1
Mill Man	1
Novelty Works	1
Restaurant	3
Roadhouse	3
Salesman	2
Total	42 (19.2%)

Skilled Trades	
Carpenter	3
Constable/Patrolman/Marshal	3
Contractor	1
Dredgeman	1
Driver	2
Electrician	3
Engineer (not on a steamboat)	3
Foreman	1
Freighter	3
Hoseman/Firefighter	1
Linotype Operator/Printer	4
Machine Operator	1
Pipe Fitter	1
Setter[31]	2
Steamboat (Engineer, Pilot, Capt)[32]	3
Teamster	1
Tinner/Tinsmith	1
Total	34 (15.5%)

Semi-Skilled Trades	
Barber	3
Boatman	1
Carrier/Mail Carrier	3
Livery	1
Miner/Mining	92
Warehouseman	2
Warfinger	1
Woodsman	1
Total	104 (47.5%)

Unskilled Labor and Services	
Housekeeper	1
Laborer	9
Laundry	2
Porter/Steward	2
Servant	1
Total	15 (6.8%)

[28] Although this is an accepted euphemism for prostitution in the Klondike, it is included here using a literal definition of "selling cigars and confections."

[29] This category includes individuals who reported owning their own store or working for a store. Also included are those who worked for, or managed operations for the North American Transportation & Trading Co. (NAT&T Co.) and the Northwest Transportation and Trading Company (NWT&T Co.).

[30] A "Layman" is one who has taken a lay on a claim. It refers to the financial arrangement between the owner of the claim and the layman. A lay is defined as: a share of the profit; specifically in whaling and sealing, the proportionate share of the profits of a voyage which each officer or member of the crew receives. This term has been introduced into Alaska placer mining where it means a lease worked on shares or a royalty.

[31] A setter is a saw filer or a helper who puts the "set" into saw blades when they are resharpened, generally working in a saw mill. The "set" is the angle away from center that creates the kerf which in turn allows a saw blade to cut without binding in the wood.

[32] This includes individuals working on the *Casca, Canadian, Delta* and the *Monarch.*

Turning from a quantitative examination of the people on the creeks, let us now examine who they were on a more personal basis.

THE LADIES OF THE CREEKS

Many people hold the misconception that mining is a man's enterprise. Although the vast majority of those who worked the creeks were male, a fairly substantial group of women held claims either as co-claimants with male partners, or in some cases in their own names. Of the 320 claimants identified through claim location records, 24 were women. Most of these were wives of men who also staked claims on the creeks. In some cases, they were acquaintances or relatives of men who staked claims. In one case, Bessie Currie, outlived her first husband, James H. Currie, later married Emil Olson and continued to own and operate her claims into the mid-1930s.

These women were not strictly wives or housekeepers. There were professional women on the creeks as well. Some managed hotels or restaurants, some operated roadhouses, one even worked at a laundry in Skagway. Two appear to have been practicing the world's oldest profession in Dawson at the time they staked their claims.

These brief biographies offer the opportunity to peer into the world of women who held claims on Coal Creek and Woodchopper Creek before the dredges came.

BRENTLINGER, FLORA E.

Flora E. Brentlinger, along with her husband Fred Brentlinger, provide interesting insights into the social history of the Yukon and the various Yukon-Alaskan gold rushes. Fred Brentlinger missed the rush to the Klondike gold fields. Instead, he came north as part of the Nome rush. In 1901, he appears in *Polk's Gazetteer* as a miner in Nome remaining there for two years. There is an eight-year hiatus until he again appears in claim records, in 1910, along with seven others staking a 160-acre placer claim on the main channel of Coal Creek.[33]

[33] "Notice of Location, No. 347," Circle Mining District, Locations -- Book 4 (1910-18), p. 135. Brentlinger was accompanied by: L.C. Brentlinger (possible relative), J.P. Broadwater, A.M. Couchman, T.A. Hanson, and W. (William) J. Julian.

An undated photograph of the Woodchopper Roadhouse shows Flora Brentlinger with two unidentified men (circa 1913-1926). The man on the left fits the physical characteristics of Frank Rossbach who had claims on Mineral and Alice Creeks. Frank Rossbach Collection, photos courtesy of Dietrich Rossbach.

Undated photograph of Flora Brentlinger (circa 1913-26). She and her husband Fred Brentlinger ran the Woodchopper Roadhouse until the early 1930s.

On July 29, 1911, the Brentlingers purchased a lot in Circle, on the northwest corner of Front and "E" Streets, from William H. McPhee.[34] Within four years, the Brentlingers owned a number of lots in Circle, including the Tanana Hotel and Restaurant that they operated in 1911-12.[35] They continued to become increasingly involved in the business community in Circle with Fred Brentlinger serving as a notary public.[36]

Filing under the names of F.E. and Flora E. Brentlinger, she staked claims on Webber Creek (1915)[37] and Grouse Creek (1916)[38] a tributary of Woodchopper Creek. Her agent, John Cornell who also staked the adjacent claim in his own name, staked the Grouse Creek claim.[39] Her husband filed claims on Coal Creek beginning in December 1910[40] and continued filing claims on Woodchopper and Caribou Creeks through 1928.[41]

[34] Deeds, Bills of Sale, Options to Purchase, Book 2 (1906-10), Microfilm No. 255, p. 490.
[35] *Polk's Alaska-Yukon Gazetteer* (1911-12), p. 139.
[36] "Deed of Mining Claim," L.M. Reynolds to Lee Pate. Deeds, Bills of Sale, Options to Purchase, Book 2, (1906-10), Microfilm No. 255, p. 556-7.
[37] "No. 6 Below Disc.," Circle District Locations, Book 4, 1910-1918, p. 374.
[38] "No. 2 on Grouse Creek," Circle District Locations, Book 4, 1910-1918, p. 454.
[39] See: *Power of Attorney*, Circle Mining District, Book 2, 1900-1906, p. 192. Also, "Certificate of Location of Placer Mining Claim: No. 1, Grouse Creek", Circle District Locations, Book 4, p. 453.
[40] "Great Unknown," Circle District Locations, Book 4, 1910-1918, p. 135.
[41] "Kitty Association," Circle District Locations, Book 5, 1918-1935, p. 310

Woodchopper Roadhouse, circa 1913-1926. The woman in the photograph is likely Flora Brentlinger with her husband Fred on the right. It is uncertain who the other two men are. However, one may be Frank Rossbach who had claims at Mineral Creek. Frank Rossbach Collection, photo courtesy of Dietrich Rossbach.

For nearly the next two decades, the Brentlingers are actively staking claims on both Coal Creek and Woodchopper Creek. Eventually moving from Circle, they took over the Woodchopper Roadhouse, acquiring it from Valentine Smith who built it in the early 1900s. The Brentlingers passed it on to Jack and Kate Welsh following Fred's death in the early 1930s.[42] From Woodchopper, Flora Brentlinger went to Manley Hot Springs where she, along with C.M. "Tex" Browning, purchased the Manley Hot Springs farm from Frank Manley. They retained the farm until 1950 when Bob Byers, operator of Byers Airways bought it from them.[43]

CHAMBERS, MARGARET

Margaret Chambers resided in San Francisco, California in 1905 when she granted a power-of-attorney to Henry Melzer, of Ironton, Missouri, to stake mining claims on her

[42] George McGregor to Frank Rossbach, letter dated July 25, 1933.
[43] Jim Couch, "Tomorrow is for Hot Springs," *The Alaska Sportsman*, October 1956: 37.

behalf in Alaska.[44] Eventually, Ms. Chambers moved to Dawson City where she worked as a "servant."[45]

It is interesting to note that recently several scholars have identified several euphemisms used by census takers (and by similarity those compiling information for the R.L. Polk Company in producing the *Polk's Gazetteers*) for women working as prostitutes. Numerous connections have been made to women listing their official occupations as: dressmaker, housekeeper, and tobacconist, with those practicing the oldest profession.[46] In addition, some women were able to work out good terms and conditions for themselves in the employ of wealthy miners where they performed the duties of housekeeper or servant.[47] This being the case, it is highly probable that Ms. Chambers was in fact a member of Dawson's demimonde.

While in Dawson, she granted a second power-of-attorney to Mr. Otis Franklin Jenkins.[48] Her ties to Coal Creek are through two claims filed on her behalf in 1905. Through her power-of-attorney, Henry Melzer filed for a 20-acre claim called "No. 1 Above Discovery" on the left fork of Iron Creek, a tributary of Woodchopper Creek on January 5, 1905.[49] On the same day, Melzer filed for the Discovery Claim on the same creek. With the two adjacent claims, they essentially controlled twice the amount of placer ground (40 acres) as he could as an individual (20 acres).

Later that year, on August 9, 1905, again through her power-of-attorney, Thomas L. Newlands, filed a second claim for Ms. Chambers for the "Hillside No. 4 Above" on the left fork of Colorado Creek, a tributary to Coal Creek.[50] In a case similar to that with Melzer, Newlands filed for the Discovery Claim on Tenderfoot Creek, a tributary to the left fork of Colorado Creek.[51] This gave Newlands and Chambers claims above the mouth of Tenderfoot Creek and adjacent to the mouth of the creek.

DARLINGTON, MRS. HATTIE BELLE McEVOY

The Darlington's presence on Coal Creek and Woodchopper started in July 1905 when Robert H. Darlington filed for a one-half mile square homestead (160 acres) at the mouth of Woodchopper. This property is located on the right bank of the creek, bounded by Woodchopper Creek and the Yukon River.[52] Because of the vagary of the description in the location notice, it is difficult to identify exactly where the boundaries lie for this

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[44] Power of Attorney, Circle Mining District, Book 1, 1900-1906, p. 468.
[45] *Polk's Alaska-Yukon Gazetteer*, 1901, p. 140 and *Polk's Alaska-Yukon Gazetteer*, 1902, p. 243.
[46] Charlene Porsild, *Gamblers and Dreamers: Women, Men and Community in the Klondike* (Vancouver: University of British Columbia Press, 1998), 124 and Lael Morgan, *Good Time Girls of the Alaska-Yukon Gold Rush* (Fairbanks AK: Epicenter Press, 1998).
[47] Porsild, 129.
[48] Power of Attorney, Circle Mining District, Book 2, 1909-1936, p. 91.
[49] "No. 1 Above Discovery," Circle District Locations, Book 2, 1903-1906, p. 235.
[50] "Hillside No. 4 Above," Circle District Locations, Book 2, 1903-1906, p. 294.
[51] "Discovery", Circle District Locations, Book 2, 1903-1906, p. 282.
[52] "Homestead Notice of Location," Circle District Locations, Book 2, 1903-1906, p. 289.

homestead. However, it is the only homestead filed at the mouth of the creek and as such may well be for the property on which the Woodchopper Roadhouse sits.

Hattie and Robert Darlington next to their cabin on Boulder Creek (n.d.). Samuel Downs Harvey collection, photo courtesy of Leona Beck.

In November of the same year, Robert Darlington filed a claim on the left limit[53] of Rose Creek, a tributary of Coal Creek.[54] The following year, he filed an additional claim for No. 1 Above Discovery on Woodchopper Creek.[55]

Hattie Darlington was born Hattie Belle McEvoy on January 27, 1881 in Gray's Hollow, Nova Scotia. She married Robert Darlington at the age of 26 on October 27, 1907 while both of them lived in Nova Scotia. After their marriage, the family lost track of the couple.[56]

Hattie Darlington is one of eight co-claimants for the Darlington Association Claim on Coal Creek. The claim, filed on March 22, 1911, lists three Darlington family members as well as Valentine Smith, William Culligan, W.P. Beaton, Nels Nelson and Christ Gableman as co-claimants.

[53] The "limit" of a creek is the side of the creek when viewed looking downstream. Therefore, the "left limit" of a creek is the left side when looking downstream.
[54] "Left Limit, Rose Creek," Circle District Locations, Book 2, 1903-1906, p. 308.
[55] "No. 1 Above," Circle District Locations, Book 2, 1903-1906, p. 382.
[56] Personal communication from Connie R. Brian, Monroe, Utah, June 17, 2002.

DIETZ, MINNIE

Minnie Dietz and her husband Christ[57] Dietz are two of eight co-claimants in the Birch Bench Association claim on the left bench of Coal Creek. The association's agent, Jesse U. Powers who actively prospected and mined on Woodchopper Creek, filed the claim. In 1909, when Powers filed the power-of-attorney, Minnie and Christ were living in Tenino, Washington.[58] Also listed as co-claimants are: C.S. Vanderslice, E.M. Gallagher, Alex. Patterson, Ed Grignon, Eugene Powers, W.W. Powers and Christ Dietz. It is assumed that Minnie and Christ Dietz are husband and wife.[59] Although Ed Grignon and Jesse U. Powers were long time prospectors along the upper Yukon River, this is the only claim record in either of the Dietz' name.[60]

FINLAYSON, KATIE

Canadian records indicate that Ms. Finlayson came north on July 20, 1900 when the Northwest Mounted Police (NWMP) recorded her crossing Chilkoot Pass and entering the Yukon Territory. She traveled down the Yukon River accompanying scows Nos. 488 and 489 arriving in Dawson City.[61] Two placer mining claims are recorded in the name of "K. Finlayson" in the Klondike, the first in 1900-01[62] and the second in 1902.[63]

Frank Finlayson and his partner O.S. Clark staked the "No. 4 on Alice Creek" on July 28, 1905.[64] Five years later, Katie Finlayson enters the picture when her name appears with three other co-claimants (Frank. L. Finlayson, Frank Jewett and C. Finlayson) on the "Anaconda" and "Boomerang" claims on Woodchopper.[65] On the same day, July 19, 1910, Frank Finlayson filed for an associated 100-acre claim with four others (J.M. Pompal, Louise Pompal, C. Finlayson and Frank Jewett).[66] It is interesting to note that for some unknown reason, Katie Finlayson's name is not among the co-claimants. After the claims were filed in 1910, Finlayson's name no longer appears in historical records leading one to assume that they left the country.

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[57] The historic record is unclear if this is an abbreviation for Christian or Christopher. In either case, it always appears in the records with a period at the end indicating an abbreviation.
[58] Power of Attorney, Circle Mining District, Book 2, 1909-1936, pp 27-28.
[59] "Birch Bench Association," Circle District Locations, Book 4, 1910-1918, p. 45.
[60] Ed Grignon is listed as an early miner at Fortymile. Jesse U. Powers also have been at the camp in the years prior to the Klondike stampede. See: Michael Gates, *Gold at Fortymile Creek: Early Days on the Yukon* (Vancouver: University of British Columbia Press, 1994), 158 and 164.
[61] "NWMP Records at Chilkoot," in *Filson's Pan for Gold* databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.
[62] Claim No. 29079, recorded in "Placer Mining Applications, Vol. 1," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold_rush.org/ghost-07.htm.
[63] Claim No. 40862, recorded in "Placer Mining Applications, Vol. 1," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold_rush.org/ghost-07.htm.
[64] "No. 4 on Alice Creek," Circle District Locations, Book 2, p. 292.
[65] "Notice of Placer Location, No. 155 and 156," Circle District Locations, Book 4, pp 56-57.
[66] "Notice of Placer Location, No. 157," Circle District Locations, Book 4, p. 58.

GREATHOUSE, JENNIE

Jenny Greathouse falls into the category of people who had claims filed in their name and did not come to Alaska to work them. She signed a power-of-attorney over to her step-brother, Frank Slaven, to file claims on her behalf. She held part of an associated claim, called the Golden Eagle Bench Claim, on Coal Creek as a co-claimant with Slaven and six other undividuals.[67] Two different documents proving this were filed with the Circle Mining District recorder in 1935. The first, filed by Frank Slaven on August 16, 1935, shows her living in Santa Cruz, California. The second, filed by attorney L.V. Ray, who worked with Ernest N. Patty for Gold Placers, Inc., was filed on September 3, 1935 and reports Douglas, Arizona as her residence.[68]

Jack Slaven (left), Jenny Slaven Greathouse (center) and Emma Slaven (seated). Frank Slaven held powers-of-attorney for all three of his family members. Photo courtesy of Sherrie Harrison.

LEWIS, MARY L.

[67] "Notice of Location No. 1464," and "Notice of Location No. 2029," Circle District Locations, Book 6, 1935-1941, pp38 and 164.

[68] Power of Attorney, Circle Mining District, Book 2, 1909-1936, pp 508 and 511.

In checking the records for the Circle Mining District, one finds that on August 6, 1910, four individuals: Wallace Chandler, Mary L. Lewis (by her attorney-in-fact Wallace W. Chandler), John Lauchurt and William H. Carpenter (by his attorney-in-fact John Lauchurt) filed for an associated 640 acres of coal lands. The associated claim was comprised of four individual claims of 160 acres each: the Black Diamond, the Ruby, the Enterprise and the Jumbo.[69] Mary Lewis and her partners represent those who came to the North seeking gold and fortune only to find that upon arriving in Dawson City the surrounding areas were already staked. Like many others, they were forced into wage paying jobs to survive and yet remained in the country for many years.

Of the four, Chandler arrived in the Yukon in mid-March 1900 when the Northwest Mounted Police at Chilkoot enumerated him.[70] By 1907, he was working as a clerk at the Floradora Hotel[71] in Dawson City, a position he continued to hold through 1910 when they staked their claims on Snare Creek.[72] William H. Carpenter also worked at the Floradora Hotel in Dawson City in 1910.[73] In Carpenter's case, he performed the duties of a porter.

Mary Lewis, on the other hand, enters the Dawson scene in 1905 when Polk's *Alaska-Yukon Gazetteer* lists her as a resident but provides neither an address nor occupation.[74] Four years later, in 1909, her occupation is noted as selling "cigars", then in 1912, it shows she is selling "cigars and confections."[75]

In her autobiography, Martha Black describes three different groups of women living and working in the Klondike. They were, according to Black:

> members of the oldest profession in the world, who ever follow armies and gold rushes; dance hall and variety girls, whose business was to entertain and be dancing partners; and a few others, wives with unbounded faith in and love for their mates, or the odd person like myself on a special mission.[76]

Historians Lael Morgan and Charlene Porsild recently published histories of prostitution in the North.[77] While Morgan's book, *Good Time Girls*, focuses mainly on biographies

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[69] "Notice of Coal Land Location, No. 170," Circle District Locations, Book 4, pp 62-63.
[70] *Filson's*, "NWMP Records at Chilkoot: Checkpoints Listing People Who Entered the Yukon."
[71] According to Lael Morgan, the Floradora was described as a "marvel of opulence, hung with seven-foot-high oil paintings of nudes in tremendous guilt frames, which had been packed on men's backs over the trail in the early days." (Morgan, *Good Time Girls of the Alaska-Yukon Gold Rush* (Fairbanks AK: Epicenter Press, 1998), 70.)
[72] *Polk's Alaska-Yukon Gazetteer* (1907), 552 and (1909-10), 534.
[73] *Polk's Alaska-Yukon Gazetteer* (1909-10), 534.
[74] *Polk's Alaska-Yukon Gazetteer* (1905), 463.
[75] *Polk's Alaska-Yukon Gazetteer* (1909-10), 548 and (1911-12), 572.
[76] Martha Louise Black, *My Ninety Years* (Edmonds, WA: Alaska Northwest Publishing, 1980), 47.
[77] Lael Morgan, *Good Time Girls of the Alaska-Yukon Gold Rush* (Fairbanks AK: Epicenter Press, 1998); and Charlene Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: University of British Columbia Press, 1998).

of a number of "sporting girls", Porsild's, *Gamblers and Dreamers: Women, Men, and Community in the Klondike*, undertakes a demographic community study of Dawson and the Yukon. Prostitutes were right on the heels of men seeking their fortunes in the gold fields. In the end, they were mining the miners for their gold.

Dawson provides an interesting study of prostitution and the evolution of community "values." Initially, prostitutes plied their trade from tents and other makeshift shelters. Eventually they became increasingly entrenched operating alongside or in conjunction with saloons and dancehalls. These in turn were intermixed between grocers, banks and assay offices along the main streets. Following a disastrous fire in 1899, Dawson authorities traced its origin to a prostitute's hotel room. They also seized upon the opportunity to move the red-light district further from the center of town. They required all "sporting girls" to relocate to Fourth and Fifth Avenues. As the community continued to grow and stabilize following the mass exodus of argonauts to the beaches at Nome, in 1901 the red light district moved again, this time to a swampy lowland across the Klondike River called "Lousetown."[78]

The NWMP and Dawson authorities found that, trying to force prostitution out of a community only moved it underground. Soon complaints were made of prostitutes and pimps moving back into the town. Instead of having brothels operating openly, they were resurfacing in the guise of cigar stores, candy stores and laundries.[79] As had previously been the case with "cleaning up" sex crimes, authorities made a minimal show of force. When others noticed the lack of prosecuting those moving back into the community, they soon joined the migration.

By 1907, what had previously been enforcement by benign neglect became much more vigorous with pressure coming from the federal government in Ottawa. The Floradora was one of the very few dancehalls still operating. With greatly reduced business, the hotel employed approximately 15 women, without a liquor license.[80]

In 1911, the superintendent of police reported to the commissioner of the Yukon that there were still some women in town who, "under the guise of dress-makers and keepers of cigar stores are said to be carrying on prostitution, but they are quiet, make no display on the streets, and except by reputation no one knows to what class they belong."[81]

Ms. Lewis represents the Dawson City demimonde, a part of a rather stratified order within the "entertainment" community. Unlike Ms. Black, she fell into the category of

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[78] Charlene Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: University of British Columbia Press, 1998), 104.
[79] Charlene Porsild, *Gamblers and Dreamers: Women, Men, and Community in the Klondike* (Vancouver: University of British Columbia Press, 1998), 105.
[80] Porsild points out that the NWMP were keeping a close eye on the "Flora Dora" at the time but reported that they could find no evidence of an illicit liquor trade being conducted (Porsild, 112). Shortly afterward, the Floradora's name was changed to the Hotel Royal Alexandra. W.W. Chandler continued to work there as a clerk through 1912. (Lael Morgan, *Good Time Girls of the Alaska-Yukon Gold Rush* (Fairbanks AK: Epicenter Press, 1998), 70.
[81] Porsild, 112.

'members of the oldest profession in the world.' She in effect was a prostitute who operated her "cigar and candy" store right in the heart of the city on First Avenue.[82]

MONGRAIN, LUCY

Like many of the claimants in the records for Coal Creek and Woodchopper Creek, Lucy Mongrain appears only once. Her attorney-in-fact, Charles E. Mongrain filed a 20-acre claim location for "Bench No. 2 Coal Creek", on May 1, 1907.[83] Over the two previous years, Mr. Mongrain had also located claims "No. 4 on the Left Fork of Colorado Creek" (1905)[84] and "Bench No. 1 Above Boulder Creek" (1906).[85]

Charles E. Mongrain left Dawson in 1903 bound for Coal Creek in Alaska.[86] In 1907 he was living in Circle listing his occupation as "miner."[87] Following 1910, he returned to the Klondike staking several more claims through the early 1920s.[88] There is no indication of when, or if, he left the country. It appears that Mrs. Mongrain did not accompany him to the Northland.

MURPHY, MRS. FRANK J.

Frank J. Murphy registered scow No. 1672 with the NWMPs at Lake Bennett on May 28, 1898.[89] Shortly thereafter, he filed locations for placer claims in the Klondike.[90] It appears that Murphy was not successful at his mining ventures. By 1905, he had taken a position as the manager of the Northwestern Trading & Transportation Company (NWT&T Co) on Bonanza Creek outside of Dawson.[91] Two years later he moved to the North American Transportation Trading Company (NAT&T Co.) in Dawson where he worked as a salesman.[92] Moving up in the company, he was clerk in 1909-10[93] and finally deputy manager of the Dawson operations in 1911-12.[94]

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[82] In *Polk's Alaska-Yukon Gazetteer*, Ms. Lewis' address is given as 217 1st Avenue in Dawson. *Polk's Alaska-Yukon Gazetteer,*(1911-12), 421.
[83] "Notice of Location, No. 160," Circle District Locations, Book 3, p. 66.
[84] "Notice of Location, No. 371," Circle District Locations, Book 2, p. 270.
[85] "Notice of Placer Location, No. 765," Circle District Locations, Book 2, p. 339.
[86] Mongrain, Chas. E., "Clary Craig, Post Office Worker List of People Dying or Leaving [the] Klondike", in Filson's Pan for Gold databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.
[87] *Polk's Alaska-Yukon Gazetteer* (1907), 153.
[88] Mongrain, Chas. E., "Placer Mining Applications, Vol. 2 and 3," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.
[89] Murphy, F.J., "NWMP Records at Lake Bennett: People Who Entered the Yukon Via Boats," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.
[90] Murphy, F., Claim Nos. 10315, 90580, 97081, "Placer Mining Applications, Vol. 2," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.
[91] *Polk's Alaska-Yukon Gazetteer* (1905), 431.
[92] *Polk's Alaska-Yukon Gazetteer* (1907), 571.
[93] *Polk's Alaska-Yukon Gazetteer* (1909-10), 552.
[94] *Polk's Alaska-Yukon Gazetteer* (1911-12), 577.

It appears that the Murphys confined their livelihood to Dawson. However, they, like many other Dawson businessmen were involved with claims on Coal Creek and Woodchopper Creek. On October 20, 1910, claim notices list Mr. and Mrs. Murphy, along with N.J. Donnihaugh, Alex Campwell, B.J. Rise, Urnie Parsens, M.C Hagerdy and L. Darlington as co-claimants on two 160-acre claims on the left limit of Coal Creek. The claims were located on September 22, 1910 and October 3, 1910 respectively. However, none of the co-claimants filed the location notices. This honor goes to J.D. Dyke, their attorney-in-fact.[95]

These are the only claims in either Murphy's name. Given the business and managerial nature of Frank Murphy's occupation, it would be safe to deduce that the eight co-claimants were grubstaking Mr. Dyke's prospecting. As is the case later described with Frank Slaven and the *Dawson Daily News* group who grubstaked his efforts.

OLSEN, BESSIE CURRIE

Bessie Currie Olsen[96] was one of the people who came early and stayed late on the creeks. She and her first husband, James H. Currie, staked their first claims in September 1904 on Iron Creek, a tributary of Woodchopper Creek. Over the next several years she staked additional claims on Mineral Creek (1904), Alice Creek (1905), another on Mineral Creek (1906) and one on Woodchopper Creek proper (1906). Following the death of Gus Abramson in 1931, Bessie Olsen bought his claims from his estate.[97] In 1935, she staked yet another claim, "No. 2 Below Kodiak," on Woodchopper Creek.

During the 1930s, it is not entirely clear if she was at her claims or simply hiring others to work them for her. George McGregor, writing to his former partner Frank Rossbach in 1933, comments that "There is a fellow up here now that [Mrs. Olsen] sent up."[98] Whether she was at the claims or not, Mrs. Olsen is among the group of sourdoughs that staked claims and stayed with them for almost three decades.

PATTY, KATHRYN S. (ALSO PATTY, MRS. E.N.)

Kathryn Patty is the wife of Dr. Ernest Patty. She spent summers at the camps during the early years that it operated before World War II.[99] Historical records list her as the claimant for a number of claims on Coal Creek, Woodchopper Creek and Weber Creek. The name listed on the claim notices varies from Kathryn S. Patty to Mrs. E.N. Patty.

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[95] "Location Notices No. 297 and No. 297," Circle Recording District, Book 4, p. 124.
[96] There are two variations that appear throughout the records for this individual. The first is spelled "Olsen" and the second is spelled "Oleson." It is unclear which is the correct, if either.
[97] George McGregor to Frank Rossbach, July 25, 1933.
[98] George McGregor to Frank Rossbach, July 25, 1933.
[99] Dale Patty, "The Patty Family at Coal Creek," presented before the Eagle Historical Society, July 18, 1998.

PAUL, LUCILE C.

Lucile C. Paul was the second of three daughters of Alexander Duncan and Blanche McRae. The McRae family figured very prominently in both the financial backing of the two dredging companies as well as being named claimants in work done in anticipation of expanding the operations in later years.

POMPAL, LOUISE

In July 1910, Louise Pompal, along with her husband Joseph M. Pompal, were co-claimants in a 100 acre associated claim on Woodchopper Creek, two and one half miles above Caribou Creek.[100] Mr. Pompal was also a co-claimant in a second 80-acre associated claim on Woodchopper Creek, one half mile above Mineral Creek.[101] The reason why Mrs. Pompal is not included in the second claim is not clear from the records. In August of 1910, Joseph Pompal granted his power-of-attorney to William J. Julian of Dawson. At the time, Pompal listed his residence as "District of Alaska."[102]

ROLAND, ANNA

Anna Roland's name enters the picture in 1908 when James Roland, serving as her attorney-in-fact, files for the Discovery Claim on Deer Creek, a tributary of left fork of Colorado Creek in the Coal Creek drainage.[103] This is Anna's only recorded claim. Like many other women appearing in claim records, there is no information showing that she ever came to Alaska.

ROLAND, LILLA

Lilla Roland's name appears in claim records for Ida Creek, a tributary of the left fork of Colorado Creek. On June 19, 1905, her attorney-in-fact, Joe Williams filed a claim with the Circle District Recorder for 20 acres of placer ground called "No. 2 Above Discovery on Ida Creek."[104]

On the same day, Williams, again acting as the attorney-in-fact, filed claims for James A. Roland and Harry Roland for the "No. 1 Above Discovery on Rose Creek" and the "No. 6 Above Discovery" on Colorado Creek.[105]

Of the three individuals, only James appears in any record as having actually been in Alaska and the Yukon. The first mention of him comes in the late 1890s when records list him as a claimant in the Klondike.[106] By 1907, James had moved to Circle where he worked supplying fuel to the community and surrounding camps.[107] He remained in Circle for the next five years returning to his former occupation as a miner.[108]

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[100] "Notice of Placer Location, No. 157," Circle Recording District, Locations, Book 4, p. 58.
[101] "Notice of Placer Locations, No. 156," Circle Recording District, Locations, Book 4, p. 57.
[102] Power of Attorney, Circle Mining District, Book 2, 1909-1936, p. 60.
[103] "Notice of Placer Locations, No. 38," Circle Recording District, Locations, Book 3, pg. 207.
[104] "Notice of Placer Locations, No. 581," Circle Recording District, Locations, Book 2, pg. 273.
[105] Ibid.
[106] Claim Nos. 237, 996, and 11423, recorded in "Placer Mining Applications, Vol. 2 and 3," in Filson's Pan for Gold databases on the World Wide Web at http://www.gold_rush.org/ghost-07.htm.
[107] *Polk's Alaska-Yukon Gazetteer* (1907), 153.
[108] *Polk's Alaska-Yukon Gazetteer* (1909-10), 135; and (1911-12), 140.

SELIGMAN, MARGARET MCRAE

One of General Alexander Duncan (A.D.) McRae's three daughters. She married New York financier Walter Seligman who owned 500 shares of Gold Placers Inc. and Alluvial Golds Inc. stock.[109] According to Glen Franklin, Gold Placers, Inc. accountant, Mrs. Seligman spent very little time on the creeks and making only a few trips to the camps.[110]

SLAVEN, EMMA

Frank Slaven filed a number of claims by using powers-of-attorney from his family, as in the case of Jenny Greathouse. Emma Slaven was Frank's step-mother and Jenny's mother (see photo on page 26). On August 16, 1935, she granted her power-of-attorney to Frank Slaven.[111] At the time, she, along with Flora Slaven,[112] J.C. Slaven[113] and Jennie (Slaven) Greathouse[114] lived in Santa Cruz, California. No claims were located in her name on either Coal Creek or Woodchopper Creek; however, Slaven did file claims through these powers-of-attorney in the Ben and Sam Creek drainages.

TOUPAIN, CARRIE

Carrie Toupain and her husband George F. Toupain were among those who came to Coal Creek and Woodchopper Creek by way of Dawson in the late nineteenth and early twentieth centuries. Clary Craig, the Dawson post office worker who maintained detailed records on when people left Dawson bound for other places, lists Carrie Toupain as leaving for Circle on August 30, 1900.[115] Her husband, George apparently made the move with her since he granted a power-of-attorney to J.E. Kinalley listing his residence as Circle City, Alaska on November 12, 1901.[116]

Polk's Alaska-Yukon Gazetteer lists George Toupain living in Dawson and working as a miner in 1901 and 1902.[117] In 1904, George grants a second power-of-attorney to Alfred

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[109] The historical record is unclear if Seligman and Margaret were married first and then he joined the company or if he was part of the company then married McRae's daughter. The two eventually divorced after which Seligman continued to hold his 500 shares of Alluvial Golds, Inc. stock until 1974 when he received $45,000.00 from the company to liquidate his assets.

[110] Glen Franklin interview.

[111] Power-of-Attorney, Circle Mining District, Book 2, 1909-1936, p. 507.

[112] Power-of-Attorney, Circle Mining District, Book 2, 1909-1936, p. 571.

[113] John C. Slaven is Frank Slaven's brother. Power-of-Attorney, Circle Mining District, Book 2, 1909-1936, p. 572.

[114] Power-of-Attorney, Circle Mining District, Book 2, 1909-1936, p. 508.

[115] Toupain, Carrie in "Clary Craig, Post Office Worker List of People Dying or Leaving [the] Klondike", in Filson's Pan for Gold databases on the World Wide Web at http://www.gold-rush.org/ghost-07.htm.

[116] Power-of-Attorney, Circle Mining District, Book 1, 1900-06, p. 215.

[117] *Polk's Alaska-Yukon Gazetteer* (1901), 406; and (1902), 413.

Johnson of Circle to stake mining claims on his behalf.[118] Three years later, the couple lived in Circle where they operated a saloon and restaurant business.[119]

The year 1905 represents a minor rush in claim staking on Coal Creek and Woodchopper Creek when a total of 95 different claims were staked (representing almost 17% of the total claims staked on the two creeks. This is the highest number of claims staked on the creeks from 1901 through 1949 (n=565) (See Appendix II). The Toupains are part of this rush of individuals moving from Dawson to Circle with claims staked in their names along the way. Although neither Carrie nor George located claims in their own names, on June 9, 1905, Frank Sawyer located the "No. 10 Above Discovery" on Rose Creek in the name of George F. Toupain.[120] On the same day, he located the No. 3 Above [Discovery]" also on Rose Creek in the name of Carrie Toupain.[121]

WELCH, MRS. JACK (KATE)

Following the death of Fred Brentlinger, his wife Flora sold the Woodchopper Roadhouse to Jack and Kate Welsh. The two must have made an interesting couple. According to George McGregor in writing to his former partner, Frank Rossbach: "A fellow by name of Jack Welch and his wife runs the roadhouse now, or at least she runs it, she is certainly the boss. Welch himself is a pretty good fellow. But different with her. She also has the post office."[122]

Ernest Patty, who later managed the dredging operations on the two creeks described Jack as having a "rawboned frame, his swarthy face, and the cast in one eye which gave him a menacing look [that] would have made an excellent movie heavy." Mrs. Welch on the other hand was "a small, hard-working woman, very proud of Jack."[123]

The story of Jack and Kate is a very touching one that stands out in the annals of Yukon-Klondike history. Like many of those living along the extended community that accounted for almost 250 miles stretching between Dawson City and Circle, Jack was active in businesses on several fronts. On one, he and his wife ran the Woodchopper Roadhouse where travelers could get a decent meal and place to sleep. On the other, Jack held the winter mail contract between Woodchopper and Eagle. He would run his team of huskies through the roughest weather to see that the mail got through. Kate served the tiny community of about a dozen trappers and prospectors at Woodchopper as the postmistress from 1932 to 1936 when it was moved to the camp at Coal Creek. It appears however that she was a little over zealous in finding out the local news. When McGregor wrote to Rossbach, he gave fair warning that if "you write to me again and have any sealing wax handy please seal the letter with it."[124]

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[118] Power-of-Attorney, Circle Mining District Recorder, Book 1, 1900-06, p. 466.
[119] *Polk's Alaska-Yukon Gazetteer* (1905), 130.
[120] "No. 10 Above Discovery," Location Notice #611, Circle District Locations, Book 2, 1903-06, p. 280.
[121] "No. 3 Above Discovery," Location Notice #611, Circle District Locations, Book 2, 1903-06, p. 281.
[122] George McGregor to Frank Rossbach, letter dated July 25, 1933.
[123] Ernest N. Patty, *North Country Challenge* (New York: David McKay Company, Inc., 1969), 144-5.
[124] George McGregor to Frank Rossbach, letter dated July 25, 1933.

It is unclear just how many years the Welchs had spent in the North Country. No record has been located for when they arrived. Eventually the isolation and old age possibly combined with Jack's apparent problem with alcohol[125] began to take their toll. By the late 1930s, airplanes were replacing dog teams for carrying mail and Jack lost the contract. During the early years that the dredges operated on Coal Creek and Woodchopper, Patty would hired Welch for emergency trips with his boats but they saw Jack less frequently as time went on.[126] After World War II broke out, most of the people living along the Yukon moved to Fairbanks taking advantage of the high paying jobs afforded by military contracts. The Welchs stayed on at the roadhouse.

Spring on the Yukon can be an exciting time. As the ice begins to break up and move out it frequently jams in the narrower sections of the drainage. This was the case one spring when a huge dam piled up in Woodchopper Canyon, five miles below Coal Creek. Ernest Patty, who along with Jim McDonald from the Alluvial Golds Inc. camp, spent the night in a cabin located at the mouth of Coal Creek, described the break up as:

> At about three o'clock in the morning, loud crashing sounds woke us up and we jumped out of bed. The river had gone wild with the crushing force of the breakup. Normally the Yukon, at this point, is less than a quarter-mile wide. While we slept, the water level had risen fifteen feet. Rushing, swirling ice cakes were flooding the lowland on the opposite bank, crushing the forest of spruce and birch like a giant bulldozer. Before long ice cakes were being rafted up Coal Creek and dumped near our cabin.
>
> Then at the same moment we both turned and look at each other. The rapid rise of the river could only come from a gigantic ice dam in Woodchopper Canyon, some five miles downstream. Jack Welsh and his wife lived in that canyon. Their cabin must be flooded and probably it had been swept away. There is no way of knowing if they had been warned in time to reach the nearest hill, half a mile from their cabin. No outside help could possibly get to them now.[127]

As it turned out, the howling of their dogs awakened the Welchs. They found ice water covering the floor of the roadhouse. Jack ran outside and cut the dogs loose allowing them to reach higher ground on their own. Some made it. Some did not. Jack returned with his boat intending to take his wife and make a run for higher ground himself. At that point, the bottom floor of the roadhouse was under water and the second floor already awash. As huge cakes of ice slammed against the outside walls, Welch tied the

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[125] USGS Geologist J.B. Mertie recorded the following in his 1936 field notebook: "Monday, Aug 3, 1935 -- From Woodchopper camp, walk to Woodchopper. Stay there in afternoon, because Jack Welch, whom I wanted to take me to Circle, was drunk, and unfit to operate his gas boat." (J.B. Mertie, USGS Field Notebook (1925), pg 68.) There are a number of other entries noting Welch being unable to operate his boats due to his drunken condition.

[126] *North Country Challenge*, 145-6.

[127] *North Country Challenge*, 145-46.

boat to a second story window deciding that it would be better to stay with the cabin until the very last moment because the ice could crush his boat. Jack used a pole in an attempt to deflect ice cakes from hitting the cabin.[128]

As they waited, the water and ice continued to rise higher and higher until it finally stopped and slowly began to drop. This meant the ice dam was beginning to break. Now the ice cakes were coming with increased frequency and force. In the end, both the roadhouse and the Welchs survived. Years later, Ernest Patty noted that "perhaps it would have been more merciful if they had been swept away."

The terror these two elderly people experienced left deep scars. Neither fully recovered from this night of rising floodwaters and crashing ice. Consequently, Mrs. Welch became bedridden. As time passed, people began to comment that Jack was "getting strange."[129]

One frantic night, Jack had a nightmare that the German Army was marching down the ice of the frozen Yukon. He awoke in a cold sweat, trembling. Babbling like a child, he asked his wife, "If they come, will you protect me?"[130]

Later in the night, he grew silent and she thought he had dropped off to sleep again. Once again she heard his voice as he said "I know what's wrong. I'm losing my mind. I'm better off dead. I am going to shoot myself." He rose out of bed and despite his wife's pleas; he dressed, took his rifle and walked outside. A few minutes later he came back in and laid down on the bed reporting "I can't do it. I lost my nerve." About an hour later, he got out of bed again announcing that he "got my nerve back."

As he left the cabin, Mrs. Welch forced her crippled body out of bed and began dressing when she heard a shot. Jack stumbled back inside. He had shot himself in the side, but the bullet had missed his heart. She helped him into the bed, took the rifle so he could not make another attempt. With the aid of two canes hobbled two miles over a winter trail to the cabin of their nearest neighbor, George McGregor.

McGregor hitched up his dogs, placing Mrs. Welch in the sled they returned to help Jack. After giving him first aid, McGregor loaded Jack into the sled making a run up Woodchopper Creek to the mining camp where the winter watchman sent a radio message to Fairbanks. Several hours later a plane arrived and took Jack to the hospital in Fairbanks.

Within a month Jack was up and around again. Nevertheless, the shock was too much for Mrs. Welch. She lingered on for a short time after Jack left the hospital until her tired, old heart finally gave out.

After his wife's death, Jack refused to accept it. He did not attend the funeral, clinging to the idea that she was waiting for him at the roadhouse. When he did not find her there,

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[128] The story of the flood is taken in it's entirety from *North Country Challenge*, 146-49.
[129] *North Country Challenge*, 147.
[130] *North Country Challenge*, 148.

he went to the dredge camp asking the men if they had seen her, insisting that she was "hiding from me."[131]

Patty tried explaining the situation but could not reach Jack. After he left, they radioed the U.S. Marshal's office in Fairbanks requesting that they come and take him to the hospital.

The next day both Jack and his boat had disappeared.

Over the next few weeks, word started trickling back from villages along the lower Yukon of a mysterious elderly white man sitting in a small boat drifting down the river. Passing boats tried hailing him with no response. Finally, reports came from some Natives hunting on the Yukon delta of a man standing in a boat, shielding his eyes against the harsh western sun, looking out to sea. Jack and his boat floated out into the Bering Sea. They were never seen again.[132]

After Mrs. Welch's death and Jack's disappearance, the Woodchopper Roadhouse was left to the elements. Presently it lies in ruins, the roof caved and the upper story fallen in. Every several years the low-lying area on which it stands is flooded as the Yukon River goes through its annual breakup.

The Gentlemen of the Creeks

MARTIN ADAMIK

According to the 1920 US Census, Martin Adamik[133] was born in Hungary in 1879. He immigrated to the United States in 1906. People who knew Adamik refer to him with one simple adjective, "gentleman."[134]

Like many of the early miners on Coal Creek and Woodchopper, Adamik located claims in both drainages. However, his main activities focused on Coal Creek along Boulder and Colorado Creeks (tributaries approximately 4 1/2 and 7 miles respectively up Coal Creek from its confluence with the Yukon River). In addition, he held claims on several small tributaries of these. His residence cabin is located at the mouth on Boulder Creek. It remains standing. Two claimants inhabit it seasonally today.[135]

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[131] *North Country Challenge*, 149.
[132] *North Country Challenge*, 149.
[133] Martin Adamik's name appears throughout the records with a number of spelling variations including: Adamik, Adamick and Adamvik. For consistency, it is spelled in this document with the most common variation, and that which appears in the payroll records for Gold Placers, Inc. (1936). These records are located in the Stanton Patty Collection, Ernest and Kathryn Patty Division, at the University of Alaska – Fairbanks, Elmer E. Rasmusson Library.
[134] Dale Patty, interview, July 19, 1998; and Glen Franklin, interview, January 12, 1999.
[135] Frank Hall (of Juneau) and his son Mallie (of Eagle River) currently hold the ground occupied by Adamik's lowest claims.

It is uncertain when Adamik arrived in the country along the upper Yukon. The first record of his activities comes in 1910 when he, George W. Powers and G. Petrina filed an association claim for sixty acres of placer mining ground on an un-named tributary of Coal Creek. The group named them the "Sun Rise Claims."[136] Four years later, on October 5, 1914, Adamik located an individual claim for twenty acres on Woodchopper Creek that he named simply "Martins" claim.[137] In 1915 and 1916, Adamik filed for two additional claims, one on Rose Creek, a tributary of the left fork of Colorado Creek, and the second on Boulder Creek.[138]

Ten years later, on September 7, 1927, Adamik filed a "Notice of Grouping" with the Circle Mining District recorder. With this, he claimed ownership of the following claims: "No. 1 Smiths on Coal Creek," "Boulder Association," "Number One on Boulder," "Number One on Big Boulder," and the "No. 1 Bench on Coal Creek." Although records do not show how he accumulated these claims, under the mining laws at the time, he was able to consolidate them into a single group specifying that "all assessment work may be performed at a point or points on any of said claims if in the Judgment of the undersigned said work will inure to and be for the benefit of all of said claims as a whole."[139] In other words, he was able to do assessment work on any or all of the claims at the same time maintaining the validity of all the claims.

By the mid-1930s, people described Adamik as an old man. Most likely because at the age of roughly 56, his chosen course in life had weathered him considerably.[140] To a young boy like Dale Patty, he must have seemed ancient. In addition, living alone in his little cabin made him seem even more exciting. Patty describes him as "a total loner" with one very distinguishable characteristic; he talked "like a machine gun. When you came to his house, he'd talk to you all day long, like a machine gun."[141]

As a young boy, growing up at the mining camp, Patty made it a point to visit Martin three or four times a year. In describing one such visit, he notes that:

> You walked in that [cabin], he was usually lying in bed or sitting in a chair [with] a beautiful garden outs back, immaculate. Weeded and so forth. And he had a little sluice box about 500 yards up that valley there. He would use it to get just a little bit of gold to buy what he needed and the rest of it was either by a moose or by the garden. You walked into his

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[136] "Sun Rise," Location Notice Number 70, Circle District, Book 4 -- Locations, 1910-1918, page 26.
[137] "Martins," Location Notice Number 545, Circle District, Book 4 -- Locations, 1910-1918, page 363.
[138] "No. 2 Above Discovery," Location Notice Number 758, Circle District, Book 4 -- Locations, 1910-18, page 398 and "No. 1 Above Boulder Association," Location Notice Number 943, Circle District, Book 4 -- Locations, 1910-1918, page 434.
[139] "Notice of Grouping," Location Notice Number 214, Circle District, Book 5 -- Locations, 1918-1935, page 281.
[140] Glen Franklin, interview, January 12, 1999.
[141] Dale Patty, interview, July 19, 1998.

> house and he had this thick, thick Austrian accent. And the machine gun would take off.[142]

While Patty describes it as a thick Austrian accent, Glen Franklin, the accountant and bookkeeper for Gold Placers Inc. and Alluvial Golds Inc. explained that Adamik learned to speak English by reading Shakespeare. Because of this, his speech always had a slight Shakespearean twist to it, in addition to the thick Germanic accent.[143]

During the time he worked for Gold Placers Inc, Franklin and his wife would occasionally walk over to Adamik's cabin in the evening spending time visiting. One fall, when the company closed up the camp for the winter, they took a small radio over to the lonely little cabin to keep Adamik company over the long, cold winter. At first, Adamik tried to tell them that he did not need it. He eventually relented and said his good-byes to the couple, who just happened to have ordered a new battery because they knew they would be leaving it with Martin for the winter.[144]

The following spring, when they returned to Coal Creek for the new mining season, Franklin dropped in on Adamik to see how he had faired the winter. Much to his surprise, Adamik was jubilant and bubbling with excitement about "the man talking in the box." Adamik shared his disappointment however because even though he tried talking to him, the "little man never answered" back.

The few people still around who remember Martin Adamik, describe him as a kind, quiet, unassuming, gentle old man. A meticulous individual, people remember visiting Adamik's cabin with his immaculately cared for garden surrounding it. Adamik eked out a meager living from his claims, taking only enough gold to buy the supplies that he could not either grow in his garden or get from the land by way of an occasional moose or caribou.[145]

The sad end to his story came in 1958 when Dale Patty and several members of the mining crew returned to the dredge camps for another season. On April 9, 1958, Patty, Suzy Paul and Willie Juneby landed at the Woodchopper airstrip. The company already had plans to work the ground on Woodchopper for the season letting the Coal Creek dredge stand idle. The men prepared the big International TD-24 tractor with its dozer blade along with a sled to haul supplies and headed up and over the road toward Coal Creek camp. Within 3/4 of a mile from their destination, the tractor coughed, sputtered, and stopped. It had run out of fuel. This forced the men to walk the remaining distance to the camp through waist-deep, heavy, wet snow. Patty broke trail for the first 300 yards after which they alternated as they slowly made their way downhill. Finally arriving at the mess hall, Patty reported that it was "the greatest thing I had ever seen."[146]

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[142] Dale Patty, interview, July 19, 1998
[143] Glen Franklin, interview, January 12, 1999.
[144] Glen Franklin, interview, January 12, 1999.
[145] Glen Franklin, interview, January 12, 1999 and Dale Patty, interview July 19, 1998.
[146] Dale Patty, interview, July 19, 1998.

The men then carried half-full five-gallon buckets of diesel fuel back up the trail to the stranded tractor. They continued ferrying fuel back to the tractor until almost 1:00 in the morning when fatigue finally forced them to stop for the night. Reluctantly they drained 50 gallons of water from the tractor's radiator to prevent it from freezing in the sub-zero temperatures.[147]

The next morning the men carried an empty drum up the trail to the tractor to use to melt snow to replace the water they drained the night before. Finally, after much work and many trips back and forth through the deep snow, the tractor coughed back to life and they continued on their way.

Upon arriving at the camp, they first topped off the tractor's fuel tank, then set out across the valley to Adamik's cabin at the mouth of Boulder Creek to make sure he made it through the winter. In Patty's words:

> When we walked into the place, Martin was in bed and he was looking bad. But he was talking. The machine gun started again. This went on for an hour, hour and a half; I didn't keep track of the time.
>
> And then, I'll never forget this as long as I live, he looked up to me and said, "Dale, I think I'm through talking now." And he was dead. He was dead.[148]

Sitting in the small cabin, in the dead of winter, with his lifelong friend's body, Patty had to make some decisions about what to do next. Hoping to find instructions Martin may have left for just such a situation, a brief search of the cabin proved fruitless.[149] Finding none, they took matters into their own hands.

Winter on the Yukon is not a time when one can easily dig a grave. Therefore, Willie Juneby sewed Martin's body into a piece of canvas as a burial shroud. Suzy Paul went back out to the tractor and cut a shallow trench in a snow bank. They then laid Martin's body in the snow piling it on top to help keep him cold. On a small knoll nearby, Suzy then took the tractor and using the blade, pushed the snow off the ground and started to dig a grave into the frozen soil. Each day, after working at moving buildings and machinery from the camp at Coal Creek across the hill to Woodchopper, Suzy went back over to the little cabin on Boulder Creek. There, he dug a little deeper as the sun slowly melted the exposed soil. He finally reached a depth of about eight feet into the frozen earth. Then, Dale, Willie and Suzy all went back over to the cabin, dug Martin's body out of the snow, and placed him in the grave. After filling it in with frozen dirt, they piled rocks high on top to keep the wolves away.[150]

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[147] Karen Patty, "Coal Creek -- Woodchopper, 1954-1958," unpublished manuscript. Copy in Mrs. Patty's possession.
[148] Dale Patty, interview, July 19, 1998.
[149] Dale Patty, personal communication, January 21, 1999.
[150] Dale Patty, interview, July 19, 1998

Martin Adamik, the Hungarian miner who spoke like a character from a Shakespearean play, had come to the creeks before 1910. He lived a life of solitude for almost fifty years in his little cabin at the mouth of Boulder Creek. Now, from his grave nearby, he remains in silent vigil over his claims.

BERAIL, PHIL

Phil Berail came north in 1904[151] at the age of 24. Initially settling in the Dawson area where he worked until August 14, 1908 when he left bound for St. Michael on the Bering Sea.[152] Three years later he was working as a logger for the Copper River Lumber Company in Valdez.[153] He eventually migrated back to the upper Yukon River where he prospected, mined and trapped the country between Eagle and Circle, primarily throughout the upper Charley River area for the next five decades. Today, historians credit Berail with building a number of cabins on tributaries of the Charley River. Among them are several line cabins figuring prominently in the survival story of Lt. Leon Crane, a U.S. Army Air Corps aviator who survived a mid-winter crash and walked out of the country almost three months later.[154]

Statements like: "He was the toughest man I ever knew. He was tough as nails,"[155] or "He was so tough you couldn't kill him with a club,"[156] are often used to describe Berail. Apparently immune to physical discomfort, Dale Patty once stated that Berail "must have had all his nerves disconnected at birth."[157] Dale's father Ernest Patty, who first hired Berail as the hydraulic foreman at Coal Creek, once described him as, "completely disdainful of danger or physical discomfort. When the weather turned cold, his crew was all bundled up. Phil would be working with them bare-handed, his shirt open over a mighty chest."[158]

There is little information regarding Berail's life on the Yukon before the mid-1930s when the dredges were put on Coal Creek and Woodchopper Creek. Ernest Patty hired him as hydraulic foreman for the Gold Placers Inc. mining operations.[159] He was in charge of the ditch, the various pipes and water systems used to wash the muck from the overburden. He also served as the winter caretaker for the operations for a number of seasons.[160]

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[151] "From Ketchikan to Barrow," *Alaska Sportsman*, April 1961: 25.
[152] "Clary Craig, Post Office Worker List of People Dying or Leaving [the] Klondike," in *Filson's Pan For Gold Databases* at http://www.gold-rush.org.
[153] *Polk's Alaska-Yukon Gazetteer* (1911-12), 495.
[154] John McPhee, *Coming Into the Country* (New York: Farrar, Straus and Giroux, 1977), 249-57.
[155] Glen Franklin, interview, January 12, 1999.
[156] Ernest Patty, *North Country Challenge* (New York: David McKay Company, Inc., 1969): 113.
[157] Dale Patty, interview, July 19, 1998.
[158] Ernest Patty, *North Country Challenge* (New York: David McKay Company, Inc., 1969): 113-14.
[159] *North Country Challenge*, 113-14.
[160] Glen Franklin, interview, January 12, 1999.

Berail kept his dog team at the camp basing some of his trapping out of Coal Creek. Each winter after the crews shut down the operation for the season, he would lash a small outfit of grub and supplies on his sled and head up the canyon toward the headwaters of the Charley River where he would spend most of the winter. He returned to the mining camp on occasion to make sure everything was intact. The next spring, when the crews returned for another season they would often be overheard saying to one another "I wonder if Phil made it through the winter?" And just like clockwork, Berail would appear in camp, "grizzled and weather beaten, but exuberant." Ernest Patty notes that "seeing him come along the trail with his dog team, he always reminded me of a figure straight out of some northern myth."[161]

Hard work was something that Berail never thought about twice. In his book, *North Country Challenge*, Patty mused that "The first year I made the mistake of suggesting that he take a couple of days off to rest up. The disdainful look he gave me would curl your toes, and the next morning he set such a pace at work that his crew, softened by a winter of idleness, could not keep up."[162] Years later, Patty's son Dale had taken over managing the mines. He tells several tales of Berail and injuries he sustained at the mines.

One day Phil came into the camp office holding his hand against his chest wrapped in an old oily, dirty rag. Dale asked what had happened. Berail told him he had cut his finger. Patty took his hand and slowly unwrapping the piece of cloth found that not only had he cut his finger, he had cut it off!

Trying to convince Berail to let him call an airplane to take him to the hospital in Fairbanks proved futile. He would have nothing to do with it. Instead, he said, "I have a clean rag over in the cabin. I'll just wrap that around it and it will be all right." Patty was able to get him to compromise into letting him put some antiseptic on the wound and bandage it properly. Shortly afterward, Berail went back to work![163]

A second episode found Dale working in the office again when Berail came in clutching his arm to his chest again. This time, Patty noticed what appeared to be an extra "bend" in the lower arm that should not have been there. When asked what happened, Phil replied in his gruff, gravelly voice, "I guess I broke my arm." Again, Dale tried to convince Berail to allow him to call in a flight from Fairbanks to fly him to the hospital so he could get it set and properly cared for. Typical for Berail, his comment was "Hell no, it's just a little break an it will be fine in a week!" Again, Berail would have nothing to do with it.[164]

He went back to his cabin, got a piece of cloth, fashioned a sling to support his injured arm and went back to work, again! Several days later, the sling was gone and Phil was

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[161] *North Country Challenge*, 114.
[162] *North Country Challenge*, 114.
[163] Dale Patty, interview, July 19, 1998.
[164] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in Mr. Patty's possession, p. 4.

back at work. This injury never healed properly. From that time forth when Phil drank a cup of coffee, he used both hands to lift the cup.[165]

Not only was he physically tough, Berail could also drink with the best of them. In fact, he could handle his liquor better than the best of them. One night, Glen Franklin, the company accountant and postmaster at Coal Creek, went down to Slaven's roadhouse to meet the steamboat and retrieve the mail. He returned to the camp at around 2 o'clock in the morning to find Berail waiting anxiously for a package he was expecting. The package contained a bottle of rum. Not just any old type of rum however. Berail had a special liking for 180 proof rum!

Not wanting to appear un-hospitable, Berail invited Franklin into his cabin for a drink. Taking two "generally clean" glasses off the shelf, he poured each a healthy "snort." Berail picked his up, put it to his lips and drank it down as though it was nothing more than a glass of water. Franklin, figuring it could not be all that bad, took a healthy swallow and just about gagged. He was certainly not used to drinking the same way the old timers were.[166]

Berail was one of those men who lived all his life on the creeks, did not see a need for anything new, and especially did not need help from the government. The first time he saw the company was deducting social security taxes from his paycheck he stalked into the office demanding to know what "this social security monkeyshine" was all about. Ernest Patty explained the new law to him.

"I don't want it," he said.

When he found that the law demanded the deduction he stormed out, tossing over his shoulder, "We're getting to be a nation of damned softies."[167]

Phil Berail worked for Gold Placers, Inc and Alluvial Golds Inc. until August of 1955. By this time, he was 76 years old, well past the time when most men retire and start to enjoy a more leisure lifestyle. That month, while riding in the back of the company's 2 1/2 ton truck down to Slaven's Roadhouse to pick up supplies, Dale Patty, who was driving the truck, told his riders that he had to pull forward and they should stay put. Phil either did not hear the warning or with his usual stubbornness chose to ignore it and jumped out of the truck just as it started to move suffering a severely fractured hip as a result.[168]

This time there was no way that Berail would be able to say, "just leave it alone and it will be all right." They summoned a plane from Fairbanks. Dale drove Phil over the hill to the Woodchopper camp to meet it. Patty later commented that owing to the type of

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[165] Dale Patty, interview, July 19, 1998.
[166] Glen Franklin, interview, January 12, 1999.
[167] *North Country Challenge*, 114.
[168] Dale Patty, interview, July 19, 1998.

man Berail was, "If we had left him alone, he would have probably walked the six miles to [Coal Creek] camp.[169]

Considering it is approximately 12 miles from Slaven's Roadhouse to the Woodchopper airstrip, all on a rough dirt and gravel mining road, in a heavy truck with stiff suspension, the pain must have been excruciating.

By this time, Phil was no longer living at the camp full-time. He had a cabin at Fortymile, a mile or two upstream from the confluence of Eureka Creek and the Yukon River, on the right bank, approximately 10 miles downstream from Woodchopper Creek.[170] Following Phil's injury, someone from the camp had to go down to pull his fishwheel out of the river so it would not be destroyed by the ice. They also had to get his cabin in shape for fall and care for his dogs. Dale Patty informed his wife Karen that he would be going down river with a flat-bottomed boat to take care of it.

Fall days on the Yukon are short and by that time of the year, generally cold. Karen Patty, in her autobiography comments:

> I didn't like the idea of [a] small boat, heavy clothes, jumpy dogs (strangers to the men), and the river. Dale and Tim[171] left after 10:00 am, not giving them much time to return before darkness. They couldn't (safely) run the boat after dark.[172]

The two men arrived at Berail's camp and set about pulling the fishwheel from the river and preparing the cabin for winter. Then they had to deal with the dogs. This was not a task that Dale looking forward to undertaking. Many trap line dogs of the day had mean tempers and were not used to having strangers working with them. Berail's dogs were not at all happy about having strangers working around <u>their</u> camp. The possibility that they just might have to shoot the dogs rather than take them back to camp had crossed the men's minds.[173]

Instead, they had an idea. The dogs looked hungry so if they fed them then maybe they would settle down. Berail, like everyone else working a fish camp along the river, dried his salmon to preserve it. When eaten, dried salmon reconstitutes and swells. Therefore,

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[169] Dale Patty to Douglas Beckstead, personal communication, January 23, 1999.
[170] This site has been occupied by a progression of cabins dating to possibly the turn-of-the-century. Melody Webb Grauman in "Yukon Frontiers: Historic Resource Study of the Proposed Yukon-Charley National River," Occasional Paper No. 8 (Anthropology and Historic Preservation Cooperative Park Study Unit, University of Alaska, Fairbanks, November 1977), 506, credits Charlie Moon, a miner and prospector on Coal Creek in the 1920s with building one of the earliest cabins at this location. Subsequent owners included Hank Connette, Phil Berail, Ray Bell and Gordon Bertoson. Currently, Richard Smith has a cabin at the site.
[171] Tim's last name is not available at this time. It is possible it may have been Tim Gingrich, one of several Gingrich brothers who worked for Gold Placers Inc.
[172] Karen Patty, "Coal Creek -- Woodchopper, 1954-1958," unpublished manuscript, copy in Mrs. Patty's possession, p. 17.
[173] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript, copy in Mr. Patty's possession, p. 4.

Dale and Tim fed the dogs dried salmon. And fed them. And fed them. They fed the dogs all they could eat and then gave them some more.[174]

Dale gave his .30-06 to Tim with orders that if anything happens, shoot the dog! Then he moved in with a leash to take the first to the boat. Luckily, their idea about feeding them worked. They were so full they could hardly move. Taking the first dog to the boat, Dale tied it with a line so short it had to lie down on the bottom. They put the second aboard and tied it the same way, then the third. Finally, they were ready to head back to Coal Creek.[175]

Karen Patty continues with her description of the day:

> After dinner that night, I put all 3 boys to bed.[176] I was concerned because it looked like they couldn't possibly make it home today. Sally [Murray][177] came to the house to tell me not to worry. About 8:30, pitch dark, I heard the noise of the big truck coming back from the beach. Was I ever glad to see Dale![178]

All those involved were happy that the incident was now behind them. They gave the dogs to the Paul family who lived at Snare Creek for their use during the coming winter. Later Dale noted, somewhat in relief, "I always wondered what would have happened if one of those dogs got loose on the trip up river."[179] Luckily, the men did not have to find out.

Berail came back to work at the mines after spending the winter season recuperating. Several years later when the dredges closed down, he moved to Circle where he continued to live until the winter of 1960 when he was admitted to St. Joseph's hospital in Fairbanks.[180] Phil Berail passed away on January 22, 1961 at the age of 82 after having spent 57 years in Alaska, most of it living the life of a prospector, miner and trapper.[181]

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[174] Ibid.
[175] Ibid.
[176] As a testament to the strength and constitution of a woman, Karen Patty accompanied her husband Dale to Coal Creek in June 1954 with their 9 month old son. The following year she had twins four months prior to returning to the camp for the summer. She and Dale, with a lot of help from others at the camp, had their family of five at the camp for the next six seasons. This was long before the days of disposable diapers!
[177] Sally Murray was the wife of Ted Murray, the accountant for Gold Placers Inc in the 1950s. Ted and Sally, as well as Dale and Karen Patty and Harry and Flo Gingrich were among the few couples who lived on the creeks with the dredge operations.
[178] Karen Patty, "Coal Creek -- Woodchopper, 1954-1958," unpublished manuscript, copy in Mrs. Patty's possession, p. 17.
[179] Ibid.
[180] "Resident Dies," *Fairbanks Daily News-Miner*, January 24, 1961: 3.
[181] "From Ketchikan to Barrow," *Alaska Sportsman*, April 1961: 25.

SAMUEL DOWNS HARVEY

Samuel Downs Harvey was one the thousands and thousands of people from around the world who left their jobs, their families, and their homes to join the great gold rushes to Alaska and the Klondike gold fields in the late nineteenth century. Harvey hailed from New Castle, Indiana where he had lived since his birth in 1854. Prior to leaving for the gold fields, Sam worked as a clerk in a hardware store. When he headed north, he left behind a wife Elizabeth "Libbie", and three children: Augusta "Gussie" May, Walter Benjamin, and Ruth Ada.

Sam grew up hearing stories about the California Gold Rush of 1849. In fact, his uncle Sam Downs, his namesake, came back with enough gold to buy a farm and build a nice brick house in Hillsboro, Indiana. When news of the gold strikes in Alaska arrived, Sam wanted more than anything else to go after it and to be able to build a comfortable home for his beloved wife and children.

Leaving home in 1895, Harvey set out on an expedition that was to last for only a couple of years at most. Little did he know that he would be gone for twenty-seven years instead. Traveling through Chicago and Seattle, he finally landed in Juneau where he obtained a grub stake on Gold Creek, immediately east of the town.

According to family records, Harvey was headed back to Indiana in either late 1897 or early 1898 when he received a letter, posted from Indiana many months before, informing him of the death of his beloved wife Elizabeth the preceding October. The letter continued telling him that his son Walter and daughter Ruth were in good hands (his daughter Augusta had married in December 1897) and the family property "had been disposed of." Several hears later, in a letter to his family, Sam wrote: "Dumb with grief, I decided - in a moment - turned on my heel - in a sand spit at Dyea Harbor, where I had gone to take passage south, - turned my face northward - not knowing where - but believing that you children were better placed than anything I could do for you." With that, Sam Harvey joined the rush to the Klondike.

On June 9, 1898, the North West Mounted Police registered Harvey and three companions: G.W. Wilkenson (Pittsburgh, PA), M. Seger (Pittsburgh, PA) and William Moier (San Francisco, CA) as the occupants of boat #13030 before they headed down Lake Bennett on their way to the gold fields. Like many who ventured to the Klondike, upon their arrival Sam and his companions found all the ground already staked.

Soon after word reached Dawson announcing that gold had been discovered on the Seward Peninsula on the western coast of Alaska. Harvey and at least one companion, a man by the name of William Speddy, headed down the Yukon River and joining the Nome gold rush. Although Sam's letters to his family mention finding some gold, they tend to be more descriptive of the prices, people, and conditions at the new camp. Apparently, once again, Harvey failed to strike it rich in Nome.

Reports continued to come of good gold placers along the upper Yukon River, particularly between Dawson and Circle, Alaska. Sam left Nome heading back to Dawson in 1901 stopping for a time in Circle City. Eventually, he was among the first people to file claims in the drainage when, on August 7, 1902, he filed for the No. 2 claim on Alice Gulch.

Over the next nineteen years, Harvey's hard work provided good care for his children who eventually attended college. At the time, a college education for anyone was considered outstanding, but to have all three of his children graduate was quite an accomplishment. His two daughters, Augusta and Ruth became teachers and his son Walter a medical doctor.

Sam left the creeks in 1923 returning home to Indiana and his family. Four years later, at the age of 73, he and Walter embarked on a summer-long expedition back to the gold fields. The two men met in Chicago and from there traced Sam's original trip to the Klondike and on down the Yukon to his camps on Woodchopper Creek and Coal Creek. On the way, Sam introduced his son to the colorful figures he had known during his gold rush days, shared sites and experiences that few in the Lower 48 could imagine. From there, they went to Circle and on to Fairbanks, Alaska where, unfortunately for the reader, the narrative ends.[182]

JOHN HOLMSTRUM

When word of the gold discoveries in the Klondike hit Outside newspapers, men and women from around the world dropped what they were doing and flocked to the Yukon River. Among them was a twenty six-year old Swedish man by the name of John Holmstrum who arrived with the Klondikers of 1898.[183]

According to the 1910 US Census, John Holmstrum was living and working claims on Mineral Creek, a tributary of Woodchopper Creek approximately four miles upstream from its confluence with the Yukon River. By this time, he had been in the country for over ten years. Holmstrum staked his first claim on Mineral Creek, a tributary of Woodchopper on November 27, 1901 when he filed for twenty acres of placer ground naming it "No. 2 Above Discovery."[184]

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[182] Samuel Downs Harvey, "An Alaskan Travelogue," holographic copy in author's possession.
[183] 1920 US Manuscript Census for Woodchopper, Alaska.
[184] "No. 2 Above Discovery," Location Notices, Circle Mining District, Book 1 -- Locations, 1900-1902, page 328.

Over the next decade, Holmstrum continued to stake claims on Woodchopper Creek including when on December 1, 1910 he, along with M. McLeod, Dan Crawley, E. Vass, William F. Stair, Charles Boyle, John Corcoran, and W. Lewis filed notice claiming 160-acres. Located approximately one mile below the confluence of Woodchopper and Mineral Creeks, they named it the "Mineral Association."[185]

In 1913, while on a trip to Dawson, Holmstrum happened to meet a young greenhorn by the name of Frank Rossbach who was working as a bartender in the Occidental Hotel. Apparently Holmstrum had already heard about Rossbach and knew he was looking for a mining claim. Swedish born Holmstrum hit it off with young Rossbach who had left his native Germany several years earlier.

Holmstrum had a problem with alcohol. He enjoyed it excessively much. Rossbach on the other hand, was a teetotaler. Holmstrum invited Rossbach to be his partner with his claims on Woodchopper Creek in exchange for his help getting him off the booze. Rossbach agreed to the offer and the two men set off down the Yukon toward a partnership that would last for the next decade.[186]

John Holmstrum (undated photo taken between 1913 and 1923). Photo courtesy of Dietrich Rossbach.

John Holmstrum and his wife in Sweden after he left Woodchopper (circa 1924-35). Photo courtesy of Dietrich Rossbach.

[185] "Mineral Association," Location Notice Number 368, Circle Mining District, Book 4 -- Locations, 1910-1918, page 141. Along with Frank Rossbach and George McGregor, Holmstrum's claims provide a unique opportunity to examine who was working claims on Woodchopper Creek over the entire span of time prior to the Alluvial Golds Inc. dredge coming in in the 1930s. Holmstrum, initially working his ground alone, eventually partnered with Rossbach who then, following Holmstrum's departure, partnered with McGregor. McGregor eventually selling the claims to Alluvial Golds Inc. in the mid-1930s.

[186] Dietrich Rossbach, interview, November 20, 1998; and Sonia Rossbach Defrances, interview, November 19, 1998.

The following year, Holmstrum filed on the "Comet" claim on Woodchopper northeast of the "Discovery" claim at the mouth of Iron Creek. He and Rossbach made the discovery and accomplished the necessary location work between November 6 and December 10, 1914. During that time, they successfully excavated two shafts, each nineteen feet deep, to bedrock where they encountered the paystreak.[187]

Holmstrum decided to leave the country in 1923 returning to his native Sweden where he eventually married a woman from back home. As evidenced through letters now in the possession of his partner's family, he stayed in touch with his friends from the creeks over the years including sending photographs of he and his wife. [188]

GEORGE McGREGOR

George McGregor was born in Missouri on November 23, 1887. He enlisted in the US Army on September 26, 1918 during the latter days of World War I. While he was in boot camp the war ended and he was honorably discharged on January 9, 1919. According to information located at the Eagle Historical Society and Museums, he came to Alaska right after his discharge.[189] His cabin on the Yukon River is now listed on the National Register of Historic Places as part of the Yukon-River Lifeways thematic nomination.

Upon his arrival in the country, McGregor partnered up with Frank Rossbach on Mineral Creek. When Rossbach left for Germany in 1926, McGregor remained to work their claims. In August of 1927, Sam Harvey notes in his "Alaskan Travelogue," that McGregor's "partner" had returned to Germany to find a wife and was expected to return to the creeks.[190]

George McGregor left his cabin on Mineral Creek in the late 1930s after he sold his claims to Alluvial Golds for their dredge. He moved into a new cabin on the banks of the Yukon River between the mouths of Coal Creek and Woodchopper Creek. He kept a diary that, although each entry is almost cryptic in it's simplicity, when taken as a whole, the reader can see the cycles of the seasons as they pass by year after year. McGregor was one exception to the many other miners in the area who frequently made trips to Circle or Eagle. Through his diary he only records one trip to Circle in nearly 30 years!

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[187] "Comet," Location Notice Number 525, Circle Mining District, Book 4 -- Locations, 1910-1918, page 351.
[188] Dietrich Rossbach and Sonia Rossbach Defrances have photographs, letters and other records from their father's time on Woodchopper Creek. Frank Rossbach developed and printed his own photographs while living on the creek, obtaining his supplies through mail order houses such as Sears Roebuck and Montgomery Ward.
[189] Elva Scott to Doug Beckstead, June 13, 1999.
[190] Samuel Downs Harvey, "An Alaskan Travelogue," August 1927. Original in author's possession.

But he does record seeing others who lived in the region making trips up and down the Yukon on their way to town.[191]

McGregor left the creeks in July of 1954 and moved to Eagle. After spending several years in Eagle some serious "sores" developed on the bottom of his foot. When the injuriesfailed to heal, friends convinced him to see a doctor in Fairbanks. The doctor wanted to amputate. He said "No. I want to die with my feet." He then went to the Veteran's Hospital in Vancouver, Washington where again the suggested treatment was amputation of the foot. Again, McGregor refused and said, "Fix me up the best you can so I don't suffer." The doctors did the best they could and he moved into the Wilcox Boarding Home in Vancouver.

In the afternoon of March 4, 1966, at the age of 78 years, George McGregor's heart gave out and he too crossed his last summit. He is buried in the Willamette National Cemetery in Portland, Oregon.[192]

FRANK ROSSBACH

Frank Rossbach took a circuitous route from his native Germany to get into the country along the upper Yukon. Born in 1891, he worked as a baker's apprentice as a young man. After working for several years he decided that he was not cut out for a sedentary lifestyle and wanted more adventure out of life. Making his way to Hamburg, he hired on as a cabin boy on a tramp steamer setting off to see the world.[193]

From Hamburg, Rossbach circumnavigated the globe, not once, but twice. His children remember him telling of his adventures in such exotic places as Japan and Borneo. During his second trip around the world, while docked at Tacoma, Washington, Rossbach heard stories of the gold fields in Alaska and the Yukon. Still seeking more adventure, he approached the captain of the ship with a request to be paid off and allowed to "jump ship." The captain explained that normally the company paid the crew at the end of the voyage when they returned to their homeport. Since Frank was apparently serious about his desires and had been a good employee to that point, the captain made a deal to pay him and let him remain in Seattle when the ship set sail if he could find someone to replace him.[194]

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[191] A copy of George McGregor's diary is located in the collection of the Eagle Historical Society and Museums. A transcript of it is in the author's possession.
[192] McGregor, George. Death certificate No. 4685, Clark County, Washington.
[193] A tramp steamer is a freighter that has the capability of carrying a limited number of passengers. Conditions were not the best since the vessel's primary duty was cargo, not people.
[194] Sonia Rossbach Defrances, interview, November 11, 1998 and Dietrich Rossbach, interview, November 20, 1998. Most of the information relating to Rossbach is derived from these interviews including dialog as related by Mrs. Defrances and Mr. Rossbach.

George McGregor (circa 1913-26). Frank Rossbach Collection, photo courtesy of Dietrich Rossbach.

Frank Rossbach (circa 1913-26). Frank Rossbach Collection, photo courtesy of Dietrich Rossbach.

Rossbach spent several days, and nights, scouring the saloons on the Tacoma waterfront trying to find someone willing to take his place on the steamer. Eventually he succeeded. The captain paid him in full for his services. When the steamer set off into the Pacific, Rossbach was setting out on yet another new adventure.

Because he did not have enough money to pay for his passage to Alaska, Rossbach worked as a short order cook for a while. Eventually able to buy a ticket north, he set out for a trip through the Inside Passage to Alaska. He landed at the gold rush port of Skagway having arrived almost a decade after the great rush of 1898-99 but still finding many of the same sites that greeted the earlier argonauts.

Rossbach made his way from Skagway to Whitehorse walking the rails of the White Pass & Yukon Railway instead of buying a ticket. After arriving at the northern terminus, he joined up with several others building a boat and floating down the Yukon finally arriving in Dawson City in summer of 1913.

In Dawson, Rossbach was successful at getting a job as a bartender in the Occidental Hotel. There he had the opportunity to meet some of the old timers who had come north with the Rush of '98 and heard their tales of climbing the Golden Stairs of Chilkoot Pass. Unfortunately for Rossbach, as well as most of the others who arrived in the Klondike

after the initial gold discoveries, all the ground around Dawson was either already staked, under the control of large mining companies or plain worked out.

After hiring on at the Occidental, the saloon's manager discovered that Frank did not imbibe in alcohol. This was a problem. In the peculiar etiquette of the mining camp, miners often bought drinks for the house after a good cleanup. This practice sometimes cost the celebrator over a hundred dollars for a single round. If a teetotaler refused the drink, he could redeem his honor by accepting a fifty-cent cigar in its place.[195] One way the saloon made money was when miners bought drinks for the house the bartenders were included. After discussing the problem with Rossbach, the two men agreed that if he would not drink the booze, at least he would smoke a cigar. According to his children, this vice stayed with him until the day he died.

One day, a miner named John Holmstrum came in from the creeks, settled into a chair with a bottle of whiskey and started talking with Frank. With his Swedish accent, he told Frank that he had heard that Rossbach was interested in obtaining a mining claim. To that, Frank excitedly answered, "Yes."[196]

Holmstrum told Frank, "I have a couple of claims over on Mineral Creek, off Woodchopper Creek, downstream from here. I also have a problem. I drink way too much. You don't drink at all. If you'll agree to be my partner, and help me get off the booze, I'll give you half interest in my claims."

Rossbach agreed and promptly resigned his post as bartender at the Occidental, a job he held for about two weeks.

The next morning Rossbach met Holmstrum at the waterfront ready to set off down the Yukon on yet another of his adventures. In addition to the usual mining equipment and supplies already loaded into the boat, Rossbach noticed three wooden boxes that looked surprisingly like cases of whiskey he was used to handling at the saloon. He asked his new partner about it and reminded him that he wanted to get off the sauce.

Holmstrum replied, "You can't expect me to give it up all at once now can you?" With that, the two men set off on their new partnership that would last for the next decade.

The 1920 census for Woodchopper Creek lists Rossbach as 28 years old. That indicates he was barely 21 when he first reached the creek. In reviewing the census records, Rossbach was not only the youngest individual on the creek at the time; he was literally less than one-half the age of the other miners! According to his family, many of the miners on the creeks had nicknames including such graphic descriptions as "Pete the Pig"

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[195] Pierre Berton, *The Klondike Fever: The Life and Death of the Last Great Gold Rush* (New York: Carroll & Graf Publishers, 1989), 23.

[196] The first record of John Holmstrum on Woodchopper Creek comes from an association mining claim filed for 160 acres of ground known as the "Mineral Association." The claim contained the placer ground from the confluence of Mineral Creek and Woodchopper Creek to a point one mile downstream on Woodchopper. Partners in the association included: John Corcoran, D. Crawley, H. Lewis, M. McLeod, W.F. Stair and E. Vass. [Circle District, Book 4 -- Locations, 1910-1918, page 141.]

over on Hanna Creek who grunted as he worked and talked[197] and the "Evaporated Kid."[198] The other miners on the creek affectionately called Rossbach "the Dutch Kid" because of his youth and his German accent.[199]

On December 18, 1914, Rossbach swore out his first location notice on Woodchopper Creek before Fred Brentlinger, a notary public who operated the Woodchopper Roadhouse. With it, he claimed twenty acres of placer mining ground that he named the "New York" claim.[200] The same day, he filed a second claim for a similar amount of ground that he named the "Morning Star" claim.[201] In addition, on December 18th, John Holmstrum filed for 20 acres of adjacent placer ground that he named the "Comet" claim.[202]

One day, during the early years of World War I, Rossbach received a letter from the United States government directing that he go to Circle City, Alaska, about 60 miles further down the Yukon River. Once there he was to register with the marshal as a "hostile alien." The letter gave a deadline after which, if he missed it, threatened him with arrest and deportation.[203]

One thing that did not happen in Alaska was getting the mail through in even a remotely reasonable timeframe. During about four months in the summer steamboats carried it (as on the Mississippi). For four months in the winter, it went by dogsled along roughly the same routes. The two months between the time the river started to freeze and the time the dogs could get through, and the same time frame in the spring before the rivers opened to river navigation, the mail did not get through at all unless someone happened to be in town and brought it back to the creek for everyone.

Although he left immediately, by the time Rossbach got to Circle (he walked the entire way, in the middle of winter where temperatures on the Yukon frequently reach -50 to -60 degrees) he arrived several days too late. The marshal did not know what he should

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[197] Sonia Rossbach Defrances, interview, November 11, 1998 and Dietrich Rossbach, interview, November 20, 1998. Also, John McPhee, *Coming into the Country* (New York: Farrar, Straus and Giroux, 1977): 222. According to Defrances and Rossbach, their father mentioned having known "Pete the Pig." McPhee identifies him as Pete Frisk, who eventually died at the Pioneer Home in Sitka (pg. 333). He later identifies Pete's camp as being on Hanna Creek, a tributary to the Charley River approximately ten miles south from Rossbach's claims on Woodchopper Creek (pg. 334). According to Pierre Berton, "Pete the Pig" was earlier at Fortymile (Pierre Berton, *The Klondike Fever: The Life and Death of the Last Great Gold Rush* (New York: Carroll & Graff Publishers, 1989), 18.).

[198] John McPhee, *Coming into the Country* (New York: Farrar, Straus and Giroux, 1977): 222. There are no records of anyone named the "Evaporated Kid" in the vicinity of Coal Creek and Woodchopper. However, Pierre Burton in his book *The Klondike Fever: The Life and Death of the Last Great Gold Rush* (New York: Carroll & Graf Publishers, Inc., 1989): 373, the "Evaporated Kid" was from Dawson and got his nickname because he was so small he "looked like a bottle with hips."

[199] Sonia Rossbach Defrances, interview, November 11, 1998 and Dietrich Rossbach, interview, November 20, 1998.

[200] Circle District, Book 4 -- Locations, 1910-1918, page 349.

[201] Circle District, Book 4 -- Locations, 1910-1918, page 350.

[202] Circle District, Book 4 -- Locations, 1910-1918, page 351.

[203] This story is taken in its entirety from Sonia Rossbach Defrances, interview, November 11, 1998 and Dietrich Rossbach, interview, November 20, 1998.

do, so like any good government bureaucrat, he wired his superiors in the Lower 48 asking for instructions. In the meantime, he put Rossbach under arrest which, according to Rossbach's son and daughter, meant he lived with the marshal's family for a while and helped with cutting firewood.

Word finally came back telling the marshal to go ahead and register him anyway then send him back to his camp. Nevertheless, the orders also said to keep his gun in Circle. Amazingly, the marshal wrote back acknowledging the orders but went on to inform his superiors that there was no way a person could be sent off into the wilderness of Alaska without a gun.

Therefore, after spending a few days in town, Frank trundled off down the trail on his way back to Mineral Creek, with his gun. As far as anyone knows there were no major actions on the part of the Huns that were coordinated from a tiny cabin seven miles off the Yukon.

John Holmstrum decided to leave the country and return to his native Sweden in 1923. He left the claims to Rossbach who then partnered with George McGregor. His son and daughter both surmise that when Holmstrum left the camp, Frank began to get homesick. Rossbach remained in the country for another three years until 1926 when he decided to leave and return to Germany.

Rossbach took what money he had saved, along with a photograph collection showing his camp, his partners and friends as well as other people he met and knew along the river and down at Circle. In his later years, when asked by his children, he estimated that during the thirteen years he spent on Woodchopper Creek, he probably took out around $75,000.00 worth of gold.[204]

Back in Germany, he met and married Lina Hopfer. Their son Dietrich was born in Europe. They immigrated to the United States where they used some of Rossbach's remaining savings from his Alaskan odyssey to buy a rooming house in Brooklyn, New York. Eventually they moved to upstate New York where they bought a farm and fulfilled another of Frank's lifelong dreams, to be a man of the soil.

He and his old partners, John Holmstrum and George McGregor kept in touch over the years. One letter survives in which McGregor addresses his "Friend Frank." In it, he catches Rossbach up on all the old gossip of who was on the creek, what they were doing, and who was no longer among the living. This single letter provides some interesting insights into life on Woodchopper and Coal Creeks, before General A.D. McRae and Ernest Patty came in buying up all the claims and started their dredging operations.

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[204] Sonia Rossbach Defrances, interview, November 11, 1998 and Dietrich Rossbach, interview, November 20, 1998.

Frank Rossbach with a pan of gold (undated photo taken between 1913-1926). Photo courtesy of Dietrich Rossbach.

Frank Rossbach crossed his last summit when he passed away in 1974 leaving behind a family full of stories about his years on the Yukon.

Woodchopper
Alaska
July 25, 1933
Friend Frank.-

I received your letter a few days ago, glad to hear from you and hear that you are doing well. I guess a person that is holding their own outside now is lucky according to reports.[205] I got several letters from John [Holmstrum] since I wrote you last, he is taking life easy and enjoying himself. He wondered where you was. Said he had not heard from you for some time.

Well there is quite a few changes since you were here. Gus [Abrams] died two years ago he became helpless and took him down to the roadhouse and he died and was buried there. Fred Brentlinger dropped dead on Coal Creek the same spring. I guess I wrote you before that Foxy Johnson, Geo. Powers and [Edward P.] Mortimer were all dead. I guess that is about enough [for] the dead ones now I'll tell you about the ones that are alive [but there is little chance] in any of them. [Sivert O.] Lee is still on Dome hasn't taken out a dollar yet but says he knows there must be a pay streak there. He and Sandy Johnson, [Ed] Brown and [Art] Reynolds worked for [Frank] Slavin last summer on his house at the mouth of Coal. He made about $200.00 that helped some. Jack [John] Cornell goes over to Fairbanks and works on the section[206] every summer. Comes back to his old hangout in the winter. [Frank] Bennett is still sniping around just the same, the sailing is not so easy with him now the money he was getting was cut off a few years ago so he has to rustle. But since Gus died he dont need to borrow any tools or pots and pans. Jack Boyle was Administrator for Guses estate. and he is too low to even talk about. Annias McDonald came back about a year ago. Worked up on Bennetts ground I guess he took out a grub stake. Mrs. [Bessie] Olseon[207] bought Guses ground. There is a fellow up here now that she sent up. [C.F.] Moon is down at Webber doing a little fishing and trapping. A fellow by name of Jack Welch and his wife runs the roadhouse now, or at least she runs it, she is certainly the boss. Welch himself is a pretty good fellow. But different with her. She also has the post office. By the way if you write to me again and have any sealing wax handy please seal the letter with it. I am still working below the dam and will be for some time yet. Water has been very scarce every year except last summer it was pretty good. The spring at the mouth of Shamrock has been dry every year except last year. and since about the 20th of June this year the dam will hardly fill in 24 hours, but the last few days it has rained a little, there may be more water now. I hope so anyway. I lost the best part of 3 or 4 summers getting my teeth. I made 2 trips to Ft. Yukon, one to Fairbanks and one to Dawson before I was through. They are pretty expensive grinders besides the time I lost. But I have no desire to live outside yet any way and am not going to kill myself to make a few extra dollars. I finished drifting the bench on Alice Creek in the winter of 29 built cabins and cut trails out on tributaries to Charlie River. That taken more time, but I done better trapping than I did drifting. I have to get wood now from Woodchopper. I haven't heard of any new discoveries anywhere. I don't think there will be any more in Alaska. Well I think I have given you all the dope so will close for this time. Wishing you the best of success.

Your friend,
George McGregor
Woodchopper
Alaska

Drop me a line when you have time and feel like it.

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[205] By the time McGregor wrote this letter, the country, and in fact the world, was wrapped in the throes of the Great Depression. Because of their lifestyle, it had little effect on the miners living along the Yukon.
[206] Cornell worked for the Alaska Railroad during the summers during the early 1930s.
[207] Bessie Curry Olsen, in addition to Flora Brentlinger, Kate (Mrs. Jack) Welch and Kathryn Patty is one of the few women who held placer mining claims in the two drainages. She was previously married to James Currie (of Circle) and later to Emil Olsen.

FRANK SLAVEN[208]

Sitting on a high bank of the Yukon River in Alaska is a two-story cabin called Slaven's Roadhouse. Since its construction in 1932, it has served as a beacon to travelers plying the river. It is now one of the historical landmarks within Yukon-Charley Rivers National Preserve, part of the National Park Service. The roadhouse was listed on the National Register of Historic Places in 1987.

Historical mystery and intrigue shroud Frank Slaven's life. Some people say that Slaven was a heavyweight boxer while others claim he was not. As it turns out, there were two men with nearly identical names, Frank Slaven and Frank Slavin, both living in Dawson City, Yukon Territory, Canada during the height of the Klondike Gold Rush. For many years, the question of whether or not there was a single Frank Slaven, or two distinct individuals, has been subject to conjecture. For setting the historical record straight, this study discusses both individuals.[209]

An Australian emigrant and heavyweight boxing champion, Frank Slavin made an unsuccessful bid at the World Heavyweight Championship in London in 1891. In June 1897, after a defeat in San Francisco, Slavin and his manager and sparring partner, Joseph (Joe) Boyle drifted north making a scanty living from exhibition bouts, eventually hearing of the gold strikes along the Yukon River. Learning more about the Klondike while in Juneau, the pair crossed White Pass and arrived in Dawson in August 1897.

Slavin, still partnered with Boyle, applied for a mining concession on a portion of Last Chance Creek, a tributary of Hunker Creek, outside of Dawson City. Arthur Newton Christian (A.N.C.) Treadgold joined the pair in 1898. Boyle and Treadgold bought out Slavin's interests in the property for a reported $20,000. The remaining partners eventually became two of the most powerful men in Klondike mining.[210]

The last mention of Slavin in Dawson comes during the winter of 1903-04 when he was living in a cabin working as a watchman for the Boyle/Treadgold Concession to stop unauthorized wood cutting on their claims. Slavin was beaten severely when he interceded with two men hauling a sled of wood down the road. Later, at trial, it was learned that the two men had purchased a cabin further up the road for wood and were hauling it out. They claimed they used lengths of chain against Slavin because they knew him as a former boxing champion. The court decided that they were "defiant and [had

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[208] The biography of Frank Slaven is taken in part from: Douglas Beckstead, "Frank Slaven's Life on the Yukon River During Gold Rush Days," *Slaven Family Bulletin* (16), April 1999: 1-7.

[209] One caveat must be put forth. Pay careful attention to how their last names are spelled. The boxer spelled his name "SLAVIN" while the one who later lived at Coal Creek spelled his "SLAVEN". Initially it was thought that the variation was due to handwritten records and semi-literate clerks. In the end this has proven to be an incorrect assumption.

[210] Lewis Green, *The Gold Hustlers: Dredging the Klondike 1898-1966* (Anchorage: Alaska Northwest Publishing Company, 1977), 44, 138-39.

used] excessive force" sentencing the two to three and four months each on the police woodpile. The court dismissed the charges against Slavin.[211]

By 1905, Frank Slaven (note the variation in spelling) appeared at Coal Creek filing some of the earliest claims.[212] It was not uncommon for individuals to move from place to place in search of gold, especially as new strikes were announced. Frequently, what had been a viable town at nightfall became a virtual ghost town by morning when a new strike was announced. However, in Slaven's case, he weathered the strike at Dawson and remained there through the rushes to Nome (1900-02) and Fairbanks (1903-04). Coal Creek is approximately 200 river miles downstream from Dawson and well within the probable migratory distance for someone looking to stay "in the country."

Two additional points tie Slaven (from Coal Creek) to the gold magnates of Dawson. In August 1914, he persuaded the Yukon Gold Company to carry out some exploratory drilling in the Coal Creek valley. Yukon Gold was owned by four members of the Guggenheim family and A.N.C. Treadgold, Slavin's former partner from Dawson. In 1927-28, another of Treadgold's companies did considerable drilling and test pitting on Coal Creek.[213]

In addition to Slaven, several other prominent personalities from the Dawson business world are associated with the claims on Coal Creek. They included William McIntyre,[214] one of the original owners and founders of the *Dawson News* and later the *Fairbanks News* (later became the *Fairbanks Daily News-Miner*); Richard Roediger,[215] publisher of the *Dawson Daily News*; printer Albert Forrest;[216] linotype operator Harold Malstrom;[217] reporter Charles Settlemeier[218] all employed by the *Dawson Daily News*, along with Arthur H. Dever, printer for the News Publishing Company, a subsidiary of the *News*. Because these men were all successful businessmen in Dawson, it is likely that they were grubstaking Slaven rather than working with him in the true sense of a partnership. They provided the necessary funds for him to prospect and work the claims. In turn, they received a portion of the profits.

Roughly, half of the individuals who report knowing a little history about Frank Slaven (of Coal Creek) claim he and the Australian boxer were the same person. The other half are either uncertain of the relationship, or steadfastly deny any connection between the two. Consequently, their identities become a mystery ripe for exploring.

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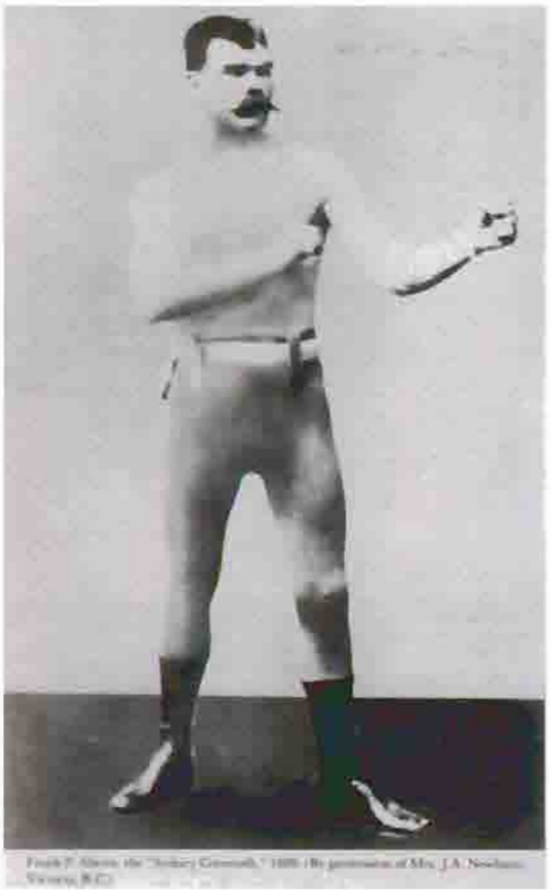
[211] Lewis Green, *The Gold Hustlers: Dredging the Klondike 1898-1966* (Anchorage: Alaska Northwest Publishing, 1977), 145.
[212] Ira Joralemon, "Report on Coal Creek Placers," 4.
[213] Lewis Green, *The Gold Hustlers: Dredging the Klondike 1898-1966* (Anchorage: Alaska Northwest Publishing, 1977), 109. Joralemon, "Report on Coal Creek Placers," 4.
[214] "New Mining Co. Starts Big Works," *Fairbanks Daily News-Miner*, December 12, 1935, p 5. Also, *Polk's Alaska-Yukon Gazetteer* (1901), 291; (1902), 259; (1905), 465; and (1907), 568.
[215] *Polk's Alaska-Yukon Gazetteer* (1902), 259 and 387; (1905), 476; and (1907), 578.
[216] *Polk's Alaska-Yukon Gazetteer* (1907), 559; and (1909-10), 556.
[217] *Polk's Alaska-Yukon Gazetteer* (1902), 352; (1903), 433; (1905), 467; and (1907), 570.
[218] *Polk's Alaska-Yukon Gazetteer* (1901), 377; (1902), 395; (1905), 468; and (1907), 581.

One point is certain. Frank Slavin, the boxer, was from Australia. Frank Slaven was born on November 11, 1869 in Canton, Ohio. His father's name is listed as Joseph Slaven who's birthplace is also Ohio but with no city or town recorded. The 1910 US Census verifies Slaven's birthplace. Surprisingly, this census contains not only the names of people living in the major towns and villages in Alaska, it also enumerates individuals living and working at gold camps along every creek on the upper Yukon between Circle City and the US-Canadian border. From a historian's perspective, this census is a real "gold mine."

Frank Slaven, approximately 40 years of age, probably in Santa Cruz, California. Frank Slaven Collection, photo courtesy of Sherrie Harrison).



Frank Slavin, "The Sydney Cornstalk" (Source, William Rodney, *Joe Boyle: King of the Klondike*)[219]

It lists sixteen individuals living and working along Coal Creek, among them, Frank Slaven. The census does not reveal his birthplace to be Australia, but Ohio in the United States. The 1920 Census confirms this. Thus, although there is much evidence to support the claims that Slavin and Slaven are the same individual, this one point drives a wedge deeper and deeper into the story. Coupled with the fact that Slavin, the boxer, apparently died in the early 1920s.

[219] William Rodney, *Joe Boyle: King of the Klondike* (New York: McGraw-Hill Ryerson, 1974), np.

Furthermore, several individuals who knew Slaven while he lived at Coal Creek support the claim that he was not the boxer. In one case, Dale Patty described him as:

> … small, quick tempered, and easily excited. I had a wonderful time with Frank and he told me many stories of travelers on the Yukon. His roadhouse was a major stopping place on the river. Frank cooked all the meals and he had a lot of traffic.[220]

Glen Franklin, who worked as the bookkeeper and accountant for Gold Placers Inc., a mining company operating a dredge on Coal Creek, mentioned in an interview that the Frank Slaven he knew was specifically "not the boxer from Dawson."[221] It appears that the confusion over the two men was solidly in place even in the 1930s.

Frank Slaven, as noted earlier, has ties to many of the movers and shakers of Dawson business and society. According to the mining laws of 1872, an individual could lay claim to 20 acres of placer mining property on a creek.[222] Eventually records show several individuals filing for "association" claims ranging from two to as many as eight claimants. Slaven is partnered in the following associated claims: (1) the Slaven Association, (2) the Winsome Association, (3) the Green Gulch Association, (4) the Homestake Association, (5) the Jennie Association, (6) the Sunrise Association, (7) the Tom Cat Bench Association, (8) the Malstrom Association, (9) the Forrest Association, (10) the Emily Association, and several Coal Creek Hydraulic Associations, to name but a few. Although this may sound like a lot of claims, between 1905 and 1935 claims were staked, canceled, re-staked and grouped into various associated claims. Thus, Slaven, over a long period was associated with many different claims representing the same ground along Coal Creek.

Like many of the sourdoughs living in the Alaskan bush working their claims, Slaven was believed to have remained single throughout his time in Alaska. However, research has proved this not to be accurate. First, apparently, Frank maintained a number of friendships with people from his hometown of Eldon, Missouri after he came to Alaska. One of these was a woman by the name of Minnie Wilson.

Apparently Slaven and Minnie had a long standing friendship that pre-dated his coming to Alaska. This friendship continued after Frank came north even though Minnie was married and the mother of five children. Following the death of her husband, their relationship took a new turn. In 1914, Minnie Wilson, accompanied by her 12 year old daughter, came north to Dawson City where she and Frank Slaven were married on June 22. Their wedding festivities, as reported by the *Dawson Daily News* were quite an event. Following the ceremony at St. Andrew's Presbyterian Church, the couple was

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[220] Dale Patty, personal communication, June 25, 1998. Patty is referring to the fact that Slaven's Roadhouse was the more popular of the two between his and the Woodchopper Roadhouse owned and operated by Jack and Kate Welch and located five miles down river from Coal Creek.
[221] Glen Franklin. Interview, January 8, 1998.
[222] 17 Stat. 348, *The General Mining Law of 1872.*

"whirled to Bear Creek and back" in an automobile. Upon returning to town, a "dainty wedding supper" was thrown in their honor during which the party was "serenaded by a host of young friends." Slaven then "pacified the insurgents by delivering to them all the watermelons and pop in the market." Shortly after the wedding, the Slavens traveled down the Yukon to Frank's claims on Coal Creek accompanied by Frank's new step-daughter.[223]

The summer of 1914 must have been a happy one for Mr. and Mrs. Slaven, not to mention their daughter. What better place for a 12 year old to grow up than at an Alaskan gold mine! Unfortunately as the summer progressed, Minnie Slaven began to develop a cough. The illness progressed to the point where by late summer or early fall, she and her daughter returned to Eldon, Missouri where it was hoped that she would be able to regain her health. As the weeks progressed, she gradually grew weaker and weaker until Minnie Slaven passed away on December 14, 1914, less than six months after marrying her long-time friend Frank Slaven. According to her obituary in the *Dawson Daily News*, "she leaves a daughter of 12 years, who is the idol and hope of her father."[224]

At some point following the death of Frank's wife, another woman appears on the scene at Coal Creek. This woman lived with Frank at his roadhouse that has spawned many interesting stories and theories. Many of those who knew Frank Slaven, especially in his later years, tell stories of a woman known only as "Miss Bissell" living with him at the roadhouse. Several points are common to most. Among them, Slaven ran the roadhouse. Miss Bissell ran Slaven. She is also described as a "large woman, big boned, not big breasted." This may have been accentuated by the fact that Slaven was according to reports "a small man of about 5'6". Few descriptions beyond these exist to describe what Miss Bissell looked like.[225]

There is even the "river gossip" that claims Miss Bissell was a prostitute from Fairbanks who was past her prime. They claim she took up with Slaven when she found out that he was coming into a substantial amount of money from his claims. This seems to have the most popularity, probably due to the fact that it has money, intrigue and of course the obligatory overtones of sex.[226]

One point bringing the prostitute story into question is the fact that Slaven and Bissell, although sharing the same sleeping quarters in the roadhouse, had a blanket discretely drawn between the two sides of the room.

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[223] Undated article from the *Dawson Daily News*, copy in the author's possession. The copy was provided by Sherrie Harrison and the Slaven family.
[224] Undated article from the *Dawson Daily News*, copy in the author's possession. The copy was provided by Sherrie Harrison and the Slaven family. It is evident that this article comes from the *Dawson Daily News* as it uses terms relating to mining in the Circle District that would not fit with a report written in Missouri.
[225] Dale Patty, personal communication, June 25, 1998.
[226] Ira Joralemon, *Adventure Beacons* (New York: Society of Mining Engineers of AIME for the Mining and Metallurgical Societyof America, 1976), 325.

Slaven's Roadhouse, 1935. This photo shows Frank Slaven (l), with Mary Bissell and three unidentified men. It is possible that the three men are the ones who helped Slaven build the roadhouse in 1932 -- Art Reynolds, Sandy Johnson and Ed Brown (see George McGregor's letter on page 51 above). (Original photo is located at the University of Alaska Fairbanks, Alaska Polar Regions Archives, Everett Hammon Collection (Acc. #85-110-01)).

One thing is certain, Frank Slaven and "Miss Bissell" both lived at Coal Creek in the 1930s. Bissell appears as a co-claimant with Slaven on claims on Smokey and Sam Creek (both are immediately east of Coal Creek, within several miles). In 1938, J.B. Mertie, Jr., a geologist with the USGS notes that "Slaven claims the name 'Bissell Mtn.'" for a mountain across the river from his roadhouse, based on common usage. He also claimed the name 'Slaven Mt.' for an adjacent mountain.[227]

Throughout the American West, areas subjected to mining activities are divided into Recording Districts to facilitate filing and recording mining claims. Coal Creek is part of the Circle Mining District of Alaska. Immediately adjacent to Coal Creek is a second creek called Woodchopper Creek. The people who lived and worked on the two creeks tie them together. The two creeks make up a type of community albeit somewhat disjointed. Frank Slaven, although associated with many of the men working on both creeks, confined most of his prospecting and mining activities to Coal Creek making occasionally foraying into either Woodchopper to the west or Sam Creek to the east.

Roadhouses are the early Alaskan version of the Motel 6®. They were spaced conveniently about a day's travel apart, generally every 20 to 30 miles along major transportation routes. At a roadhouse a traveler could get a meal -- the fare varied

[227] J.B. Mertie, "Field Notebook, 1938" in the USGS Archival Collections, Anchorage, Alaska.

depending on what kind of game happened to be in the cache (or in the pot) at the time. An inside bunk provided protection from the weather -- although this may be nothing more than a space on a crowded floor to spread one's sleeping robes. In addition, on rare occasions one could even find shelter for their dog team -- some roadhouses even had stables for dogs!

The first roadhouse near Coal Creek was built at the mouth of Woodchopper Creek on a flat near the river. It appears that a man named Valentine "Woodchopper" Smith built and operated this roadhouse before 1906.[228] Smith eventually sold his operation to Fred and Flora Brentlinger. Following Fred's death, his widow sold the roadhouse to Jack Welch and his wife Kate. According to local tradition some sort of rift developed between Welch and Slaven. This prompted Slaven's idea to build his roadhouse 4 1/2 miles upstream from Welch's at Woodchopper.

Slaven built his roadhouse in the summer of 1932. He paid four other men $200.00 each for their labor. Among these were Sandy Johnson, Art Reynolds (both with claims on Sam Creek), Sivert O. Lee (with claims on Coal Creek) and an unidentified man named Brown. They used logs cut 50 or more miles up the Kandik River floating them down the Kandik to the Yukon finally landing at Coal Creek.[229]

Slaven's Roadhouse, circa 1932-38. Frank Slaven in standing at the center of the photo, near the corner of the roadhouse. (USGS Photo)

Over the last decade, Slaven's Roadhouse has been the focus of National Park Service preservation efforts. Many thousands of dollars have been devoted to restoring the structure to its original condition. Today it serves as a visitor contact station/ranger

[228] Sonia Rossbach Defrances, interview, November 19, 1998 mentions her father, Frank Rossbach, telling stories about Valentine Smith. Melody Webb, in "Yukon Frontiers: Historic Resource Study of the Proposed Yukon-Charley National River," Occasional Paper No. 8, Anthropology and Historic Preservation Cooperative Park Study Unit, University of Alaska, Fairbanks (1977) credits "Woodchopper Smith" with constructing the roadhouse at the mouth of Woodchopper Creek (pages 497-501).
[229] George McGregor to Frank Rossbach, July 25, 1933 (see page 52 for the full text of this letter).

station and a public use cabin. Thus, it is serving the public in the same way that it has for the last 60 years. Each year in February it also serves as a checkpoint and rest stop for mushers competing in the 1200 mile Yukon Quest International Sled Dog Race from Fairbanks to Dawson.

Most of Slaven's activities by the early 1930s focused on the lower part of Coal Creek and dealt mainly with his roadhouse. His earlier mining activities however were located on his claims approximately eight miles upstream where he had a cabin and several areas of "workings."

Slaven and his associates sold their claims to Gold Placers Inc. in 1934-35. The money he received in an annuity kept Slaven quite comfortable. Under the terms of the contract, he was paid an annual payment until a specified amount was reached at which point the claims were considered paid in full. By the late 1930s that amount was reached and the payments stopped. According to Glen Franklin, one day Slaven came to the office at Coal Creek and asked where the next payment was. Patty told him that he should read the terms of his contract. It very clearly spelled out how he would receive annual payments until the total reached the agreed upon figure. At that point, the claims became the property of Gold Placers Inc. (Unfortunately the exact figures are not available but the author was told it was "a substantial amount.") Apparently, this was sufficient to quell Slaven's concerns because he did not object.[230]

Frank Slaven decided to leave his roadhouse and the Yukon River in the late 1930s, perhaps shortly after finding out that the annual payments were no longer going to be coming. It is also possible that the years were simply catching up with him and health problems necessitated a change to a milder environment. After all, he was nearly 70 years old and the hard life in the interior of Alaska must have been taking its toll. Slaven left the Yukon, and like many sourdoughs, moved to Seattle, Washington were he had relatives.

It is uncertain just when Frank Slaven left the North Country and moved to Seattle. Although the most likely date would be during the late summer of 1938 before the Yukon froze stopping the steamboats from using it. One thing is for sure though; Miss Bissell went with him.[231]

Slaven and Bissell may have flown from Woodchopper to Fairbanks, from there taken the train to Seward where they purchased passage on a steamer headed south. It is also equally likely that they took a steamer on the Yukon River from the landing at Coal Creek. Obviously, there are only two directions from Coal Creek, either upstream or downstream. Had they traveled downstream they would go past the community of Circle (approximately 50 miles from Coal Creek), through the Yukon Flats where the river crosses the Arctic Circle before beginning its long southwesterly flow to the Bering Sea.

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[230] Glen Franklin, interview, January 8, 1999.

[231] According to USGS geologist J.B. Mertie's field notebook, Mertie discussed naming several geographical features with Slaven during a visit to Coal Creek in late August of 1938. Therefore, he could not have left the country prior to late summer of 1938.

At St. Michaels, they would catch an ocean going steamer for the trip through the Aleutian Islands, across the Gulf of Alaska and down the Inside Passage to Seattle.

Because of his connections to Dawson City, it is possible that Slaven and Miss Bissell took the steamer upstream to Dawson City and on to Whitehorse. There they could catch the White Pass & Yukon Route Railway for its trip over White Pass to Skagway. At Skagway, they booked passage through the Inside Passage on a steamer for Seattle. This route would allow Slaven to see the country through which he first passed when traveling north. Perhaps he knew at the time that he might never come back again.

In January 1939, Frank sought medical treatment in Seattle for what was eventually diagnosed as acute lymphatic (lymphocytic) leukemia. There is no evidence to show how long he may have had the disease but the doctor's notes indicate he had only had it for "a few weeks."[232]

Slaven crossed the Great Divide on October 12, 1942 less than one month from his 73rd birthday. His death certificate provides several small tidbits of information into his past, but not much.

At the time of his death Slaven is listed as a retired miner living at 1715 18th Ave. in Seattle (King County), Washington.[233] The individual reporting his death was a nephew by the name of Jack Slaven who lived at 1815 Federal Ave. also in Seattle.

Two days later, his funeral notice appears in a small, one paragraph notice in the *Seattle Post-Intelligencer*. It reads:

> SLAVEN -- October 12, FRANK SLAVEN, formerly of Coal Creek, Alaska, uncle of Jack Slaven and Mary E. Bissell; great-uncle of Edward and Irma Jean Slaven. Member F.O.E."[234]

One thing the funeral notice does however is clear up one of the mysteries. It lists Mary E. Bissell, the famous "Miss Bissell" from his days on the Yukon, as his niece.

Slaven's funeral was held at the parlor of Bonney-Watson Co. in Seattle on October 15, 1942. The funeral home's files shed even more light on Frank Slaven's family.[235] Attached to the undertaker's records is a copy of an obituary labeled only with the date of October 14, 1942. Under the heading of FRANK SLAVEN, it reads:

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[232] Washington State Department of Health, Division of Vital Statistics, Certificate of Death No. 4074.
[233] The 1920 US Census lists Frank Slaven as a widower at the time. However, ten years earlier, in 1910, he appears as "single." At this point, no records have been found indicating when, or to whom Slaven was married.
[234] *Seattle Post-Intelligencer,* October 14, 1942, p. 22.
[235] The management and proprietors of the Bonney-Watson Funeral Home in Seattle, Washington graciously provided copies of their files associated with Frank Slaven.

Frank Slaven, 72 years old, retired mining man, who lived in Seattle when not mining at Coal Creek, Alaska, died Monday in a Seattle hospital. His residence was at 1715 18th Ave. He had retired five years ago. He was a member of the Fraternal Order of Eagles.

He is survived by a niece, Mary E. Bissell; a nephew, Jack Slaven; a grandnephew, Edward Slaven, and a grandniece, Irma Jean Slaven, all of Seattle.

Funeral Services will be held at 1 o'clock tomorrow in the Bonney-Watson Chapel. Cremation will follow.

Among the interesting facts contained in the records of his funeral is a list of individuals who sent flowers, along with a description of the arrangement each offered. In addition, the musical selections "Crossing the Bar" and "Now the Laborer's Task is Over" were played before Rev. McLaughlin officiated the service.

Researching an historical figure from a mining camp on the upper Yukon River is not an easy task. For the most part, Frank Slaven left very few records, primarily only his claim notices and assessment work declarations. Several people have been located that knew Slaven during the 1930s before he left the country and have provided some details. Among the records located in this research effort, most provide limited information, a name, a date, and a location. At this point, we have literally no information on Frank Slaven's family. Obviously he had to have come from somewhere -- the census and death certificate both identify the Canton, Ohio area.

It was a common practice during the various gold rushes to obtain powers-of-attorney (POA) from family and friends "Outside" (meaning those living in the lower 48). Although nothing in the mining laws of the time restrict an individual to only one claim on a creek, it appears from the records of the Circle District Recorder that local custom did restrict individuals to a single claim per creek. By having a POA, a prospector/miner could stake additional claims and remain within the spirit of the local customs and the law.

In Frank Slaven's case, twenty different individuals granted their power-of-attorney to him. Some of these are obvious partners in his mining ventures as is illustrated by the men from the *Dawson Daily News* who grubstaked him. Others may be other investors, friends from Dawson, or other people working the creeks who decided to throw their luck in with one another hoping for that next big strike.[236]

[236] Records for individuals granting power-of-attorney to Frank Slaven are recorded in "Power-of-Attorney, Circle Mining District, Books 1 and 2" and available on microfilm through the Bureau of Land Management in Fairbanks, Alaska.

Geographic Breakdown for POAs Granted to Frank Slaven

Location/Residence	Number of POAs	Percent
Dawson, Yukon Territory	11	55.0
Douglas, Arizona[237]	1	5.0
Fairbanks, Alaska	2	10.0
Santa Cruz, California[238]	5	25.0
Woodchopper, Alaska[239]	1	5.0
Total	20	100.0

Slaven staked claims for several Slaven family members from the Santa Cruz, California area. Among these are his step-mother Emma Slaven,[240] his nephew's wife Flora Slaven,[241] his nephew J.C. Slaven,[242] his brother John B. Slaven, and James Slaven. Frank also held claims in conjunction with his step-sister Jennie (Slaven) Greathouse also from Santa Cruz.

Although Slaven's obituary and funeral records identify Mary Bissell as his niece, the question still remains, was she his actually his niece? Was she possibly something more? According to Slaven's funeral records, Miss Bissell also lived at the same address in Seattle. In 1943, Mary Bissell established the "Frank Slaven Student Loan Fund" with a donation of $250.00 to the University of Alaska. She later added an additional $250.00 to the fund. There are several photos that show Mary Bissell with Frank Slaven at his roadhouse. These were taken in the late 1930s, probably just prior to their leaving Alaska. In them, she looks to be in her late 30s. The question has been posed, could Mary Bissell be the step-daughter who was the "idol and hope of her father"?

Unfortunately, following Slaven's death, Miss Bissell once again moves into the shadows of history. Only further research will prove what her relationship actually was to the small man who ran the roadhouse at the mouth of Coal Creek.

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[237] Jennie Greathouse granted her power-of-attorney to Slaven while living in Santa Cruz, California on August 16, 1935 ("Jennie Greathouse to Frank Slaven," Power-of-Attorney, Circle Mining District Recorder, Book 2, page 508) and again while she was living in Douglas, Arizona on September 3, 1935 ("Jennie Greathouse to Frank Slaven," Power-of-Attorney, Circle Mining District Recorder, Book 2, page 511).

[238] Those individuals from Santa Cruz granting Slaven power-of-attorney include three Slaven family members (Emma J., Flora, and J.C. Slaven) and two others (Jennie Greathouse and Maude A. Hohenshell).

[239] Although they lived at the mouth of Coal Creek, the document granting power-of-attorney from Mary E. Bissell to Frank Slaven was notarized at Woodchopper, Alaska the location of the nearest notary public.

[240] "Emma J. Slaven to Frank Slaven," Power-of-Attorney, Circle Mining District, Book 2 (1909-36), 507. Emma Slaven was Frank Slaven's step-mother.

[241] "Flora Slaven to Frank Slaven," Power-of-Attorney, Circle Mining District, Book 2 (1909-36), 571. Flora Slaven was J.C. Slaven's second wife.

[242] "J.C. Slaven to Frank Slaven," Power-of-Attorney, Circle Mining District, Book 2 (1909-36), 572. J.C. Slaven's full name was Joseph Clarence Slaven. (Sherrie Harrison to Doug Beckstead, personal communication, March 18, 2001.)

CONCLUSION

Those who staked claims on Coal Creek, Woodchopper Creek and the various tributaries draining into them represent a cross-section of people from the Klondike. Many of them came north during the great Klondike Gold Rush in 1898-99. Some of them were able to acquire workable claims from the outset. Some of them capitalized on business ventures and then moved on to mining claims. Others never really made it at all simply showing up on a single claim location notice and then fading off into historical obscurity. Some of those who found themselves on the creeks eventually gained prominence in Alaskan business and politics. Dan Callahan, who staked his claim adjoining to and in conjunction with, Daniel T. Noonan went on to serve in on the Fairbanks City Council for 9 terms from 1906-15. He served in the Alaskan Territorial Legislature in 1923.[243] All this with serving five years of a twelve-year sentence at the federal prison on McNeil Island for statutory rape from 1916 to 1921.[244]

Overall, the people on the creeks represented the movers and shakers not only of the Klondike, but also later in Fairbanks and Alaska Territory. They also included lowly clerks, porters and prostitutes who saw the opportunity to make their fortune. Some made it, some did not, and some we will never know about.

Boiler on Coal Creek with cordwood (1935). Gold Placers, Inc. used steam thawing for the first season or two of work on Coal Creek. After that, they pioneered the use of cold water thawing, thus saving a considerable amount of labor and money spent previously to cut cordwood and fire the boiler. The "scar" on the hill in the upper left of the photo is the end of the Coal Creek Ditch. This boiler is located near the machine shop and parts warehouse near the confluence of Cheese Creek and Coal Creek. Frank Slaven Collection, photo courtesy of Sherrie Harrison.

[243] Evangeline Atwood and Robert N. Dearmond, comps, *Who's Who in Alaskan Politics: A Biographical Dictionary of Alaskan Political Personalities, 1884-1974* (Portland, Oregon: Binford & Mort, 1977), 14.
[244] Lael Morgan, *Good Time Girls of the Alaska-Yukon Gold Rush* (Fairbanks, Alaska: Epicenter Press,

CHAPTER THREE
WHAT IS A DREDGE?

DREDGING THE CREEKS

Gold mining takes place in either of two generally characterized types of operation, lode and placer mining. Lode mining, often referred to as "hard rock mining," involves following a mineralized vein or an ore body by means of drifts, shafts and tunnels into the deep recesses of the earth. Placer mining, on the other hand, takes place on the surface. Placer deposits result from mineralized areas (veins, ore bodies, etc.) having been eroded and transported by water or other natural action from their original location to areas conducive to concentrating the minerals. In the case of gold, water action transports the gold to areas where the heavier particles settle and accumulate in natural riffles, cracks and holes. Getting at the gold involves a process of separating it from the surrounding sand and gravel, and disposing of the waste material, called tailings. Separating the gold is easily accomplished using a gold pan, a sluice box (designed to imitate the natural processes of a stream), or a rocker, essentially a "sluice-on-a-cradle." [1]

There is a direct correlation between the amount of gravel a miner can process to the amount of gold recovered and thus the profit derived from the placer deposit. The more gravel that is processed, the more gold and higher the potential profit. It is said often, a single miner, working a claim by hand could process approximately one cubic yard (twenty-seven cubic feet) of material each day. By using a sluice box, rocker, or other similar small-scale mechanical equipment, the quantity increases accordingly. To move substantial amounts of gravel it takes something capable of taking huge bites, repeatedly, day in and day out, especially given the short working season in Alaska. Dredges fit that bill.

Measured in terms of the quantity each bucket holds, dredges used in Alaska range from small one and a half cubic feet to upwards of fourteen cubic feet. Many of those working the gold fields in the Klondike had buckets capable of digging sixteen cubic feet, and more. Even a small one and a half cubic foot dredge with fifty buckets was capable of digging almost three times the amount that the solitary miner could, with each rotation of the bucket chain! Moving five hundred yards of gravel a day was not out of the question with a small dredge.

In order for dredges to be effective, a great deal of money had to be spent up front with prospecting and testing the ground to determine the location, size, and basic orientation

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[1] A sluice box consists of a wooden flume with riffles across its bottom. Gravel and other gold bearing material is shoveled into the raised end of the sluice box and the action of water flowing over the riffles serves to separate the heavier gold from the lighter waste material. A rocker is a sluice box attached to rockers on either end, similar to a baby cradle. The miner "rocks" the device back and forth adding a horizontal component to the action of the water.

of the gold. Often extensive drilling programs were undertaken to determine where the greatest concentrations of gold accumulated. Depending on their configuration (length of the digging ladder and number of buckets) dredges could be used to great depths. However, they were often not effective if the gold was less than two feet deep due to the angle of the digging ladder in relation to the face of the cut. In other words, the gravel would not stay in the buckets long enough to rise to the hopper leading to the screen.

Often when faced with a dredge of limited digging depth, an operator lowered the water level in the dredge pond, thus lowering the dredge. This practice had the potential to create its own problems. By lowering the water level, the digging face was raised an equal distance. This in turn created situations where the digging ladder would undercut the bank causing dirt, gravel and rocks to fall into the pond. At times, the ground would cave and build up under the lower tumbler. This in turn could cause the bucket line to ride off the tumbler; similar to the way a bicycle chain can ride off its sprockets.[2] One solution, if the higher ground was barren of gold, was for the operator to shut off the water to the screen running it dry. This allowed the bulk of the material to pass through the dredge onto the stacker and out onto the tailings beyond. It was far better to have it behind the dredge crowding it forward than under the ladder.[3]

The largest Alaskan dredges were on the Seward Peninsula and around Fairbanks. Smaller dredges such as those at Coal Creek and Woodchopper Creek were capable of handling between three and five cubic feet in each bucket.[4] Dredges mark the apex of placer operations in Alaska mining history.[5]

Early attempts at dredging appeared on the Alaska scene during the Nome rush at the turn of the century. All manner of "jackass machinery" were developed for working the beaches and benches around Nome.[6] Many of these contraptions were destined to die as wrecks living only in humorous tales. Fortunately, photographs survive illustrating the

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[2] Some persons have suggested that in order to increase a dredge's digging capacity, adding extra buckets to the bucket chain would accomplish this. This would in fact create a larger "loop" at the bottom of the line, however it would also increase the likelihood of the chain rolling off the tumbler. Like a bicycle chain, there is normally some slack in a dredge's bucket line, too little and it causes excess wear on the components, too much and it will tend to roll off the lower tumbler. Dale Patty, personal communication, June 25, 1998.

[3] Melody Webb, *Yukon: The Last Frontier* (Lincoln: University of Nebraska Press, 1993), 278. Dale Patty, personal communication, June 25, 1998.

[4] The Coal Creek and Woodchopper Creek dredges are essentially twins. The buckets on both dredges are capable of digging four cubic feet. The major differences between the two consisted of some minor modifications to the pumps and mechanical machinery and the Woodchopper Creek dredge has a longer digging ladder to enable it to reach bedrock. The stacker is ten feet longer at Woodchopper Creek.

[5] For the purposes of this study, mining operations such as the Fort Knox project, north of Fairbanks, where placers are being worked with strip mining techniques using huge bulldozers to move material, are an exception to a discussion on Alaska placer mining. In the case of Fort Knox, the project represents the only instance of placer mining on such a grand scale. Only with modern techniques of capturing even the minutest amounts of flour gold is a project like Fort Knox viable. These techniques were not available to operators during the period before, or during the golden age of dredging.

[6] Clark C. Spence, *The Northern Gold Fleet: Twentieth-Century Gold Dredging in Alaska* (Urbana: University of Illinois Press, 1996), 13.

variety and ingenuity of mining equipment that would have made even Rube Goldberg smile.[7]

Gold dredges are an impressive piece of mining equipment. Contemporary descriptions range from looking "rather like a river steamer with a penthouse on top," to a description of one as a "large scow with heavy machinery and housing on it, and closes up behind as it edges slowly along a creek bottom – like some prehistoric monster reaching out its long neck of chain-and-buckets, rooting in the earth with its metal snout, and drawing in enormous daily meals of golden gravels." [8] They continue to conjure up images of prehistoric creatures lying solitary, abandoned and rusting on the tundra or in creek beds surrounded by the evidence of an insatiable appetite for gold.

Descriptors of dredges are colorful in their own right. Often called ugly, spectacular, and awesome, these machines might cost half a million dollars apiece rivaling ocean going freighters in size. Tirelessly they clanked relentlessly along, floating in their own dirty pools, tearing pay dirt from bedrock twenty or even a hundred feet below the surface. From these 'metal mastodons' came a 'tremendous air-shaking medley of sounds' – ' the crunching, groaning, roaring, grinding, clattering of stones' falling on metal screens and then onto gold saving tables. Around the clock they worked, their main concern the cubic yards of gravel dug and dollars of values extracted."[9]

Even with the corollaries drawn with monstrous animals gobbling up huge amounts of real estate, there was something romantic about the gold dredge. Terms like the "Modern Gold Ship" and "Flagships of the Gold Fleet" caught the public imagination. Popular writers saw the dredge as "the combined perfection of all the primitive ideas and methods and the realization of the dreams of the early miners." The dredge was a marvelous invention. Able to do the work of an army of men and to make a profit where none existed before. It "could mull through as much gravel in a day as a thousand prospectors with their primitive methods, and wind up the day without a backache." Because of this new miracle, a distinguished monetary expert noted in 1903, the world would "not only be saturated with gold, but it would be nauseated with it."[10]

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[7] Rube Goldberg was a Pulitzer Prize winning cartoonist and political satirist from 1915 through the 1950s. Among some of his best known works are his complex machines designed to accomplish simple every day tasks. He drew his "inventions" as contraptions satirizing new technology and gadgets. His drawings, using simple machines and household items already in use, were incredibly complex and wacky, but somehow (perhaps because Goldberg was an engineer by training) always had an ingenious, logical progression to accomplishing the task at hand. (See: www.rube-goldberg.com/about.htm)

[8] Clark C. Spence, *The Northern Gold Fleet: Twentieth-Century Gold Dredging in Alaska* (Urbana: University of Illinois Press, 1996), 8-9. See also: Harry A. Franck, *The Lure of Alaska* (New York: Frederick A. Stokes Co., 1939), 12; Marry Lee Davis, *Uncle Sam's Attic: the Intimate Story of Alaska* (Boston: W.A. Wilde co., 1930), 138.

[9] "Flagships of the Gold Fleet," Popular *Mechanics,* 69 (May 1938), 730, 732; description of the "metal mastodons" is from R. H. Dunn, "Eight-cent Gold-Digger Earns Millions," *Popular Mechanics,* 49 (Jan. 1928), 75-76.

[10] George E. Walsh, "Modern Gold Ship," Scientific *American Supplement,* 64 (July 6, 1907), 3-4; "Flagships of the Gold Fleet," 730; Nome Gold Dredging and Power company, *The Gold Ship* (New York, c. 1907), 5. Quotations in this paragraph are from Anna Morrison Reid, "The Gold Dredging Era," *Overland Monthly,* 39 (June, 1902), 992; Thames Williamson, *Far North Country* (New York: Duell, Sloan

Unlike miners working their individual claims, dredges operated continuously, seven days a week, for the entire season. In actuality, this averaged roughly 23 hours a day. Crews used the additional hour for oiling and greasing the parts that "could only be reached when the dredge is idle" and for moving the dredge forward in the dredge pond.[11]

WHAT IS A DREDGE?

A dredge combines the four basic principles of mining: digging, classifying materials, gold saving, and disposing of waste materials or tailings. A generic description explains it as:

> … a combined excavating and concentrating plant [looking] like an animated houseboat. An endless chain of mammoth steel buckets – a hundred or more, each weighing more than a ton – digs the gravel and delivers it to the upper end of a revolving screen through which the gold laden gravel passes to tables or riffles. The oversize gravel is discharged onto an inclined belt-conveyor called the *stacker*, which carries it to the tailings pile.[12]

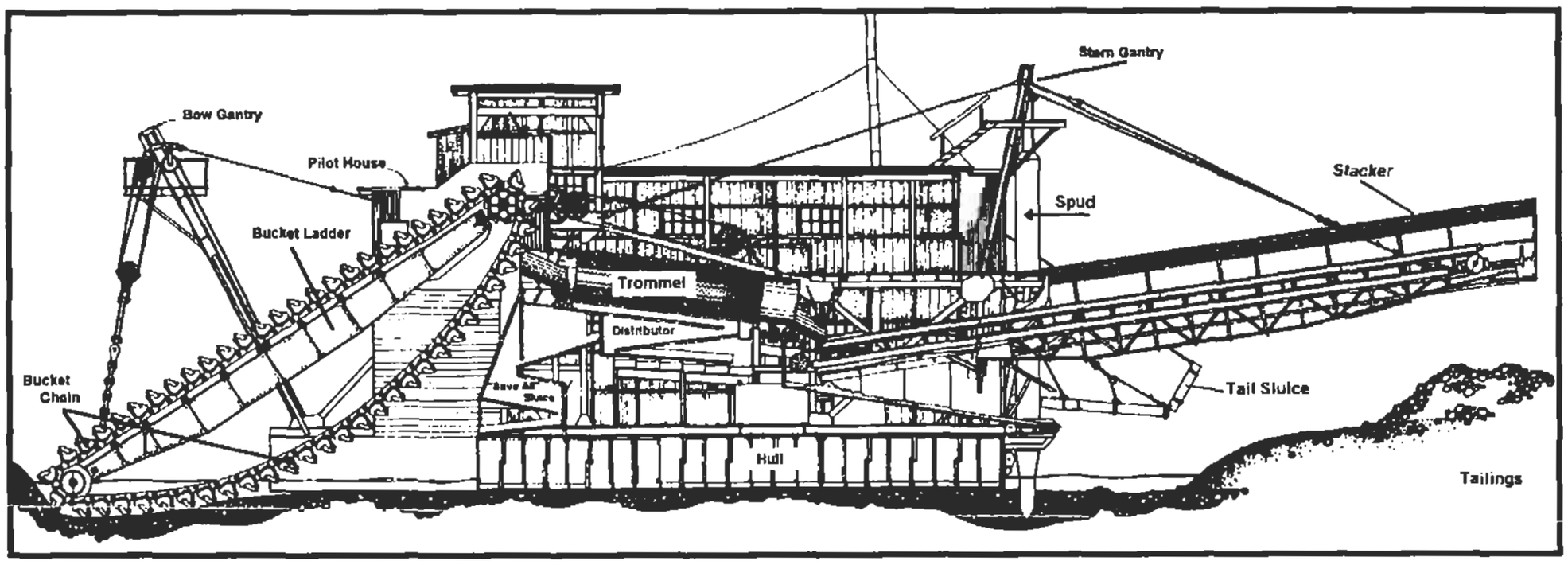

Figure 1: Coal Creek Dredge (Historic American Engineering Record (HAER) Drawing – National Park Service)

Dredges fall into four basic types: (1) flume; (2) screen and flume; (3) combination; and (4) stacker. Each works by means of an endless chain of buckets, linked one behind the other, rotating around a digging ladder that is capable of being raised and lowered as

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and Pearce, 1944) 89; and Alexander Del Mar, quoted in Franklin R. Carpenter, in *Report of the Director of the Mint, 1904, House Document* No. 19, 59 Cong., 1 Sess. (1905-6) 52, in that order.

[11] Ernest Patty, "Gold Placers Inc. Annual Report, 1942," 6.

[12] Merle Colby, *A Guide to Alaska, Last American Frontier* (New York: Macmillan Co., 1939), 308-9. Humphreys, Jr., MSS Box 45, Colorado Historical Society, Denver.

necessary.[13] The modern equivalent in principle although not in use, and on a much, much smaller scale, is the trenching machine known as a *Ditch Witch*©. In both cases a series of buckets (or shovels) move in an endless chain around a solid arm, constantly bringing more and more material up the chain as it moves forward into new ground.

FLUME/SLUICE DREDGE

On a flume dredge, the buckets dump directly onto the head of a long sluice running down the axis of the boat. Essentially providing a mechanical means to bring large quantities of gravels from in front of the dredge and run it through a sluice. It dumps far enough astern to avoid interfering with its operation and to keep the dredge afloat. Flume dredges are only useful in shallow ground with material that is both small in size and easily washed. Their biggest benefit came in working narrow, rich, wet paystreaks.

In most cases, flume dredges were small, with buckets ranging from one and a half to three cubic foot. According to Charles Herbert, this type of dredge was capable of processing no more than 500 cubic yards of material daily. Their small size often meant low cost, which allowed operators to get into the dredging business with less capital than that required for larger operations.[14]

SCREEN[15] AND FLUME DREDGE

With a screen and flume dredge, the buckets deliver the gravel into the head of a revolving screen that separates the larger gravel from the smaller material and sends it off the stern by means of a chute. In some cases, rather than using a revolving, tumbler-type of a screen, dredges used a flat, table-like screen (called a "shaker" or "shaker deck"). The purpose here was to break up the larger pieces of dirt and classify materials allowing the finer particles to pass through the sluice for gravity concentration. Advantages of this type of dredge include: the ability to work ground with larger gravels and boulders; and the revolving screen to help wash the gravels, separating the sticky mud, etc. from it before sending it down the sluices. The chief disadvantages of the screen flume dredge

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[13] Charles Francis Herbert, "Gold Dredging in Alaska," (Bachelor of Science Thesis, Alaska Agricultural College and School of Mines, 1934), 6. Chuck Herbert was one of Ernest Patty's students who went on to work at Coal Creek and Woodchopper. He oversaw the drilling crews on Woodchopper and the upper Charley River during the first several years Alluvial Golds Inc. and Gold Placers Inc. were operating. From here, he went on to work for the Fairbanks Exploration (FE) Company, and eventually owned several of his own dredges in the Fortymile country. (Chuck Herbert, interview in Anchorage, Alaska, July 28, 1998).

[14] Herbert, 6-7.

[15] Most dredges have a large, round cylinder inside them that rotates, tumbling the gravel, sand and dirt as water sprays onto it. These cylinders have perforations/holes along their sides, similar to a washing machine tub. These tumblers are either "screens" or "trommels" depending on who one talks with. For the most part, "Trommels" are associated with stationary placer mining where the pay dirt is brought to the processing point, "screens" are associated with dredging where the processing plant is moved from place to place on the dredge.

are that it is limited to only digging shallow ground. According to Charles Janin, "it is difficult to keep the flume open in cold weather without the mechanism being enclosed as is the case on the table stacker dredges."[16]

There were several dredges of this type working in Alaska in the early 1930s. One, on Cache Creek in the Yentna district, had six and a half-foot buckets and operated by hydroelectric power.

COMBINATION DREDGE

The third type of dredge, the combination dredge, combines the revolving screen with a mechanical stacker (basically a conveyor belt) to remove the coarse material well astern of the boat. The smaller gold bearing gravels pass through the screen, fall onto a wide riffled sluice that discharges onto additional sluices connecting to two long flumes on either side of the hull.

Although this dredge design is both light and inexpensive, it was recommended for use only in shallow ground and because of the nature of the sluices. It had the same inherent problems of both the sluice dredge, and the screen and sluice dredge. It could only operate during mild weather to prevent the flumes from icing over. According to Herbert, there were few of this type of dredge in Alaska because of the short seasons.[17]

TABLE STACKER DREDGE

The table stacker type of dredge is the most familiar to people living around or visiting the gold fields. By far the majority of the large dredges built for Alaskan operations represent this type.

In this case, the bucket line delivers the material to a hopper at the head of a revolving screen. As it passes through the screen, the smaller materials fall through a series of holes – smaller holes are located toward the head and larger toward the tail of the screen. The material too large to fall through moves off the stern by means of a mechanical stacker/conveyor as in the combination dredge. The material that continues through the dredge falls onto one or more banks of riffled sluices called tables. From there, it passes down each side into additional sluices. Then the fine material (gravel and sand) washes off the stern by means of short tailings chutes. In the case of this type of dredge, the flumes do not freeze up as readily as the others do. The stacker removes the bulk of the

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[16] Charles Janin, "Gold Dredging in the United States," US Bureau of Mines Bulletin No. 127. Cold weather was always the nemesis of dredging. Once temperatures dropped the dredge pond and everything on the dredge began icing over. Dale Patty tells of an experiment involving the Consolidated (Canadian) dredges in the Yukon where one dredge ran over the winter. Although they succeeded in operating for the entire winter, it was the last time any company attempted to do so. (Dale Patty, personal communication, June 25, 1998).

[17] Herbert, 8.

waste material. The flumes are shorter and housed almost entirely within the dredge housing itself.

Like much of the mining industry in general, technological advances were few until very late in the twentieth century. Most advances in dredging came principally in the use of alloy metals, incorporating electrical equipment into their operation, and advances in the design of the bucket line. The basics remained constant throughout the dredge era. Material was scooped out of the ground, processed through the screen and sluices, then removed and dropped behind the dredge with the finer gravels processed through a system of sluices to recover the gold.

Several overlying principles govern dredging in Alaska. First, economics. Manufacturers in the Lower 48, constructed the new dredges, shipped them to Alaska in pieces then assembled them on-site. Shipping costs often accounted for two-thirds of the final cost of the dredge. Replacement parts likewise were expensive to ship north.

Second, was the nature of the ground being dug. In loose ground, dredges used a large bucket. If there was a possibility of encountering hard packed, frozen or ground consisting primarily of boulders and other large gravels, a smaller bucket was more efficient. The economics of scale enter the picture of dredging again. A larger bucket was by its nature capable of putting larger quantities of material through the process, but if a large bucket were coming up only partly full because of ground conditions, a smaller dredge would actually be more economical.

According to Herbert, "very small buckets were favored for most Alaskan dredges but this is probably caused by lack of capital." Several dredges on the Seward Peninsula used nine-foot buckets quite satisfactorily. The Fairbanks Exploration Company (F.E. Company) had two - ten foot dredges and three - six foot dredges in its fleet and which set new records in Alaskan dredging. By contrast, in the Yukon Territory there were a number of dredges operating each with buckets capable of handling fifteen or more cubic feet. Without going into too much detail, Herbert theorizes that it is "doubtful if [the Canadians'] yardage records are much better than those of the ten-foot dredges at Fairbanks."[18]

BUCKET CHAIN

Bucket chains are described as either open- or close-connected. In an open bucket chain, a link is placed between each bucket. Because of its nature (see Figures 7 and 8 below), a close- connected bucket chain has twice as many buckets. The advantage of open chains is that in the event a large boulder is lifted by the chain, there is less likelihood that it will catch between two buckets breaking either one or the pin between buckets, and thus the chain itself. This in turn meant shutting down the dredge while making repairs. Again, keeping the dredge running, at full capacity, meant more material was processed and

[18] Herbert, 9.

more gold recovered. On the other hand, a close-connected chain meant allowed processing twice the amount of gravel through the dredge each day.

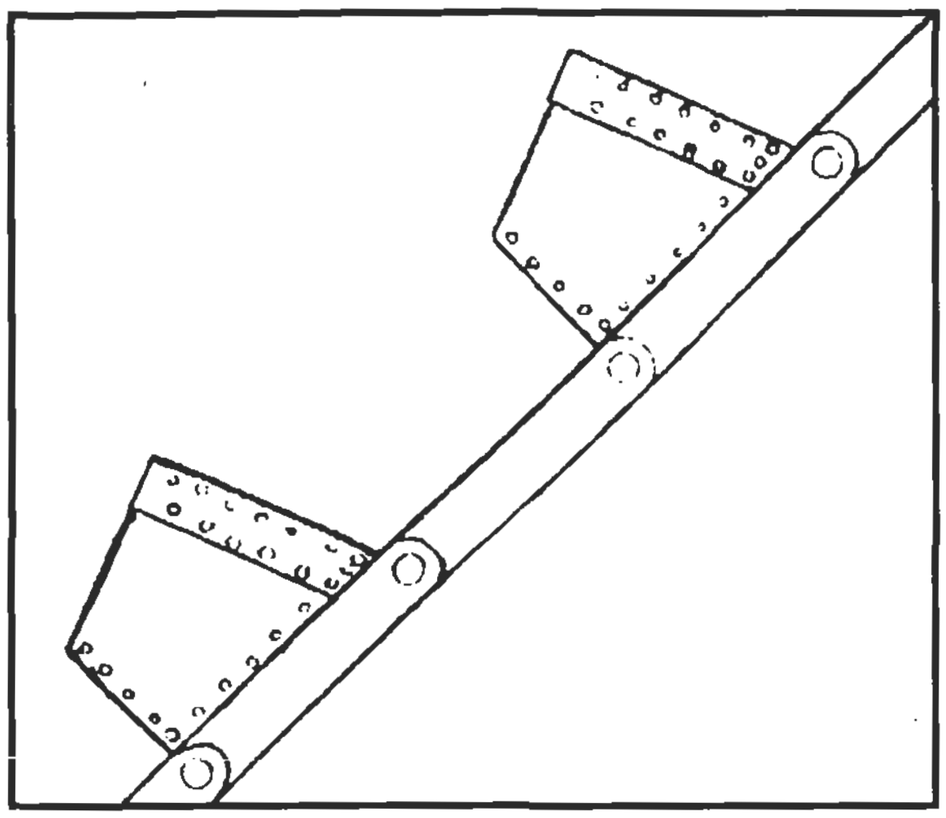

Figure 2: Open-Connected Buckets

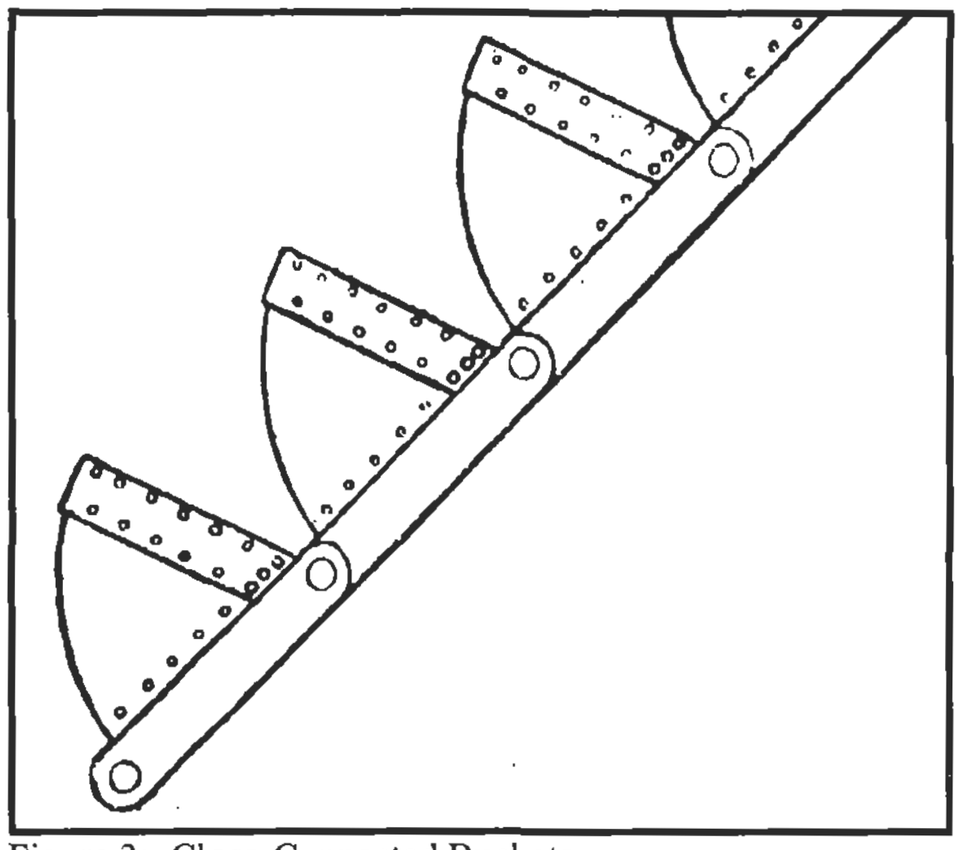

Figure 3: Close-Connected Buckets

Buckets themselves consist of two parts, the bucket – cast of solid manganese steel and the cutting edge, called the "lip" which is often a separate piece either riveted or welded to the bucket. The nature of the ground determines the height of the bucket lip. A dredge uses a low lip when working a "high" bank, where the material extended well above the level of the dredge pond. This prevented the bucket from cutting more than it could carry ("biting off more than it could chew") when the digging ladder was almost horizontal. Material that fell over the bucket would be lost to the bottom of the pond. When working a "low" bank, or if the bank caves easily, dredges switch to a higher lip to keep the material in the bucket. Like the buckets themselves, the lips were made of manganese steel. Where ground was easy to dig, they tended to last a long time. However, when encountering frozen ground, the lips wore out rapidly. The U.S. Smelting Refining and Mining Company (USSR&MC) at Fairbanks reported normally getting a single season out of a set of lips.[19] The bucket lips on the dredges at Coal Creek and Woodchopper Creeks tended to last only slightly longer than on those dredges working around Fairbanks. In the cases of these two dredges, the company replaced the bucket lips after approximately 200 days of digging, or every other season.[20] By 1947, both companies were re-placing the bucket lips as part of their annual maintenance at the beginning of each season.[21]

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[19] Herbert, 11.

[20] The Coal Creek dredge operated for 80 days during 1936 and 124 ½ days in 1937. The crew replaced the bucket lips before beginning the 1938 season. The Woodchopper dredge went into production in 1937. The crew replaced these bucket lips for the first time before starting the 1939 season. This means that unlike the F.E. Company dredges, the lips lasted for approximately 200 days or 20% as long. The reason for such a marked difference is unclear at this point. Data is derived from "Gold Placers, Inc., Operating Reports," (1936 and 1938) and "Alluvial Golds, Inc., Operating Reports," (1937 and 1939).

[21] Patty, "Gold Placers Incorporated, Operating Report, 1947," 1 and Patty, "Gold Placers Inc., Operating Report, 1950," 2.

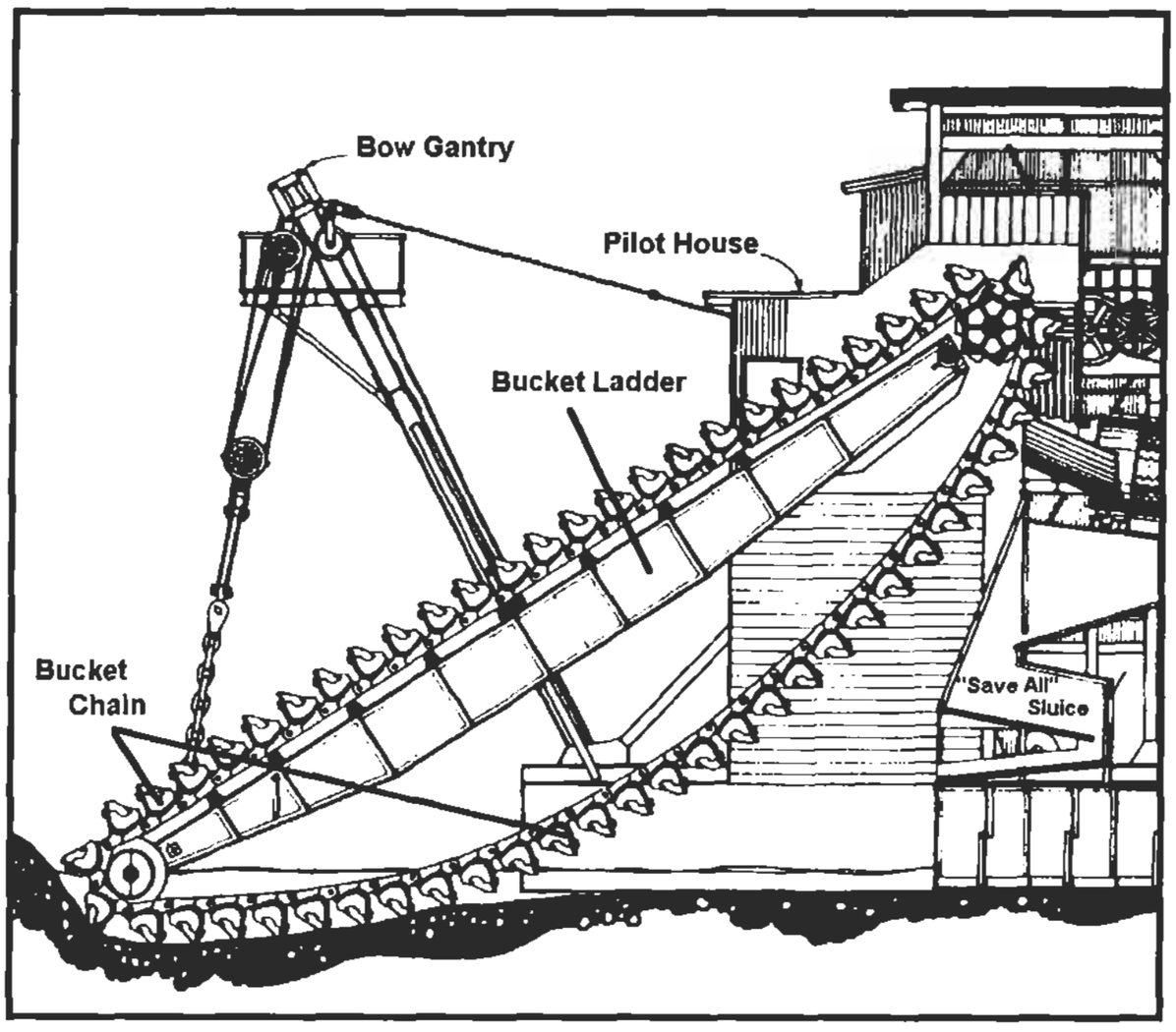

Figure 4: Coal Creek Dredge, Bow and Digging Ladder

Using replaceable lips extended the life of a bucket somewhat. The F.E. Company found that most of their buckets lasted only about four seasons, roughly 1000 dredging days. Although the bucket lips wore out because of the constant grinding and digging action, the areas most prone to failure were the eyes where the pins connect the buckets. In some cases, patches could be welded in place, but experience proved that by the time patches were used, the bucket was generally in poor condition overall and required replacement soon after.[22]

The ground at Coal and Woodchopper Creeks consisted mainly of well-thawed gravels ranging from small to less than a foot in diameter. Specifications for these dredges call for replaceable, moderate sized lips, nine inches wide with a cutting edge one and one-quarter inches thick. Rivets attach the lips to the buckets.[23]

During the 1930s and 40s at Coal Creek and Woodchopper, the dredge buckets differed slightly from those used on other dredges throughout Alaska and the Yukon. In the case of Gold Placers Inc. and Alluvial Golds Inc., the lips on their buckets not only extended up from the top of the bucket but also comprised approximately one-third of the bucket sides as well. Each spring new lips were riveted onto the bucket chain and the old ones thrown away. As financial conditions worsened following World War II, the companies attempted to weld material onto the old lips thereby extending their life as far as possible. About the same time, one manufacturer developed a new design using a lip that fit into a

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[22] Herbert, 10.

[23] "Specifications for 4 Cubic Foot Dredge to Dig 14 Feet Below Water Level, Diesel Driven for General A.C. McRae of Vancouver, B.C.," Walter W. Johnson Company, San Francisco, California, Specification No. 43, Dated April 1935, pg. 5. Janin MSS collection. Hereafter: "Specifications, Coal Creek Dredge," with appropriate page numbers.

groove on the bucket securing it with two bolts. This idea worked for several years as the new design consisted of less metal and was easier to put on and take off. Eventually the company realized that much of the lip was still wasted and thrown away when replacing them.[24]

The dredges at Coal Creek and Woodchopper fell into the same maintenance schedule for replacing bucket lips, approximately once per season depending on the condition and type of bedrock they worked the preceding year. In 1950 or '51, the company contracted with the AMSCO Foundry in Portland, Oregon to manufacture fillets that were welded to the bucket lips. These increased the capacity of each bucket from four feet to roughly four and a half cubic feet. Each season, welding the new fillets onto the old lips and repairing pins, rollers and bucket eyes kept one welder occupied for almost the entire summer. This also aided in lowering the maintenance costs associated with re-lipping every season.[25] By this time in the history of the companies, saving any little bit on maintenance and replacement parts meant quite literally the difference between operating for another season or not.

The pins connecting the buckets had to withstand tremendous stresses and strains. Commonly made of nickel-chrome steel, the dredge at Coal Creek has pins measuring three and one-half inches in diameter.[26] The company attempted to make pins last longer, including welding additional metal to them and machining them to size. Originally, this proved less than optimal. Later, the introduction of new alloys allowed the machine shop at Coal Creek to weld successfully the bucket pins.

Successful dredge companies, like Gold Placers Inc. and Alluvial Golds Inc., had a substantial investment in spare parts for making necessary repairs. Downtime, waiting for new parts shipments from the Lower 48 or for the machine shop to repair broken parts meant a decline in an already meager profit margin. When it came to buckets and bucket pins, the Coal Creek and Woodchopper dredges had a supply that covered both dredges (one chain each) with a spare bucket to feed into the line if needed. As buckets wore, welding patches to the bottoms and sides extended their life as much as possible. In the case of buckets, an operator only purchased what was absolutely necessary.[27]

DIGGING LADDER

The bucket chain moves in a continuous chain around a "plate girder-type" arm called the digging ladder, in much the same manner as a bicycle chain. In the case of the Coal Creek boat, the ladder is made from steel plates ranging from one-quarter to one-half inch thick and bolted together. The key to the strength of the digging ladder lies in its interior bracing.[28] The gravels at Coal Creek required a ladder capable of digging to a depth of

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[24] Dale Patty, personal communication, June 25, 1998.
[25] Dale Patty, personal communication, June 25, 1998.
[26] "Specifications, Coal Creek Dredge, pg. 5.
[27] Dale Patty, personal communication, June 25, 1998.
[28] Dale Patty, personal communication, June 25, 1998.

14 feet when digging at a 45° angle. Because there was a possibility that the gravels may go deeper in places, the Walter W. Johnson company made provisions to enable extending the ladder to dig to a depth of twenty feet. The bucket chain rides along the top of the ladder on a series of nine-inch diameter steel roller bearings. To support the tremendous weight of the loaded buckets, the rollers turn on shafts nearly three inches in diameter. The lower end has a soft cast iron bearing while cast steel hanger bearings support the upper end. The upper bearing had to be considerably stronger because it was supporting the entire weight of the digging ladder in addition to that of the loaded bucket chain.[29]

SCREEN

As the buckets cycle over the digging ladder, they empty into a hopper[30] at the head of a large, revolving screen (similar to a clothes washing machine tub), sometimes called a "trommel." A series of perforated plates made of high carbon or manganese steel make up the trommel. An early variation on the screen consisted of a shaking table, but since the purpose behind the screen is to break up as many lumps of material as possible, the revolving screen proved more suitable. High-pressure nozzles placed at the head of the screen and along its axis spray water onto the material passing through. This water also assists in moving the smaller material over the gold saving sluices.

In observing a working dredge, or modern sluicing equipment, one would be surprised at the quantity of water and the force spraying onto the alluvial material passing through the screen. The water jets are placed far enough back inside the screen so they do not blow the dirt back up into the hopper and thus prevent it from passing through the screen. Dale Patty commented that, "as a kid I always felt there was too much water and the gold would go out the back end."[31] Conversely if there is not enough water, the gold will not separate from the waste material and go out the stacker onto the tailings. As it turns out, moving too much water through the dredge only affects the water quality not recovery. On the other hand, moving the water through the dredge too fast does have a negative affect on gold recovery.[32]

On many dredges, the holes in the screen increase in diameter toward the stern generally from 3/8 of an inch to 1 1/2 inches in the lower sections. In some cases, a grizzly[33] is

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[29] "Specifications, Coal Creek Dredge," pp. 5- 6.

[30] Due to the intense pounding from the rocks discharging from the buckets into the hopper, the hoppers on both Coal Creek and Woodchopper Creek dredges were re-enforced with one and one-half inch thick manganese steel bars in the bottom. "Specifications, Coal Creek Dredge," pg. 8.

[31] Dale Patty, personal communication, June 25, 1998.

[32] Jim Hallaron, placer geologist with the National Park Service, Alaska Region. Personal communication, n.d.

[33] A grizzly consists of parallel bars, often angle iron with the apex pointing toward the top, running parallel with the axis of the dredge. Their purpose is to stop large rocks, branches, or in the case of many areas worked by Alaskan dredges, mammoth and mastodon tusks and bones from going through the dredge workings. In the case of the Coal Creek dredge, the grizzly at the top of the screen, above the hopper, proved to be the source of many problems until the crew fabricated a new design on-site.

placed at the lower end of the screen. This permits the smaller material that may have passed through the screen to fall into a small "nugget sluice." This catches any nuggets too large to go through the holes in the screen.[34]

Because of the physical nature of the gold at Coal Creek and Woodchopper -- the gold consisted of small, fine nuggets that readily passed through the holes in the screen, during most years the nugget sluice was not needed. Except during the 1954 season when the Coal Creek dredge worked an area unusually rich in nuggets larger than the holes. At the Board of Directors meeting that year, Dale Patty, mine manager and vice president of the companies, took a cigar box full of large nuggets to the meeting intending to give them to the directors as a "gift" from the mine. Much to his surprise, Ernest B. Bull,[35] the chairman of the board recommended, and the board unanimously concurred, to give the box of nuggets to Dale as a thank you bonus for the good work he did running and overseeing the operations.[36]

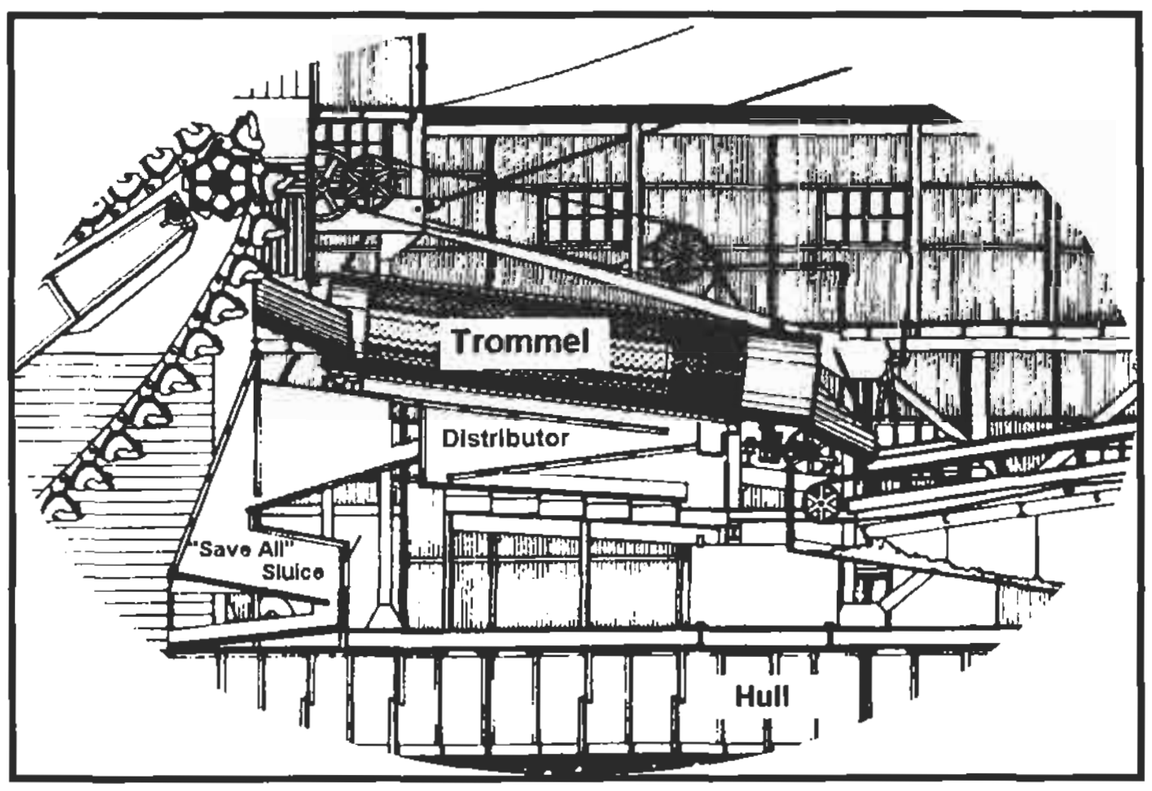

Figure 5: Coal Creek Dredge, Screen, "Save All" Sluice and Distributor

The screens on the Coal Creek and Woodchopper Creek dredges are 60 inches in diameter (5 feet) and 20 feet long. Shell plates and bearing surfaces on each end add an additional 6 1/2 feet overall. There are five sets of plates, each four-feet long that make up the barrel-like screen. The screen perforations are uniform in the upper 4 sections. Measuring 3/8 of an inch diameter on the inside, tapering outward to 1/2 inch on the outer surface to prevent gravel and other material from jamming in the holes. All of the holes in the screens are spaced uniformly making each panel interchangeable.[37]

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[34] Herbert, 13.
[35] General A.D. McRae chaired the board of directors from 1935 to 1946 when, upon McRae's death, Bull occupied the chair. Dale Patty, personal communication, September 24, 1999.
[36] Dale Patty, interview at Coal Creek, July 19, 1998.
[37] "Specifications, Coal Creek Dredge," pg. 9.

SLUICES

As the alluvial gravels traveled down the screen, the smaller particles of sand, dirt, and of course gold, would fall through the holes in the screen and land on the sluices below. On dredges like those at Coal Creek and Woodchopper, there are a number of different sluices, each serving a different purpose, and each accounting for a different percentage of the gold captured.

The *upper screen sluice* is located directly below the screen and at the same angle (from bow to stern) as the screen. This accounted for approximately 70% of the recovered gold. The *lower screen sluice* runs toward the bow with a slope opposite to that of the screen. It captured approximately 20-22% of the gold. These two sluices were the only ones to which mercury was added to form an amalgam with the free gold.[38]

Figure 7: Riffles showing the wear occurring on the corner of the angle iron from the constant pounding of gravel and sand. The water flows in the direction indicated. NPS photo, Douglas Beckstead, July 2001.

Figure 8: Nugget sluice with wooden "Hungarian" riffles in place. The water and material flows from the top left to lower right of this photo. NPS photo, Douglas Beckstead, July 2001.

The dredges that worked Coal Creek and Woodchopper Creek each have six *side sluices* running outboard from below the screen. These averaged between 6-8% of the gold recovery. As noted earlier, the *nugget sluice* was located immediately aft of the screen (at the junction between the screen and stacker) to catch any nuggets that might have been too big to fall through the holes in the screen. This prevented them from going up

[38] Gold, when exposed to mercury, forms an amalgam. Mercury acts, for lack of a better term, like a "gold magnet" capturing the fine gold as it falls over the riffles. This in turn increases the efficiency of the sluices. The amalgam is heated in a retort process to drive off the mercury in the form of mercury vapor that then distills for reuse.

the stacker belt and being dumped into the tailings. The *nugget sluice* and *save-all* accounted for approximately 2% of the total gold recovered. In the case of the dredges on Coal Creek and Woodchopper Creek, because the nugget sluice accounted for such a small portion of the recovered gold, it was cleaned up only once or twice a year.[39]

Originally the sluices had *riffles* made from 1 X 1½ inch wooden slats with thin sheet rubber nailed to the bottom to protect the top of the riffle from excessive wear due to the abrasive action of the sand and gravel flowing across it. This type of riffle is known as a "Hungarian riffle."[40] Later the company found that a new style of riffle, made from a grate of one-inch angle iron proved more efficient. In placing the new riffles in the sluice, the angle stands on one edge with one side vertical and the upper side horizontal, similar to the gallows in the child's game "Hangman." The water flows from the solid side over the riffle toward the open side where the natural hydraulics create an area of low pressure behind the angle giving the gold a chance to settle out.[41]

"SAVE ALL"

Although dredges were primarily collecting the coarse gold from placer deposits, crews made every effort to catch even the smallest amount of gold that might slip past the machinery. A device called the "Save All" sits below the upper end of the screen, below the upper bearing of the digging ladder. Its purpose is to catch the mud and small material that was still clinging to the buckets after they had emptied into the hopper. The collecting pan and grizzly extended as far forward as the sag in the bucket chain would allow. Because the digging ladder moved up and down, thus varying the angle and the sag in the bucket chain, the save all is adjustable by means of a series of holes and pins.[42]

STACKER

Waste material (gravel, etc.) passed down the the screen, and over the nugget sluice where it drops onto the stacker. The stacker is a conveyor belt suspended below the screen chute and from the stern gantry. It is used to deposit the tailings well astern (behind) the dredge. The side-to-side action of the dredge as it digs is duplicated at the end of the stacker. As a result, the tailings are deposited in a crescent shape. It is easy to tell the direction the dredge was moving by examining the points of the crescents which point in the direction of travel.

In order to keep the stacker belt from freezing, steam pipes from a boiler on board the dredge often ran its length. Tailings moved along the stacker on the Coal Creek and Woodchopper Creek dredges on a thirty-inch wide conveyor belt riding over idler

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[39] Dale Patty, interview at Coal Creek, July 19, 1998.
[40] Ernest N. Patty to Charles B. Ulrich Sr., letter dated March 30, 1944. Located in the Patty Collection.
[41] Dale Patty, interview at Coal Creek, July 19, 1998.
[42] "Specifications, Coal Creek Dredge," pg. 11. Also, Ira B. Joralemon to Ernest Patty, letter dated September 16, 1936, Joralemon MSS.

bearings spaced every four feet. Corrugated steel roofing, extending four inches over each side with canvas sidewalls protect the stacker and tailings from cold weather. This allow a stacker dredge to work longer seasons than flume-type dredges.[43]

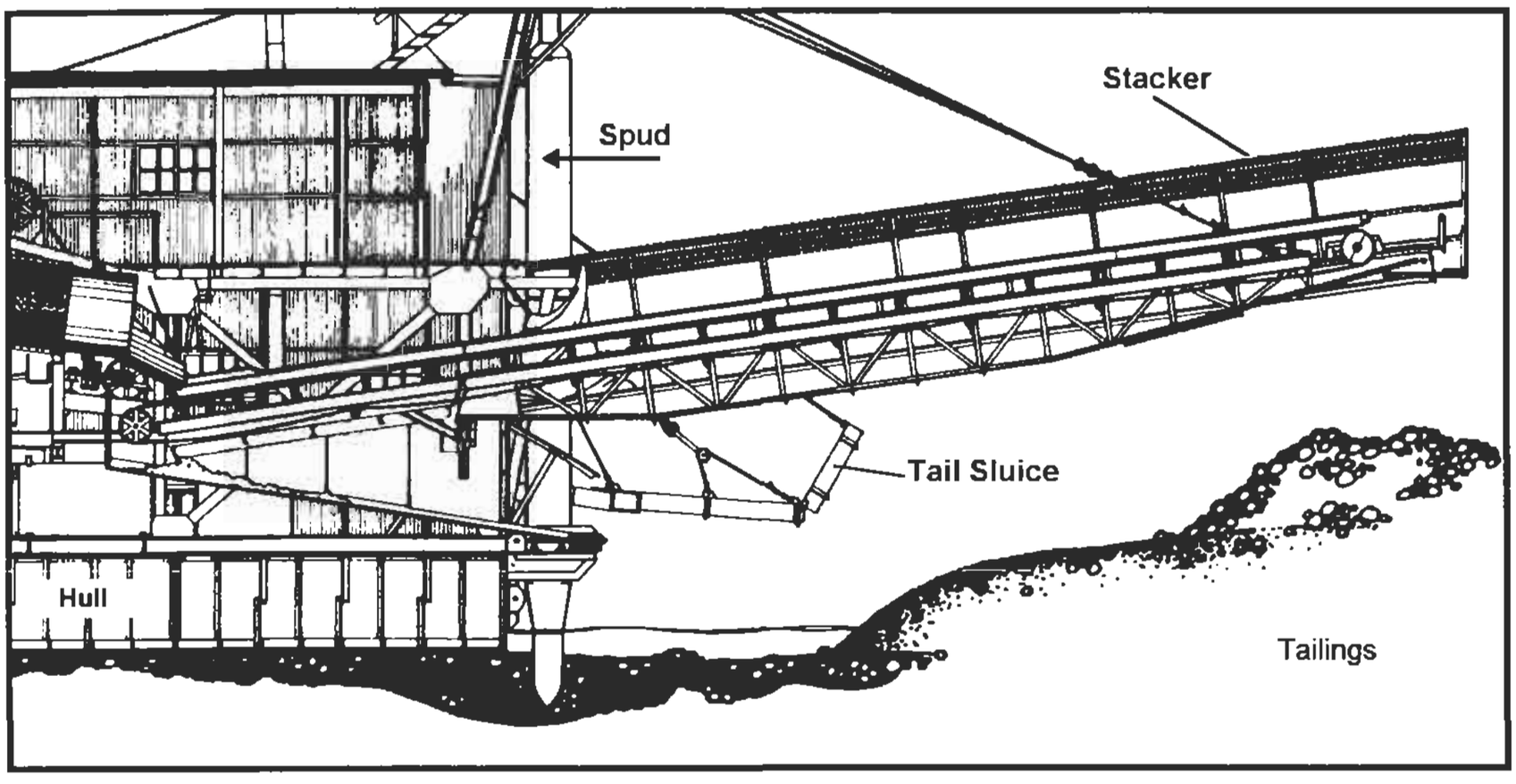

Figure 9: Coal Creek Dredge, Stern with Stacker and Spud

SPUD

Depending on the size of the dredge, and its manufacturer, there would be one or two spuds at the stern of the boat. These serve to brace the dredge against the digging face and as pivot points for moving the digging ladder laterally across the face. On some smaller dredges, the spud was made of wood. However, since the spud is susceptible to severe strain both by bending as a simple beam (like a nail or spike being pushed from the side) and in torsion (twisting) as the bow moves side to side, most were built up from heavy steel plates. Experience proved that it was better to bolt the plates together than to rivet them. Bolts allowed them to flex, distributing the stresses rather than concentrating it on few fixed points. Rivets tended to work lose or break. If bolts worked loose, they were easily tightened.

The bearing plate at the stern required careful design and sufficient mass to distribute the pressures exerted between the spud and hull to avoid potentially catastrophic failure on the part of the hull. In the 1930s, most Alaskan dredges had the spud bearing against a large casting, several feet wide spanning the width of the stern and extending the depth of the hull.[44] As an example, the spud for the Canadian Dredge No. 2 on Bear Creek outside of Dawson was 65 feet long and weighed 27 tons.[45] In contrast, the spuds on the Coal Creek and Woodchopper Creek dredges are 40 feet long. These spuds were fitted with

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[43] "Specifications, Coal Creek Dredge," pg. 10.
[44] Herbert, 14.
[45] Lewis Green, *The Gold Hustlers: Dredging the Klondike, 1898-1966* (Anchorage: Alaska Northwest Publishing Company, 1977), 160-61.

"heavy cast steel points at [their] lower end." [46] Extrapolating the size between the dredges yields an estimate that the Coal Creek and Woodchopper spuds weigh nearly 17 tons each. This accounts for nearly five percent of the total weight of the dredges.

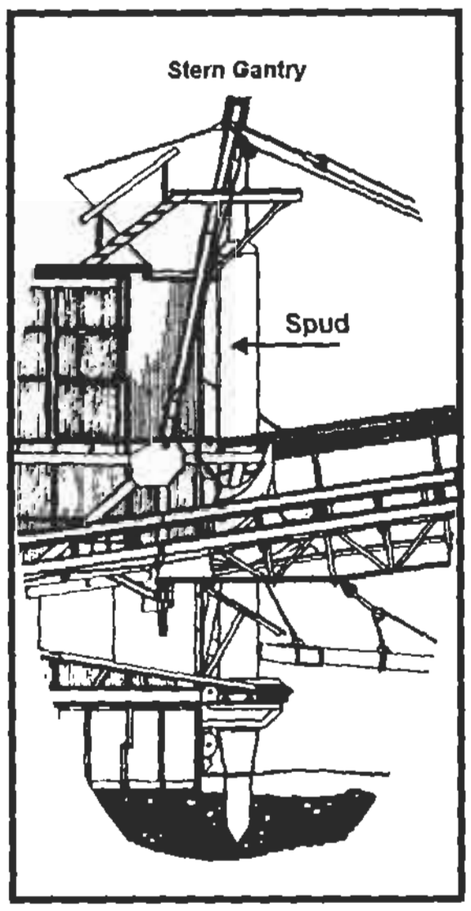

Figure 10: Coal Creek Dredge Spud

To move the dredge forward, the winchman raises the spud by means of the rear gantry and spud winch. The boat is then pulled forward by the bow lines after which the spud was dropped, driving itself by shear weight and momentum into the bedrock below. The tip of the spud is shaped much like the snout of a dolphin, long and tapered with a rounded tip. The purpose behind this was to allow the spud to drive itself into the bedrock behind the dredge, yet to pivot in its own hole. If sharply pointed, it would act more like a nail or spike and "stick" in the hole.[47]

Some of the larger Canadian dredges used the two spuds as what they called "stepping spuds." One would be raised clear of the bottom of the dredge pond and the dredge would rotate about it as it went through its normal side-to-side operations. Finally, after it had completed the cut across the face, the other spud would be at the front of the arc (closer to the face) where it was dropped and the trailing spud raised so the process could be completed. This however did not always work as planned. In one case, one of the two spuds sheared off. From that point forth, instead of replacing the spud the company proceeded to operate it as a single spud dredge.[48]

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[46] "Specifications, Coal Creek Dredge," pg. 10.
[47] Dale Patty, interview at Coal Creek, July 19, 1998.
[48] Dale Patty, interview at Coal Creek, July 19, 1998.

WINCHES

An integral part of operating a dredge is its system of winches and cables. The dredge is essentially a barge on which rests the entire heavy machinery and equipment necessary to carry out its mission of separating gold from alluvial gravel. Systems of winches are used on either side of the bow and stern (a total of four -- port, starboard, fore, and aft). These hold the dredge against the digging face and move it side to side, pivoting on the spud. Winches also raise and lower the spud(s), digging ladder and gangplank.

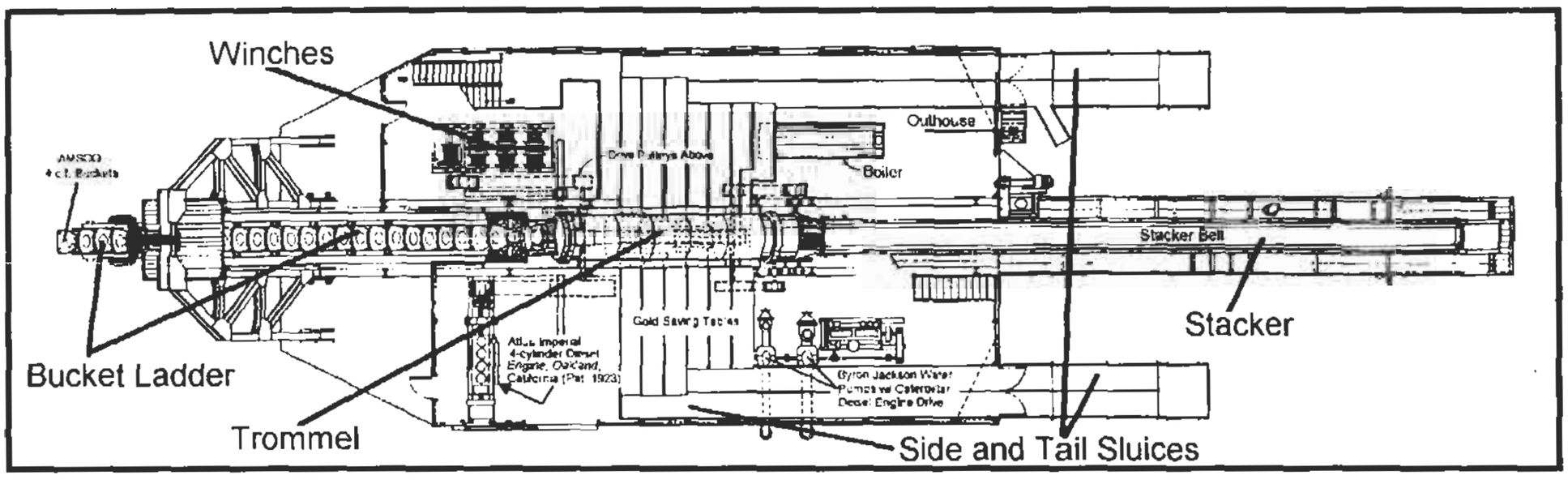

Figure 11: Coal Creek Dredge, Main Deck Layout

The Coal Creek and Woodchopper Creek dredges are set up to handle eight winches. The bow line winches (one on the port side, one on the starboard) swing the dredge port and starboard across the working face. The two stern lines (port and starboard) pull the dredge forward. One winch powers the hoist to raise and lower the digging ladder as the dredge moves side to side across the working face ahead of it. One winch raises the spud. One raises and lowers the gangplank. The eighth serves as a spare if needed.[49] The machinery for the winches is located in the forward portion of the superstructure, on the starboard side. The winchman controls them from the winch room above by a system of levers, linked to gears and clutches.[50]

The winchman (the man operating the dredge) controls the winches from the winchroom. It is located two stories above the main deck at the bow of the boat. From here, he is able to see the bucket line and both sides of the bow. In addition, a small window located at the back of the winchroom, near the ceiling, provides a view of the spud when it is raised and lowered. With the winchman facing the bow, immediately in front of him is a series of levers or controls. On the ceiling above his head, to his left, are two large wooden levers. The one on the left controls the bucket line. Pushing it forward stops the line, pulling it back engages the clutch between the main drive pulley and a small gear that

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[49] In the case of the Coal Creek dredge, there is a position available for an eighth winch, however it is not in place at this time. It may have been there at an earlier date, however many changes have taken place by owners after the Gold Placers Inc. era. The winch lever is located in the winchroom for the extra winch, the connecting rods all lead to the empty position. (See Dale Patty, interview at Coal Creek, July 19, 1998)
[50] "Specifications, Coal Creek Dredge," pg. 7.

supplies power to the huge bull gear.[51] To the right of the bucket line lever is a second wooden lever that controls power to all of the winches. Like the bucket line lever, pushing it forward disengages the clutch, pulling it back engages it supplying power to the bank of winches. This lever was mainly used to stop the lateral swing of the dredge when the load on the bucket line became too heavy. It was also used when trying to coax a big rock onto the line.[52]

Extending up from the floor of the winchroom is a series of levers that control individual winches. Each has two levers associated with it. One controls the clutch, the other the brake which stops and holds the winch drum in place. Moving port (left) to starboard (right), the first three pairs of levers control the following winches: (1) hoist for raising and lowering the digging ladder, (2) port bow line, (3) starboard bow line. After a small separation between the banks of levers, the remaining levers control the following: (4) port stern line, (5) starboard stern line, (6) spud, and (7) gangplank. On the far right, two levers do not connect to an active winch. These would serve to control the spare.[53] (NPS photo by Doug Beckstead, June 2001)

Deadmen, heavy objects buried in the ground, anchor the bow and stern lines to the shore. The last time the Coal Creek dredge operated; the company used derelict caterpillar tractors as deadmen. Their mass was sufficient to hold the lines without burying them. Gold Placers Inc. devised a method of burying two deadmen on each side of the pond, with a cable running between them (running cable lines parallel to the direction the dredge was working and moving). The bow and stern lines were then attached to these side cables by means of sheaves (pulleys) locked against the line. When it was necessary to move the bow and stern lines forward, the shoremen removed the lock, pulled the sheave forward with a tractor, then again locked it in place. This eliminated the need to be constantly moving deadmen forward, which in turn saved time, labor and money.[54]

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[51] The bull gear on the Coal Creek dredge measures nearly 14 feet in diameter. It provides mechanical force to the upper tumbler, which in turn rotates the bucket line.

[52] Dale Patty, personal communication, June 25, 1998.

[53] Initially recalling that the Coal Creek dredge did not have a spare winch, while visiting the dredge in July 1998, the author and Dale Patty discovered that the starboard-most set of levers are connected to linkage above the winch mechanism. They do not however extend down to the winches themselves. Therefore, we decided these must be for a spare winch if the operators found it necessary to put one on the dredge.

[54] Dale Patty, interview at Coal Creek, July 19, 1998.

CHAPTER FOUR
COAL CREEK OPERATIONS

GENERAL ALEXANDER DUNCAN (A.D.) MCRAE

In 1933, General A.D. McRae from Vancouver, Canada decided to venture into gold mining. He saw gold mining as an industry that showed promise for weathering the world-wide economic depression and through his personal investigations determined that because of international tax structures, the best places to mine for gold were British Columbia and Alaska. McRae brought in some of the foremost experts in the fields of geology and mining to assist in his venture. These included: Ira B. Joralemon, an internationally known consulting geologist with decades of experience; Charles Janin, a renowned dredge engineer and expert who worked throughout the world; and Ernest N. Patty, dean of the School of Mines at the Alaska Agricultural College and School of Mines. Of the four men, McRae was the only one not viewed as an expert in the fields of geology and mining – but then, he was the one financing the operations and he was an expert at managing businesses.

McRae first came into Patty's office in Fairbanks in 1933. Patty described him as a big man who looked "as if he had force and brains."[1] Patty's youngest son Dale describes McRae from the standpoint of a young boy meeting a giant of a man:

> He was a large man with a large stomach, but carried himself straighter than any man I have ever seen. At first, he scared me silly because he was so imposing, but then we got to be real friends (I guess because he had no sons) and he treated me like royalty and taught me many things.[2]

McRae was born in 1874 on his family's farm in Glencoe, Ontario. His life would take him from his humble beginnings to becoming one of Canada's financial, business and political leaders.

At the age of 24, in 1898, he had managed to save $1,000. This he invested in a very successful banking venture in Duluth, Minnesota where he turned his small investment into $50,000. Not only did McRae bring new capital back to Canada he also brought his new wife, the former Blanche Howe of Minneapolis, with him as well. They would eventually have three daughters, Blanche, Lucile, and Margaret ("Peggy"). All the McRae women became shareholders in his ventures on Coal Creek and Woodchopper Creek in Alaska.[3]

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[1] Ernest Patty, *North Country Challenge,* (New York: David McKay Company, Inc., 1969), 88.
[2] Dale Patty, personal communication, June 25, 1998.
[3] "General McRae Dies in Ottawa," undated obituary of A.D. McRae, taken from the *Dawson Daily News.* Original located in the Patty Collection at the University of Alaska, Fairbanks.

Using this new capital, he, along with additional Canadian associates, purchased 500,000 acres of Saskatchewan farmland from the Canadian government for $5 per acre. They increased their holdings by making purchases from railroads and others until they eventually controlled 5,000,000 acres. This in turn they sold for a profit of $9,000,000. By this time, McRae ranked as one of the wealthiest men in western Canada. Through a brilliant business career, embracing such varied interests as lumber, fishing, whaling and land speculation, he showed extraordinary organizing abilities. Applying his organizational skills and business methods to the fields of politics and war brought him even more success.[4]

McRae continued focusing his attention further west. He was hired to oversee harvesting a vast quantity of timber in British Columbia. To accomplish this, McRae established the Canadian Western Lumber Company, one of the largest in British Columbia.[5] As an indication of his business acumen, he formed the company to buy the timber he was supposed to liquidate thus capitalizing on it all the way around. To support his timber operations, McRae built the Fraser River Mill near Vancouver. Here he milled lumber for building way stations and other facilities along the route of the new Grand Trunk Pacific Railroad through northern British Columbia. At that time, it was the largest lumber mill in the world.[6] As a result, McRae was paid to cut the timber while his own company bought it to transport it to his mill where it was milled into lumber to expand his railroad.

In addition to his lumber interests, he established and developed Wallace Fisheries, one of the most important fishing and whaling companies, in British Columbia. Through his innovations, McRae modernized the Canadian fishing industry by financing the first salmon cannery to clean and pack the fish with the "Iron Mike" instead of hand labor. He also financed the first "mother ship" to cut the expenses associated with whaling. In both cases, he saw that others would soon imitate his methods, thus cutting into his large profits, so he sold out after the first few good years.[7]

When World War I broke out, McRae went to Europe as an officer in a Canadian regiment. By the war's end, he had advanced to the rank of Major General assisting Britain's Minister of Information, Lord Beaverbrook.[8] For his services, the British crown offered McRae knighthood, which he declined.[9] For the remainder of his life he was known as his military rank rather than by his own name. Even today, six decades following his death, family and associates still refer to him as "The General."

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[4] "General McRae Dies in Ottawa," undated obituary of A.D. McRae, taken from the *Dawson Daily News*. Original located in the Patty Collection at the University of Alaska, Fairbanks.
[5] Ibid.
[6] Ernest Patty, *North Country Challenge,* (New York: David McKay Company, Inc., 1969), 88.
[7] Ira B. Joralemon, *Adventure Beacons* (New York: Society of Mining Engineers of AIME for the Mining and Metallurgical Society of America, 1976), 302.
[8] "Saga of An Individual," unidentified newspaper clipping located in the Patty Collection, University of Alaska, Fairbanks.
[9] Ernest Patty, *North Country Challenge,* (New York: David McKay Company, Inc., 1969), 88.

Figure 1: General A.D. McRae (wearing the dark suit on the right) meeting with members of the Conservative Party, 1930. Mrs. McRae is holding the bouquet. (Photo courtesy of the Vancouver City Archives)

McRae gravitated to politics after the war. His first large-scale venture in British Columbia was the formation of the Provincial Party, which captured only one seat in the 1924 election but split the Conservative vote so badly that the Liberals were victorious. By 1927, General McRae became a Member of Parliament (MP) representing the Vancouver North district. Apparently forgiven by the Conservatives, he organized the National Conservative Convention and through his efforts over the next three years brought the Tories to power in 1930 with the election of Mackenzie King as Premier.[10] Although this move cost him his seat in Parliament, the following year he was rewarded for his efforts with a lifetime appointment to the Canadian Senate.[11]

McRae was in the habit of bringing the best individuals he could find into his operations. Ira Joralemon described him in 1931 as "well over 50, nearly bald, of medium height and build, and handsome." Several months earlier, McRae had taken a fall on the icy steps of the Parliament building in Ottawa and cracked his skull. Joralemon noted that "he moved carefully [thereafter] but his judgment was unimpaired."[12]

In the summer of 1933, McRae and Joralemon, both convinced that the price of gold would be rising in the near future, met with Ernest Patty to examine properties in Alaska. The pair approached Patty because of his familiarity with most of the mining districts in the Territory through his 11 years of teaching at the College. In addition, he had

[10] "Saga of An Individual," unidentified newspaper clipping located in the Patty Collection, University of Alaska, Fairbanks.
[11] Ernest Patty, *North Country Challenge*, (New York: David McKay Company, Inc., 1969), 88.
[12] Ira B. Joralemon, *Adventure Beacons* (New York: Society of Mining Engineers of AIME for the Mining and Metallurgical Society of America, 1976), 301.

examined several of the properties that interested them. Patty himself also took an active interest in developing mining operations in Alaska.

After spending time pouring over notes and maps depicting the properties that interested McRae and Joralemon, McRae informed Patty that "If I find a mine, I want you to operate it for me." Patty notes in his autobiography that "I did not know at the time how quick McRae was in making decisions. I just thought it an odd way of saying 'thank you' for the information I had given them." The following summer (1934), McRae and Joralemon were back in Alaska, this time they employed Patty to spend a month traveling with them looking over properties.[13]

During the summer of 1934, McRae, Joralemon, and Patty examined four mining properties in hopes of finding one with enough potential for developing a profitable lode mining operation. These included the following sites:

(1) The Cliff Mine near Valdez. Here, miners had followed the mineralized vein 365 feet down where rich ore lured them to extend a drift out under the sea. While drilling a face, seawater began to seep into the workings. When they foolishly blasted, the sea came rushing in flooding the lower works effectively closing the mine.

    The McRae, Joralemon and Patty team thought that with modern high capacity pumps, it would be possible to empty the water from the mine sufficiently to grout the tunnel with cement. After hiring an expert from San Francisco with experience in wet mines, the venture proved a failure.

(2) Beauty Bay, 75 miles west of Seward on Nuka Bay. This site showed low assay values and large quantities of iron pyrite (fool's gold) and some galena.

(3) Ester Dome, near Fairbanks. Here, Patty developed two different tunnels following mineralized veins for use as part of the School of Mines curriculum. Early work averaged about $50.00 of gold per ton. However, before long the vein "pinched out" and the college abandoned the venture.

(4) Quigley Properties at Kantishna.[14] The mines that Joe and Fanny Quigley had been working showed potential as silver mine. McRae invested $40,000.00 in tunnels and surface trenches to explore the extent of the ore body. Unfortunately, although it looked promising at first, the additional work only revealed lower grade ores. This, coupled with the long distances to reliable transportation to get ore to market, ended this venture as well.[15]

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[13] Ernest Patty, *North Country Challenge* (New York: David McKay Company, Inc.), 89.
[14] A number of the Quigley claims are now incorporated into the Kantishna area of Denali National Park and Preserve. They have been the focus of hazardous materials remediation and mine reclamation activities for a number of years.
[15] Ernest Patty, *North Country Challenge* (New York: David McKay Company, Inc.), 89-93.

After four failures at finding a suitable lode mining property, the group turned its attention to finding an area showing promise as a placer deposit. Patty brought up a tributary of the Yukon called Coal Creek where "pick and shovel" miners had been able to scratch out a "scanty" living for almost 35 years. Patty thought that from signs he had seen on previous visits to the area, with mechanical mining (i.e., dredging) the gold bearing gravels might be mined profitably.[16]

McRae offered something the "pick and shovel miners" did not have -- money, and lots of it.[17] Because of his personal fortune, he was able to bankroll the initial operations at Coal Creek, turning a profit almost immediately. Through McRae's keen business sense, coupled with the high caliber of individuals he had working with him, he expanded the operations into Woodchopper Creek the following year, again turning a profit right from the start. McRae, Patty, Janin and Joralemon pulled off what one mining historian has labeled "an exceptionally well-planned, carefully prepared dual enterprise that showed Alaska dredging at its best."[18]

COAL CREEK OPERATIONS

After examining the four lode mining locations and not seeing anything with promise, McRae, Joralemon and Patty visited the workings at Coal Creek and were favorably impressed with what they saw. Consequently, they optioned several miles of ground from the claim owners.

Several weeks later, Patty returned to Coal Creek with a churn drill and a crew to prospect and evaluate the property. The crew put down a series of drill holes at one hundred-foot intervals across the valley floor, drilling through muck and frozen gravel until penetrating bedrock. These drill lines, spaced one thousand feet apart up and down the valley, gave a three dimensional display of where the gold was concentrated among the alluvial gravel. To check the results from the drilling, they sank several prospect shafts between the drill lines. Combined with promising results from the exploratory drilling, the price of gold went up from $20.67 to $35.00 an ounce, just as McRae had suspected it would.

Based on their findings at Coal Creek, McRae offered to match Patty's university salary and to give him an interest in the mine if he agreed to manage the operation. Patty discussed it with his wife Kay and then tendered his resignation from the college,

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[16] Ernest Patty, *North Country Challenge* (New York: David McKay Company, Inc.), 93-94.
[17] One element of McRae's personality that comes across in several descriptions of his actions is his philanthropic nature. On more than one occasion, Joralemon mentions in his autobiography that McRae would make "payments" to individual miners on the pretext of considering options for their claims, without formal contracts and without intention of following through with the options, simply brushing the payments off as "they need it more than I do." Joralemon also comments that "Gen. McRae liked and admired the miners of the early days in Alaska ..." (Ira B. Joralemon, *Adventure Beacons* (New York: Society of Mining Engineers of AIME for the Mining and Metallurgical Society of America, 1976), 312 and 314.
[18] Clark C. Spence, *The Northern Gold Fleet: Twentieth-Century Gold Dredging in Alaska* (Urbana: University of Chicago Press, 1996), 104.

effective at the end of the 1935 school year. Unfortunately, his resignation resulted in hard feelings on the part of University President Dr. Charles E. Bunnell. Their friendship took three years to heal.[19]

When he accepted McRae's offer of running the operation at Coal Creek, Patty did not realize the full extent of his employer's management style. As it turned out, in Patty's words,

> Once [McRae] gained a favorable impression of a man, he handed the job over to him, lock, stock, and barrel. He also stood behind whatever decisions were made. I was unused to such sweeping authority. But by that time, I was in it up to my neck. It was sink or swim.[20]

Based on Joralemon's interpretation of the prospecting and production records that Slaven had dating back to the early 1900s, he estimated that the upper claims contained 1,600,000 cubic yards of gravel, averaging $1.10 per yard at $35.00 an ounce. The uppermost 5000 yards, he estimated contained 800,000 cubic yards averaging $1.98 per yard. At this early stage of the operation, he was not able to provide a good estimate of either the yardage or value of the ground comprising the lower claims. He calculated that, taking into account all the usual expenses associated with a placer mining operation, the properties at Coal Creek had a potential to turn a profit of $1,360,000 over a six-year life. At this point, the group still had not decided on exactly what the best approach to mining the placers would entail. Joralemon suggested using several drag lines (the least expensive means of moving a large amount of gravel) or possibly installing a small dredge.[21] He estimated the cost for draglines at $20,000 each and a dredge approximately $100,000 to $150,000. The advantage of a dredge would be that they could move a much larger amount of material in a shorter amount of time.[22]

During the fall and winter of 1934-35, the group made the decision that the best way for recovering the gold at Coal Creek was to use a dredge. McRae brought Charles Janin, the world renowned dredge expert, to assist with determining what type of dredge would best suit the conditions and size of the operation planned at Coal Creek. The company sent the following specifications to several dredge manufacturers for bids:[23]

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[19] Patty, *North Country Challenge*, 93-94.
[20] Patty, *North Country Challenge,* 95.
[21] Joralemon had very little, if any, experience in dredging operations. This explains why he felt that the best way to mine the placers on Coal Creek and Woodchopper Creek was by using draglines. See: Clark C. Spence, *The Northern Gold Fleet: Twentieth Century Gold dredging in Alaska* (Urbana: University of Chicago Press, 1996), 105.
[22] Joralemon, "Report on Coal Creek Placers," pg. 6. The figure of $1,360,000 was calculated at $35.00 per ounce (1935 values). In the current 1997 market, approximately $300 per ounce, the estimate would rise to almost ten times as much, or $13,600,000.
[23] Charles Janin to Ira B. Joralemon, letter dated February 22, 1935. Janin MSS.

1. Standard California-type bucket and stacker dredge.
2. 4 cubic foot, two piece buckets, inside and outside lips of manganese steel.
3. Steel pontoons, all welded hulls. The pontoons were to be bolted together for easy take down.
4. All-steel superstructure, mostly bolted.
5. Housing steel frame and corrugated iron, framed in such a manner that an inside lining of wood or other material can be added if desired.
6. Dredge capable of digging 14 feet below water level and carrying a six-foot bank.
7. The draft is not to exceed 3.5 feet, completely loaded.
8. Diesel drive, with alternate quote for a diesel-electric plant to be on board the dredge, purchaser's choice.
9. Dredge to be designed so the ladder may be lengthened to dig 20 feet below water level if so desired at some future time.
10. Single spud, offset from the center.
11. Stacker, canvas covered.
12. Dredge to have 40 hp horizontal boiler, water pump and injector.
13. Quote shall be F.O.B. San Francisco or Seattle.
14. Quote constructed on ground, ready to operate.
15. How long after receiving order, could they make delivery?

While negotiations were beginning for purchasing a dredge, planning continued for building and equipping the camp at Coal Creek. Supplies for the new camp arrived by riverboat at Slaven's Roadhouse on the banks of the Yukon in June 1935. During the next several months, crews constructed a rough road from the roadhouse, eight miles upstream to the camp and a two-mile long ditch along the hillside bringing water to the mining area for stripping and thawing.

Alaska Road Commission (ARC) grader at work on the Coal Creek Road approximately 1½ miles above the Yukon River. NPS Photo, Bill Lemm Collection.

The camp itself consisted of frame buildings, mounted on skids for moving them from one location to another as the dredging operation moved down the drainage. Even the mess hall consisted of two sections; each mounted on log skids eighteen inches in diameter. Initially, there were a series of four-man bunkhouses, a gold room for cleaning and assaying, an office, a machine shop, and a tractor repair shop.[24]

Activities continued on several different fronts. First, the camp at Coal Creek had to be established, manned, outfitted and work begun on additional drilling to determine the exact boundaries of the placer. Second, bids for a dredge were received, evaluated, and a decision made on which manufacturer would provide the best product for their money. Most of this work took place in San Francisco and Vancouver, with input from Patty in Alaska as needed. McRae, true to his style, hired the best people possible for running his operations letting them do their jobs with very little input or oversight from him.

Camp No. 1 near the confluence of Cheese Creek and Coal Creek (circa 1941-42). View is to the northwest with the machine shop and parts warehouse visible in the back-center of the photo. The Coal Creek dredge is visible in the distance at the right side of the photo. Frank Hall Collection, photograph courtesy of Frank Hall.

Five manufacturers submitted bids for a dredge:

Yuba	$127,000.00	FOB Seattle
Bucyrus	110,000.00	FOB Seattle
Peake	88,950.00	FOB San Francisco
Johnson	86,975.00	FOB San Francisco
Bethlehem	78,225.00	FOB San Francisco

Of the five bids, Bethlehem proposed building a three cubic foot dredge contrary to the request and therefore dropped from consideration. The Yuba and Bucyrus presented their proposals verbally. These proposals were considerably above those of Peake and

[24] Patty, *North Country Challenge*, 96-97.

Johnson. In addition, these bids did not include specifications as to what type, size or style of dredge they offered at the proposed price. Consequently, these bids could not be subjected to a detailed comparison with the others. Janin stated that because of the markedly higher cost for these dredges, the companies were probably offering a heavier dredge than Gold Placers Incorporated requested. The Yuba and Bucyrus bids were thus dropped from consideration also.

Janin noted that:

> A comparison of the specifications submitted by Peake Engineering Company and by the Walter W. Johnson Company was made in detail. Peake and Johnson were formerly partners and together developed the small dredge so successfully used in Alaskan and other fields. I think over thirty dredges being built by these parties. The design used by either would closely follow the other. Their FOB prices are very close. Peake figured on a 20 ft. digging depth, which would add about $2700.00 to the Johnson bid, but overlooked the heating plant and wrongly figured on electric motors for screen and stacker drive. The Johnson specifications covered some modern arrangements not covered in the Peake bid, based upon recent operating experience. Johnson also figured a larger hull than Peake.[25]

The Johnson Company submitted a proposed price for the dredge delivered, assembled and in operating condition, at Coal Creek. Janin states that it is "of decided advantage to have a bid from the dredge completed on the property by the [c]onstruction [c]ompany and given a trial run under their direction." Once the machine was up and running, with at least most of the "bugs" worked out, it would then be turned over to Gold Placers Inc. in "thorough operating condition." By taking this route, the company would have the advantage of knowing in advance, just what the completed dredge would cost them, within reasonable limits. Taking this tack eliminated delays caused by adjusting the new dredge. The Johnson Company was experienced in dredge construction and would be able to assemble the dredge in better time than the crew Gold Placers Inc. planned to hire. They also had the incentive of getting the job done quickly.[26]

It appears from Janin's notes that the Peake Company was unwilling to provide a price for the dredge, assembled on-site. His concern here is that the company's interests would end once the dredge parts and materials arrived at Coal Creek, although they were willing to provide an experienced engineer to assist with assembly.

A number of changes to the original specifications were submitted to the Johnson Company who then submitted a revised proposal showing these changes and adding an additional $1200.00 to the original bid. Janin notes that the changes resulted in a change in the hull design that cut $2700.00 from the cost, thus an overall savings of $1500.00. In

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[25] Janin to Joralemon, letter dated April 5, 1935. Also, notes found in the Janin MSS, associated with the referenced letter.

[26] Janin to Joralemon, letter dated April 5, 1935.

the end, the cost of the Johnson Company dredge, built on-site at Coal Creek, would be $143,000.00.

In order to have a solid basis on which to compare the remaining bids, Janin enlisted the services of George Dyer, whom he calls "an experienced dredge constructor with considerable Alaskan experience."[27] McRae asked Dyer to estimate the cost, taking the initial Johnson bid of $86,975.00 for the dredge, and provide an approximate cost for the dredge, constructed on-site. His figures showed the following:

Johnson bid FOB	$86,975.00
Freight, estimated	24,450.00
Construction	30,000.00
Contingencies	5,000.00
Total	$146,425.00

Dyer provided the following figures for a crew to assemble the dredge, based on three months work. He commented that "if this work runs into the winter it will cost more for several reasons" but failed to elaborate on what these reasons were.

Position/Title	Cost per Month	Cost for 3 Months
Engineer manager	$1,000.00	$3,000.00
Assistant (will also be book keeper)	150.00	450.00
Diesel mechanic	200.00	600.00
Diesel mechanic helper	150.00	450.00
Head carpenter	180.00	540.00
Second carpenter (2 men @ $150.00 ea.)	150.00	900.00
Caterpillar man	180.00	540.00
Cook	180.00	540.00
Cook's helper	60.00	180.00
20 laborers at $150.00 or $5.00/day		9,000.00
Travel expenses for seven men		1,400.00
Food for thirty men, 90 days at $1.50/day		5,000.00
Total approximately		$22,500.00

Dyer's figures included the cost of constructing the camp (including boardinghouse, cooks' quarters, office and manager's house, bunkhouses and bathhouse, storage facilities, tool room and shop). They also took into account tools, caterpillar tractor with a bulldozer, a self-dumping scraper and camp equipment making an approximate total of $35,000.00. The company could purchase additional supplies of hardware, tools and spare parts for the machinery as needed. Janin suggested the Northern Commercial Company, the great northern supplier, as the source for "ordinary supplies."[28]

Based on Dyer's figures, Janin determined that the Walter W. Johnson Company bid of $143,000.00 was the best they would find. As a final note, Janin states that, "It is

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[27] Dyer was paid $200.00 for his services. McRae to Janin, letter dated June 7, 1935, Janin MSS.
[28] Janin to Joralemon, letter dated April 5, 1935. Janin MSS.

possible to have the dredge completed on the property by the end of the present season (1935) if the order for the dredge is placed immediately, and no unforeseen delays occur, by strikes, etc. The cost of construction would be higher and there would be little advantage in having the dredge completed at the end of this season as compared to having it ready to start about the 10th or 15th of June next year."

The price for the dredge from the Johnson Company only included the cost of freighting the pieces from their shops in San Francisco, via Skagway and Whitehorse to the riverboat landing at Slaven's Roadhouse. It did not include the cost of getting the parts from the Yukon River to the assembly point. Janin notes that "hauling materials from the mouth of Coal Creek to the property is a serious [problem] during the summer months; according to Patty a road costing upwards of $45,000.00 would have to be built and proper hauling equipment purchased."[29]

Janin realized the savings that could be had by arranging to have the dredge parts delivered to the mouth of Coal Creek during the summer of 1935. Here, they could be stored until winter when the ground froze sufficiently to allow hauling them to the site at a greatly reduced price. In addition, this would put the parts at the right location for beginning construction as soon as weather conditions permitted, possibly as early as April 1st.

The Johnson Company agreed with Janin's proposal and claimed they could have the dredge in operating condition by early June. In order to meet this time schedule, a camp would have to be built during the summer of 1935, food supplies brought in that summer or fall and kept over the winter for the construction crew. To keep the food supplies from freezing, a suitable storehouse was required as well as living quarters for a watchman.

Janin continued with his recommendation of putting the camp buildings on skids thus facilitating moving them to new locations as the dredge traveled up and down the creek. He also recommended that it would be a good idea to have an experienced dredge operator visit the site during the summer of 1935. This would assist with siting the camp and dredge pit, as well as starting preparations for stripping and thawing the ground. This too, he claimed, would make for considerable savings in both time and expense.

Stressing the importance of obtaining the services of a good dredge operator, Janin recommended they consider George Dyer, the same man who provided the estimates for comparing the various bids, for the position. Janin stated that he felt Dyer "would be acceptable to the construction company (the Johnson Company), and would be an excellent man to have in charge of the property afterward." He continued reiterating that Dyer was "an experienced dredge constructor and operator, and was manager at the Fairbanks Gold Dredging property for two years. He is available at present for work of this character."[30] In the end, the Johnson Company provided their own foreman, Sam Palmer, to assemble the dredge.

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[29] Janin to Joralemon, letter dated April 5, 1935. Janin MSS.
[30] Janin to Joralemon, letter dated April 5, 1935. Janin MSS.

McRae and Patty went to San Francisco and negotiated the final contract for the dredge with the Walter W. Johnson Company (See Appendix I). One of the more innovative differences between this dredge and others working in the North at the time was the metal "pontoon hull." This new design marked a radical departure from traditional dredge building. Previously, dredges were large wooden-hulled barges supporting the working superstructure and dredge machinery. These were more susceptible to the stresses and strains associated not only with digging, but also with the action of the ice during the winter that could literally crush a wooden hull.[31]

Once Gold Placers, Inc. let the contract to the Johnson Co., they again focused attention on the camp at Coal Creek. Johnson's company agreed to supply many of the heavy tools required to construct the dredge including a drill press, lathe and electric welding outfit. Once the dredge was completed and successfully through its two-week trial run, the Johnson Co. would make these tools available to Gold Placers Inc. at a reduced price of fifty percent of what they cost new – quite a bargain. Any large-scale mining operation required the services of a blacksmith for fabricating and repairing parts. Gold Placers Inc. had what Patty described as a shop with a "good large hearth forge, anvil, and an assortment of customary blacksmith tools -- also a fair assortment of iron of various dimensions." Patty also wrote that they had purchased an acetylene "presto-welding outfit" that would be available for the Johnson crew, but cautioned that they should plan to ship the necessary tanks of oxygen and acetylene for using it.[32] In addition to building the infrastructure of the mining camp, they made preparations for the dredging operations expected to begin the following season.

The Coal Creek dredge was built in San Francisco then dismantled and crated for shipment to Alaska. Careful consideration was necessary however, because once the parts, almost four hundred tons of them, were shipped to Skagway they would then be loaded onto the White Pass and Yukon Route railroad for the trip to Whitehorse. The company had to measure each tunnel along the railway to ensure that the crates would clear. From Whitehorse, the parts were loaded onto a barge and pushed by a sternwheeler downstream to the mouth of Coal Creek.[33] Upon arriving at the landing at Slaven's Roadhouse, the crew realized that the riverboat did not have equipment sufficient to handle the weight of the cargo. The challenge of off-loading was monstrous, but as was the case in many Alaskan ventures, it was not insurmountable.[34]

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[31] Patty, *North Country Challenge*, 98.
[32] Patty to Walter W. Johnson Co., letter dated May 27, 1935. Janin MSS.
[33] Ernest N. Patty to Walter W. Johnson Co., letter dated May 27, 1935. Janin MSS.
[34] Patty, *North Country Challenge*, 98.

Unloading the dredge pontoons at Coal Creek. The man facing the camera (in the overalls) is Frank Slaven. His roadhouse is visible on the high bank at the upper right. Note the tripods that supported a telephone line which allowed the crew on the beach to communicate with the camp approximately 7 miles up Coal Creek. George Beck Collection, photograph courtesy of Max Beck.

Once the parts were delivered to the mouth of Coal Creek, they were placed on the bench above the river where they would remain until October when the ground was sufficiently frozen to haul them to the construction site. The very large pieces were put on skids to prevent them from freezing to the ground. In order to facilitate construction the following spring, Patty requested a diagram from the Johnson Co. to allow him to "site" the parts around the dredge pond.[35]

STRIPPING AND THAWING OPERATIONS

The unique climatic and ecological conditions facing placer miners in Alaska requires them to carry out a complex stripping and thawing process before beginning actual dredging operations. At the new Coal Creek camp, cat skinners[36] used bulldozers to strip away the trees, brush and tundra that formed an insulating "blanket" over the surface. This exposed a shiny, black surface of frozen "muck" varying in depth between six and twenty-six feet. The gold bearing gravels lay below.

A series of hydraulic nozzles (called "giants") removed the muck by spraying high-pressure water brought from the hillside ditch. The water first thawed, then washed away

[35] Patty to Walter W. Johnson Co., letter dated May 27, 1935, Janin MSS.

[36] A "cat skinner" is an individual who operates a bulldozer, generally a caterpillar-type, and in employed in operations with pushing materials, as in stripping the overburden off an area prior to thawing and dredging. The term is applied to the operator rather than the operation.

much of the muck. Patty estimated that, each day, the summer sun was capable of melting approximately four inches of muck that was then swept away by the water. He further noted that during these operations Coal Creek below the stripping area ran black with the ancient sediments. Within a few weeks the frozen gravel began to show.

This permanently frozen gravel (called "permafrost") was as resistant to working as reinforced concrete. During the first operating season (1935), Gold Placers Inc. relied upon steam thawing to prepare the ground for dredging. This involved driving steam points, sections of pipe with a chisel point connected to high-pressure steam hoses, into the permafrost. Steam escapes through the point, thawing the surrounding gravel. Over the winter of 1935-36,[37] the company contracted with several local woodcutters to cut and stockpile approximately 250 cords of wood needed to fire the 40 horsepower boiler they used during their first season.[38]

Using a hydraulic giant to thaw and strip away the "muck" that covers the alluvial gravel on Coal Creek. Everett Hamman Collection, University of Alaska-Fairbanks.

Thawing operations came under the jurisdiction of the dredge master, Fred Obermiller, based in part on his years of experience with operations at the Fairbanks Exploration Company. When the dredge started working the steam-thawed ground, initially Patty reported conditions as "nearly perfect." His optimism was short-lived when the dredge struck ground that had re-frozen over the winter. Patty noted in the company's first annual operating report that: "The steam thawed area embraced 18,000 cubic yards and cost 34 cents per yard ... and proved worse than useless. This steam thawing, when successfully done, is very expensive and will not be attempted in future seasons."

[37] Cordwood was cut during the winter months when the sap was down, wood was easier to cut and split, and the snow covered ground facilitated hauling it to where it was needed. For the most part, woodcutters along the Yukon plied their trade in support of the sternwheelers traveling up and down the river. (See page 48 below for a discussion of Heine Miller's woodcutting operations on the Tatonduk River/Sheep Creek).

[38] Patty, "Gold Placers Inc. Annual Report, 1936," 7.

Because steam thawing proved to be such a failure, Patty turned to using cold water, drawn from Coal Creek, above the mining area, for thawing the frozen gravels.[39]

Cold water thawing is similar to using steam, except that, as the name implies, cold water is used. As soon as the stripping crews were finished and moved on to new areas, the thawing crews moved in with their lines of hydraulic hoses, pipes, and thawing points. Cold water points consist of a ten-foot length of heavy gauge pipe, seven-eighths of an inch in diameter, with a hardened chisel point welded to one end. The upper end had threads for connecting a hose or additional sections of pipe as the pointman drove it deeper and deeper into the gravel. Water, under pressure, flowed through the pipe where it slowly seeped into the gravel through two holes on either side of the point. As the ground slowly thawed, the points were driven deeper and deeper into the gravel continuing the thawing process. Patty estimated that water flowing into the pipes from the hillside ditch had a temperature of approximately 45 degrees. When it flowed out of the ground around the thawing points, it had cooled to roughly 35 degrees. Thus, the water transferred approximately 10 degrees of "heat" to the ground facilitating the thawing process, all at a minimal cost to the company.[40] By mid-July (1935), sufficient ground was thawed to allow dredging operations to begin with estimates that by the end of the summer, sufficient ground would be stripped for "one or two years ahead."[41]

In 1936, they started driving the first 250 cold water thawing points on May 18. Within two weeks, on June 1, all of them were on bedrock and, as Patty noted "doing good work." An additional 250 points were on hand. The flanged feeder pipe to supply them was due on the first down-river boat from Whitehorse on June 5th. Unfortunately, the White Pass and Yukon Route failed to load them on the first boat, although they made arrangements months in advance. Instead, the pipe was loaded on the steamer *Klondike* that sank, taking Gold Placers' supplies with it. The company placed a duplicate order that arrived in late July. In addition, they salvaged some of the original order from the wreck.[42] An additional order of points arrived in August, and a final order for 250 more points arrived late in the season that would go into service in 1937, giving the company nearly 1000 points for thawing.

Unlike steam thawing, water thawing proved so successful that throughout the 1936 season, with the exception of the steam thawed ground that re-froze, the dredge was never bothered by frost in water thawed gravel. This showed the method reliable and thorough as well. Its use at Coal Creek was the first in the Eagle-Circle mining districts.

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[39] "Gold Placers Inc., Annual Report, 1936," 11.
[40] Patty, *North Country Challenge*, 97-98.
[41] Patty, *North Country Challenge*, 98. Patty to Walter W. Johnson Co., letter dated May 27, 1935, Janin MSS.
[42] See: Arthur E. Knutson, *Sternwheelers on the Yukon* (Kirland, Washington: Knutson Enterprises, Inc., 1979. Knutson worked on several sternwheelers plying the Yukon River during the middle of the twentieth century and describes the loss of the *SS Klondike* as well as the reliance on which miners along the river systems relied on the sternwheelers for supplies. The loss of a single boat could set back a mining operation an entire year.

The company kept careful records to enable confidently replicating their successes elsewhere.[43]

Occassionally, much to the amusement of the crew, General McRae would walk around the operation when visiting the camp. Several times while crossing the thawing fields, the surface appeared solid, when in fact it generally had a frozen "crust" over the thawed gravel below. More than once McRae's weight caused the gravel to give way sending him waste deep into the cold water below. Reports have it that the General always took it in stride and made a joke of it, although it must have been an extremely cold joke.[44]

Because of the problems associated with getting the points and feeder pipe delivered, there was not sufficient ground thawed ahead of the dredge to operate for the entire season. Because of this, the dredge shut down on October 5, 1936, a full month ahead of schedule.[45]

WHAT DOES IT TAKE TO "FEED" A DREDGE?

One of the points that could easily be overlooked, or at least miscalculated is how much fuel would be needed to operate the dredge once it was assembled. Again, owing to the good planning on the part of Gold Placers Inc., this question was posed to the Walter W. Johnson Co. who supplied the following advice: "The dredge would be powered by two Atlas engines, one to power the digging ladder, winches, screen, etc. and the other to power the pumps." These engines combined used approximately 180 gallons of fuel each day. The company engineer, A.P. Van Deinse, recommended, with an estimated startup date of June 10, 1936, that a fifty-day supply of fuel would amount to about 9,000 gallons. An additional 1,000 gallons would be needed for the various tractors. He figured that the 10,000-gallon supply would be sufficient to get the company through early August. This would give them the opportunity to have fuel shipped via barge from Dawson for the end of the season and the beginning of the next, until the Yukon was again open to navigation. In addition to the diesel fuel to power the engines, Van Deinse restimated that the Atlas engines would each use approximately one barrel of lubricating oil per month. He recommended that they order seven barrels to cover both engines and the tractors.[46]

He addressed the company's needs for fuel and oil as requiring a "liberal supply of diesel fuel and engine oil … and a large number of container[s] or drums for this material bought unless arrangements can be made with the oil company for rental of drums or purchase of material in non-returnable drums. These latter cost about $1.50 each as compared to $8.00 or more for the heavier drum."[47]

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[43] Patty, "Gold Placers Inc., Annual Report, 1936," 9.
[44] Lemm Oral History.
[45] Patty, "Gold Placers Inc., Annual Report, 1936," 9.
[46] A.P. Van Deinse to Ernest Patty, letter dated June 7, 1935, Janin MSS.
[47] Janin to Joralemon, letter dated April 5, 1935. Janin MSS.

One element that made building a new dredge in Alaska something different from that in the California gold fields was the short navigation season on the Yukon. Throughout the correspondence between Gold Placers Inc. and the Walter W. Johnson Company, the need to have the parts for the dredge shipped before the last boat left Dawson was imperative. On July 6, 1935, the issue began to take on serious overtones when Joralemon wrote to Janin expressing his concerns:

> Are [Walter W.] Johnson and [A.P.] Van Deinse trying to get out of a winter trip to the Yukon and of winter construction? It certainly seems so, from the fact that the pontoons, which must be there at the start of construction, are the last things on the shipping schedule and are not even fully designed yet. Unless they make this year's last boat, the darned dredge won't be running until September of next year – and Johnson will make a lot of money by building it in the nice summer weather. It was a big mistake to have the penalty so small.[48]
>
> The General (McRae) suggests that we see both Johnson and Van Deinse together before I go North. I'll be in the office all day Thursday, the 11th, and can see them any time you make the appointment. Meanwhile let's think of all the arguments we can think of to make them come through. Doesn't the contract make it possible for us to insist on having their crew at the property in March whether the pontoons, etc. arrive or not?[49]

It is unclear what brought on Joralemon's sudden concern over the shipping dates. On August 9, Van Deinse wrote to Patty informing him that "all material for the dredge will have left San Francisco" with the exception of sixty percent of the superstructure. The company had difficulty in receiving the raw materials from eastern manufacturers but expected it to arrive the following day (August 10). With an anticipated 12 days needed to fabricate the parts, they would ship them as soon as possible.[50] Apparently, there were a number of concerns on the part of Gold Placers Inc. over shipping various parts as illustrated in several pieces of correspondence between McRae, Joralemon and Janin in late August. In the end, they postponed the contracted startup date by two weeks, until June 15, 1936. McRae wrote to Janin that he appreciated his "desire not to disturb the contract with Johnson until everything was in transit." He notes further that the shipments should be "followed up so there would be no unnecessary delay at transfer points – Seattle and Skagway. It is quite a relief to me to know that this shipment is all in transit."[51]

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[48] Under Part I of the contract between McRae and the Walter W. Johnson Co., the company was required to have the dredge up and running by June 1, 1936. If they failed to meet this date, the contract called for a penalty of $100.00 per day, beginning on June 15, 1936, with a maximum penalty not to exceed $1500.00. As a result, no matter how late it took for the dredge to be brought on line, the most the Walter W. Johnson Co. could expect to pay in penalty was $1500.00.

[49] Joralemon to Janin, letter dated July 6, 1935.

[50] Walter W. Johnson Co. to Patty, letter dated August 9, 1935.

[51] McRae to Joralemon, telegram dated August 28, 1935 and McRae to Janin, letter dated August 29, 1935.

By the time the last steamer had gone downriver for the season, Patty notified the Walter W. Johnson Co. that all the parts "at least those that can be identified as belonging to the Coal Creek Dredge, have arrived at Coal Creek." He pointed out that it is "impossible to make an absolute check on account of the way much of this equipment is billed; for example, a way bill may read '1 bundle of mining machinery' or '1 sling of mining machinery' without referring to specific items."[52]

Patty further pointed out that: "Some of these bundles [were] broken in transit and the White Pass people have had considerable trouble in sorting out these broken bundles to know just what belongs to the Coal Creek dredge. For future shipments it would be a good plan – and a great help – if some distinctive stripe were painted on each crate and on each piece of pipe or casting." In referring to the actions of the White Pass personnel, Patty commented that: "The White Pass people have been duly impressed with the importance of getting all of the material on the ground this fall and they have co-operated with us very well. On the last shipment, they adopted the policy of leaving any doubtful equipment at Coal Creek. So we may find in the spring that we have some orders there that belong elsewhere."[53]

By December 1935, the operation at Coal Creek was well underway and heralded in the *Fairbanks Daily News-Miner* under the headline: "NEW MINING CO. STARTS BIG WORKS." Among the innovative developments at the new camp was manner of constructing the ditch to bring water from the headwaters of Coal Creek to the dredging area. In this case, the *News-Miner* reported that this was the first time a tractor and bulldozer constructed a ditch, resulting in "very low costs." In addition, the U.S. Signal Corps installed a radio station that provided weather reports twice daily and proved valuable for emergency communications.[54]

The Alaska Road Commission entered a cooperative agreement with Gold Placers Inc. for seven miles of right-of-way for a permanent road from the landing at Slaven's Roadhouse up to the new camp. The camp crews undertook a good deal of the work during the summer and would continue working the following year.

Among the individuals employed at Coal Creek camp were: Fred Obermiller of Fairbanks, formerly with the Fairbanks Exploration Company, serving as dredgemaster; Charles Murray was the general foreman for the project; Phil Berail as hydraulic foreman; Eugene Moore was in charge of the engineering work. In Woodchopper Creek, Charles Herbert was engineer-in-charge of the prospecting work with Tom Radovich as shaft foreman.[55]

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[52] Patty to Walter W. Johnson Co., letter dated October 2, 1935.
[53] Patty to Walter W. Johnson Company, letter dated October 2, 1935. It is interesting to note that although Patty's "distinctive stripes" were not painted on the parts, most of the major elements of the superstructure were both labeled and numbered for assembly. These chalk markings can still be seen on many of the beams and posts inside the dredge.
[54] "New Mining Co. Starts Big Works," *Fairbanks Daily News-Miner*, December 12, 1935, pp 1, 5.
[55] "New Mining Co. Starts Big Works," *Fairbanks Daily News-Miner*, December 12, 1935, pp 1, 5.

CONSTRUCTING THE COAL CREEK DREDGE

Hauling the dredge parts and equipment 6½ miles upstream to the dredge pond began on March 6, 1936 and was completed within two weeks. Two tractors, each pulling two sleds, moved approximately 350 tons of materials. Construction began on April 8 and was completed on June 18, 1936 "except for some missing equipment, which failed to arrive on the first down-river boat."[56]

Hauling dredge parts from the Yukon River to Camp No. 1 where the dredge was assembled. George Beck is driving the tractor pulling the spud. The sled on which the spud is lying is currently located near the Coal Creek airstrip. George Beck Collection, photograph courtesy of Max Beck.

Many people living along the Yukon River during the 1930s sought out whatever jobs they could find to help bring in a little cash. W.E. "Bill" Lemm[57] had come to the country in the early 1930s at his brother's request. After he arrived, they built a cabin on the Tatonduk River[58] above Heine Miller's camp. While living there, he and his brother spent their first winter (1934-35) cutting cordwood, on a contract to Miller, for steamboats plying the Yukon. The next summer, they moved into Eagle where they gardened and worked for the Alaska Road Commission.

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[56] Ernest Patty, "Operating Report, Gold Placers, Inc., 1936," pg. 7, 11. Copy in Yukon-Charley Rivers National Preserve collection. Hereafter, "Gold Placers Inc. Annual Report, 1936."

[57] W.E. "Bill Lemm, (June 19-21, 1992) interview with Don Chase, former superintendent of Yukon-Charley Rivers National Preserve. Copy of the interview tape is in the Oral History Collection at Yukon-Charley Rivers National Preserve, Eagle, Alaska and the University of Alaska, Fairbanks. All materials referencing Mr. Lemm are taken from this interview and, as such will be noted simply as "Lemm Oral History."

[58] Lemm, as well as locals today, refer to the river as Sheep Creek.

During the late winter-early spring of 1936, Lemm heard about the operations at Coal Creek and decided to apply for a job. He walked from Eagle to Coal Creek, covering a distance of approximately 110 miles in only 3 days! When he arrived, he found a number of men "batching it" [59] at Slaven's Roadhouse and decided to throw his lot in with them. Each of the men had assigned chores including cooking, cutting firewood, hauling water, etc. According to Lemm, you quickly learned that if the food was not particularly to your liking, you kept your comments to yourself or you pointed out that it in fact was "just the way I like it." Or the next day you would be the cook.

From Slaven's, Lemm walked up to the new camp and talked with the camp foreman about a possible job. The only thing available at that time was cutting wood. Lemm had a good bit of experience with this and jumped right into it. After that, he spoke with Sam Palmer, the Walter W. Johnson Co. engineer in charge of construction. Palmer in turn sent him to the cook to see if there was room in the camp for him. Seizing the opportunity, Lemm went to the cook and informed him that he would be there for dinner. The cook, Frank Estrada, "Well we've already got enough in here now," to which Lemm responded that "There's always room for one more." Consequently, Lemm talked himself into a job.[60]

When Lemm arrived at the camp, work on the dredge was just beginning. The crew dug and filled the dredge pond the previous year. The ice provided a flat surface for constructing the dredge.[61] First, they positioned and bolted together the pontoons. After accomplishing this, the superstructure began to take shape.

Metal "boxes" are assembled forming the pontoon hull are assembled on the frozen surface of the construction pond at Camp No. 1. NPS photo, Bill Lemm Collection.

[59] The term "batching" (for lack of a better phonetic spelling) means they were living together like bachelors, sharing communal chores.

[60] Lemm Oral History.

[61] By constructing the dredge in the late winter, early spring, before the pond ice melted, the need for placing cribbing to support the dredge was eliminated. This made the assembly process both faster and safer.

Lemm was assigned to what he called the "bull gang" working with the steel superstructure. Although he freely admitted that he had no experience with steel, he was apparently a quick learner. When he set a five-foot long crow bar on top of a steel cross member, another crewman, a "big burly fellow of a guy" also named "Bill," saw it and quickly pointed out that "I don't want you EVER to put a bar up like that. If another piece of steel hits that and deflects it, it could go right through a man!" Several days later another worker laid a bar in a similar manner and Lemm received the blame for it. When "Big Bill" came over to Lemm yelling "I told you not to put that bar up there and I have a damn good notion to fire you!" Lemm responded, "Don't jump all over me. I didn't do that. When you told me not to, I won't!" After that, "Big Bill" backed off and never said a word.[62]

Apparently, this confrontation with Lemm standing up for himself raised "Big Bill's" confidence level in him tremendously. Later, when other members of the crew provided their input into how to do something, "Big Bill" would quickly point out "What the hell do you know about it? I'm the boss of this job!" Then, he'd go over to Lemm asking for his opinion and if it was sound, generally responded "That's a hell of a good idea. Let's do it."[63]

Assembling the dredge superstructure was similar to building a modern steel-framed building. Each pre-fabricated piece had the appropriate holes drilled for assembling it machined into it in San Francisco. As they lifted each piece into place, one worker aligned his end using a "spud wrench."[64] The first person to get their wrench in had the easier time. The second generally had to do a lot of leveraging and wrestling to align his end. On one occasion, Lemm consistently beat his partner, Ray, to the punch. Because of this, Ray had to work more than Lemm and he took it quite personally. After the dredge was completed, the crew got some time off to go to Fairbanks. After a night of heavy drinking, something that the crew tended to do every time they went to town, Ray drunkenly informed Lemm "I'm gonna clean your clock for ya!" Lemm was always one for getting out of tight situations using just his wits. He told Ray "... that's all right if you want to do that, but can't you wait until tomorrow when we're both sober?" Apparently, after sleeping it off, the issue never came up again.[65]

Working on assembling the dredge was not without its share of danger. In one instance, a crewman pulled a long wooden 2x8 from between two cross members. The weight of the opposite end, once it cleared the first beam, caused it to drop rapidly pulling the end out his grasp. It fell to the deck, striking another worker squarely on the head. As it turned

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[62] Lemm Oral History.
[63] Lemm Oral History.
[64] A spud wrench has an open end wrench on one end for tightening nuts and bolts and the other end is sharpened to a long tapering point that is inserted into the holes through both pieces. The length (generally about 24 inches) provides sufficient leverage for moving the two pieces around for inserting bolts or other pieces. The sharpened end however also posed a serious safety problem if the wrench was accidentally dropped from above.
[65] Lemm Oral History.

out, the man it hit was one of the engineers on the job. According to Lemm, "he sagged and went down and pretty soon we got him to and he was all right. It didn't hurt him but outside of that he had a little bit of a headache." In this case, he was lucky. The blow could very well have killed him.

In another incident involving objects falling, Lemm was working on the deck when a compressed air can fell down, narrowly missing him. Next, a file came crashing to the deck. Finally, a wrench came down from above. That was as much as he was going to tolerate. Climbing into the girders, he informed the bumbling worker to "Get the heck out of there and get someplace else if you're going to drop the damn tools and things."[66]

Superstructure beginning to take shape on the Coal Creek dredge. George Beck Collection, photograph courtesy of Max Beck.

The heavy machinery and parts of the dredge required heavy equipment to move them about. Caterpillar tractors were used to haul parts from place to place, blocks and tackle were used to hoist pieces into place, and occasionally extra-ordinary means were required to accomplish the tasks at hand. One day, it was necessary to remove the big main drive gear, called the "bull gear."[67] This gear supplies the force operating the entire dredge, including turning the bucket chain and screen. The gear fits on a shaft. A key and keyway in both the shaft and gear hold it in place. Once put in place, it is virtually impossible to get apart, unless you use a little "applied force."

[66] Lemm Oral History.

[67] In the case of the Coal Creek dredge, the bull gear measures approximately 14 feet in diameter and is approximately 9 inches thick along the outermost edge.

In order to drive the key back out, the foreman used a quarter of a stick of dynamite, placed behind the key with mud packed around it. After informing the others, "I'm going to light this and I want everybody to watch this thing (the key) so we don't lose it. It's the only one we've got." After the explosion, one crewman simply walked over and picked up the key. The charge was not sufficient to damage the gear, just enough to force the key out, breaking the gear loose.

Fortunately, in 1992, Bill Lemm accompanied Yukon-Charley Superintendent Don Chase on a trip down the Yukon during which Lemm reminisced about much of his life on the river and at Coal Creek. In a letter sent to Chase after the trip, Lemm provided the following list of individuals who worked at Coal Creek, along with their jobs around the camp:[68]

Chuck Herbert[69]	Surveyor and engineer
Fred Obermiller	Dredge master and overall foreman
Pearl Nolan	Winchman
James McDonald	Cat driver and winchman
Bruce Thomas	Point boss
Phil Berail	Hydraulic boss
Bert Kellogg	Machinist
Jack Ellis	Cat skinner
Harold Hall	Ditch walker
Glen Franklin	Bookkeeper and timekeeper
Bill Lemm	"Cat driver, freight hauler and it seems I got myself into doing many things such as cutting wood with a buzz saw attached with [a] power unit on [a] cat, helped pour gold bricks if I was handy, even to build [the] portable cookhouse for the drill crew for the Charlie (sic) River test crew."

Life at Coal Creek camp had its humorous side as well. Fred Obermiller, the dredgemaster, lived in Fairbanks. His wife was expecting a baby while he was at camp. When she had it, Fred got word via the radio the US Signal Corp. installed at the camp. Later a plane flew over dropping a box of cigars with a small parachute attached. Cigars were not the only things falling out of the sky before making the airstrip. The postal service handled mail delivery to the creek the same way. The plane from Fairbanks would fly over; bank down low and as it passed overhead and the mailbags fell to the ground. One day, one of the bags landed somewhere and to this day has not been found.

One time when the camp ran out of fresh meat, they radioed Fairbanks requesting that a quarter of frozen beef be flown out. Making a pass down the Yukon River, the plane banked onto its side. The beef simply slid out the open door free-falling to the gravel bar

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[68] W.E. "Bill" Lemm to Don Chase, letter dated July 7, 1992 located in the Bill Lemm Collection at Yukon-Charley Rivers National Preserve, Eagle, Alaska.

[69] Chuck Herbert is the same person as Charles Francis Herbert, the author of *Gold Dredging in Alaska*, his 1934 thesis from the Alaska Agricultural College and School of Mines, under the direction of Ernest Patty.

below. Because it was frozen, the fall and subsequent landing had little effect on the meat, except that it would occasionally break a leg bone. However, Lemm noted that, "Boy it would bounce like a football. Then we would go pick it up. There'd be a few rocks in it because it bounced pretty good, but that didn't hurt anything."[70]

While getting the camp at Coal Creek up and running, Patty continued to examine other drainages in the vicinity for possibly expanding their operation. For years, the USGS had been noting the potential for gold production on Woodchopper Creek, immediately west of Coal Creek. In Patty's estimate, the company could realize a considerable profit, with somewhat reduced startup costs because of the proximity of the two creeks by operating from a central location. The night after the first cleanup at Coal Creek, Patty, feeling both optimistic and confident with their initial results, decided to suggest branching over to Woodchopper to McRae. Typical for his management style, McRae slapped Patty on the back and said, "When you're winning, always crowd your luck."[71]

Charley River drill crew. The only two men identified in this photo are Chuck Herbert and Leonard Stampe. Unfortunately which ones they are was not recorded. NPS Photo, Bill Lemm Collection.

Consequently, McRae, Patty and the other directors of Gold Placers Inc. formed a second company, Alluvial Golds Inc. operating on Woodchopper Creek. Although run as two separate entities, both had the same management structure and most of the same personnel. Ira B. Joralemon conducted extensive reviews of the mining records for the Woodchopper Creek properties coming up with an initial report showing that the drainage had a potential of 2,690,000 cubic yards of mineable gravel, averaging $0.74 per cubic yard. Once again however, Joralemon thought the best way to recover the gold would be by using draglines rather than a dredge. However, he did note in his report that

[70] Lemm Oral History.
[71] Patty, *North County Challenge*, 100.

if it were possible to buy a "second hand dredge that will dig to 30 feet very cheaply within the next year, it may be better to eliminate the drag line."[72]

Joralemon estimated that it would take an initial capital outlay of $140,700 to acquire options on the Woodchopper Creek claims and get Alluvial Golds Inc. up and running. Patty began looking around the Interior for a used dredge and located one on Fish Creek, near Mastodon Dome (one of the old Berry Brothers dredges). Upon evaluating its condition, it proved to be a "pretty unwieldy plant" but according to McRae, it "might be interesting for Woodchopper Creek if the price is right." It appears that either the price was not right or moving the dredge would prove to be a much greater task than expected. They dropped the dredge from consideration almost as fast as Patty found it.[73]

POSTAL SERVICE ON THE CREEKS

Throughout history of the Yukon River, the United States Postal Service has provided more to the miners in Alaska then simply a means of getting an occasional letter from back home. It also served as a conduit for supplies from such companies as Montgomery Ward and Sears, Roebuck & Company. In addition, miners used the postal service to ship their gold. Each shipment being insured up to $1000.00.[74]

The post office at Woodchopper Creek opened on April 30,1919 with Fred Brentlinger as postmaster. Due to a decline in the needs of the area miners, it was discontinued on October 15, 1923 and moved to Circle.[75] Following the resurgence in mining activity in the early 1930s, the Postal Service appointed Mrs. Kate Welch, wife of the owner of the Woodchopper Roadhouse (Jack Welch), postmaster on February 24, 1932. She assumed the position in mid-August holding it until the end of August 1936 when the post office moved to Coal Creek and became associated with the mining camp directly.[76]

The crew constructed a building specifically to house the combination Coal Creek Post Office and radio station. Clyde A. Cobb served as the original postmaster. Although appointed on the postmaster position on April 15, 1936, he did not assume the responsibilities until the following August. Glen D. Franklin, who took over the responsibilities in May of 1938. replaced him. Franklin worked for Gold Placers Inc. as the company accountant at the time.[77] Phil Berail, who worked as the hydraulic foreman at Coal Creek under Gold Placers Inc., and who had previously been a miner and trapper

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[72] Ira B. Joralemon, "Report on Alluvial Golds Inc. Woodchopper Creek Property, Circle District, Alaska," dated December 28, 1935. Copy in "Coal Creek Operating Reports" Yukon-Charley Rivers National Preserve. Hereafter, Joralemon, "Report on Woodchopper Creek".
[73] McRae to Janin, letter dated December 4, 1935. Janin MSS.
[74] James S. Couch, *Philately Below Zero, A Postal History of Alaska* (State College, Pennsylvania: The American Philatelic Society, 1953), 13.
[75]James S. Couch, *Philately Below Zero, A Postal History of Alaska* (State College, Pennsylvania: The American Philatelic Society, 1953), 79.
[76] Melvin B. Ricks, *Alaska's Postmasters and Post Offices* (Ketchikan, Alaska: Tongass Publishing Co., 1965), 13.
[77] Bill Lemm, Oral History, June 9, 1992.

from the upper Charley River area, was named postmaster in February of 1943. He served, at least on paper, for the next two months. There are no records of who succeeded Berail until May 31, 1945 when the office again closed and moved to Circle.

Following World War II, the government re-established the post office at Coal Creek on May 16, 1946. Mrs. Sarah A. (Sally) Murray, wife of the Gold Placers and Alluvial Golds accountant (Ted Murray) was appointed postmaster. During the time Mrs. Murray served, the post office would move back and forth between Coal Creek and Woodchopper depending on which camp was serving the dredge operations each year. She held the position until July 22, 1961 when the office was transferred to Fairbanks and the Coal Creek post office ceased to exist altogether. This coincides with the time when operations on both creeks ceased and the dredges shut down.[78]

DREDGE OPERATIONS AT COAL CREEK

Under the terms of the contract, the Walter W. Johnson Co. would provide a trial run of at least two weeks. During this time the various "bugs" would be found and worked out before turning the dredge over to Gold Placers Inc. On July 1, 1936, as Ernest Patty describes it:

> Finally, we were ready to go into production. The construction pond itself was flooded to float the dredge. Its two diesel engines began coughing; the winchman moved the dredge out of the construction pit and the bucket line started to revolve and bite into the gravel.
>
> It was a great moment to hear the thump of the first gravel falling into the hopper. As it cascaded from the hopper into the big revolving screen, I could see the finer gravel, which would be sand and gold, dropping through the slots in the screen and onto the gold-saving sluices.

Although viewed with great anticipation, the initial start-up led to discovery of a series of problems resulting in essentially the first two weeks being a "total loss." [79]

Patty blamed this on the fact that ground thawed during the 1935 season partially refroze, as discussed earlier. In addition, Sam Palmer, while being a competent engineer when working at the Walter W. Johnson company headquarters in San Francisco, apparently was not up to the task of supervising on-site construction by himself. He went strictly "by the book," which in turn required making numerous adjustments and alterations to the machinery.[80]

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[78] Melvin B. Ricks, *Alaska's Postmasters and Post Offices* (Ketchikan, Alaska: Tongass Publishing Co., 1965), 72.
[79] Patty, *North Country Challenge*, 98-99, and "Gold Placers Inc., Annual Report, 1936," 11.
[80] Joralemon to Patty, letter dated September 16, 1936. Janin MSS.

Perhaps the most serious problem involved the uneven way the dredge floated in its pond. The original specifications called for a minimum freeboard (the distance from the deck to waterline) of two feet. When the dredge was first floated, in its working configuration with the spud down, bucket chain loaded, resting just off the bottom, Patty was shocked to see that the freeboard varied from 8 1/2 inches at the starboard bow (right-front) to 28 inches at the starboard stern (right-rear). The port (left) side ranged from 10 1/2 inches at the bow to 25 1/2 at the stern. Because of this, they added almost thirty tons of ballast (dead weight) to the stern of the boat leveling it out.[81] In a letter to Janin on July 29, McRae said the "Dredge looks more like a ship now."[82]

This problem perplexed the operators for quite some time as they adjusted and re-adjusted the ballast between the pontoons. It also infuriated company management leading to a number of terse letters and telegrams sent back and forth between Coal Creek, Fairbanks, Vancouver and San Francisco. In order for the dredge to work properly, it was necessary that it float nearly level to obtain the correct flow over the sluices and gold saving tables. If the bow sat too low, there would not be enough water flowing over the sluices to carry the gravel and lighter materials off. If the stern were too low, the water would wash all but the largest pieces of gold off with the waste material.

In addition to the potential loss of gold through the sluices, the costs associated with taking the ballast off the boat at the end of each season, replacing it the following spring, meant losing additional profits. For safety purposes, the company planned to remove the bucket ladder and drain the pond each fall allowing the dredge to sit on solid bedrock. In order to accomplish this, it would be necessary to remove all 30 tons of ballast each fall, replacing it again in the spring. If this was not done, when the pond was filled, the lack of counter-weight provided by the bucket ladder (which would not be loaded at the time, thus reducing the weight on the bow even further) would allow the bow to float faster and higher than the stern possibly leading to the dredge swamping at the stern.

In addition to the ballast problem Patty noted several other minor problems making requests to ensure the Walter W. Johnson Co. did not repeat them in designing and equipping the Woodchopper dredge. Among these were supplying a sufficient number of spring, or lock, washers. Dredges, by their nature, vibrate tremendously when operating under load. According to McRae, it was necessary for the crew to go throughout the boat, re-tightening nuts and bolts after operating only two weeks. The original order included what the company believed to have been an ample supply of extra nuts, bolts and miscellaneous hardware for the dredge after it was in operation. Because of the number of missing pieces during construction, the crew was required to use most of its inventory leaving few parts for repairs. Finally, according to McRae, wood supplied for the dredge was not seasoned properly. This resulted in warping and splitting.[83]

One of the more confounding problems encountered with the Coal Creek dredge was insufficient water flow in the screen to wash the mud, sand and gold from the gravel as it

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[81] McRae to Janin, letter dated July 28, 1936. Janin MSS.
[82] McRae to Janin, letter dated July 29, 1936. Janin MSS.
[83] McRae to Janin, letter dated July 28, 1936. Janin MSS.

moved down the machinery.[84] They considered several options, among them, adding additional nozzles on both ends of the screen, possibly including more down the center. The company sent numerous letters back and forth between Coal Creek and San Francisco posing questions, possible solutions, and making recommendations for modifications to the plans for the Woodchopper dredge. The problem seemed to continue regardless of how much they increased the speed of the pumps. In addition, when the pump speed was increased, the engine driving the pumps began vibrating badly. In general, it just plain did not work as it should.

Atlas diesel engines under construction on the main deck. The engine to the left ran the pumps while the engine in the background ran the bucket line, screen, winches and stacker. George Beck Collection, photograph courtesy of Max Beck.

Finally, after several months of trial and error, Patty ordered the diesel mechanic to disassemble the engine to see if there was some internal problem hindering its performance. Upon inspecting the intake manifold, the mechanic found a variety of desiccated meat, bones and other pieces of debris blocking the airflow. Thus, the engine simply could not breathe.

In trying to determine the source of the blockage, Patty noted in the letter accompanying the material to the Walter W. Johnson Co., that they were too large to have been dragged into the manifold by a rat. They appeared to be part of someone's lunch. There was no chance of sabotage at Coal Creek because the crew installed the engines as received. Most likely, someone dropped them into the engine during assembly at the Atlas plant.[85]

[84] "Gold Placers Inc., Annual Report, 1936," 11-12.
[85] Patty to Walter W. Johnson Co., letter dated August 14, 1936.

After reassembling the engine, the pumps worked as originally anticipated. The water flow through the screen was sufficient to provide good washing. Materials moved through the dredge without additional modifications.[86]

Between the problem with ballast and the pumps, it appears that a rift was developing between the partners in the Coal Creek enterprise. Patty, on-site at Coal Creek was frustrated with the many problems he was encountering. Joralemon, who had very little experience with dredges before entering the venture with McRae, expounded on each problem he received from Patty, forwarding his rendition on to Janin. McRae for the most part simply stayed in the background and let his managers deal with the problems as they arose. Finally, in a tersely written letter to Joralemon, Janin suggests that they get together in San Francisco, in an "executive session" with Walter W. Johnson himself. He stated that Johnson had incorporated most of the changes Gold Placers Inc. had requested for the Woodchopper Creek dredge. From that point on, he proceeded to lambaste the problems about which Patty complained.

First, he stated that, "It seems to me that the dredge master knows not too much and because he was once a winchman on an F.E. dredge thinks the little Coal Creek dredge should have all the doodads the former had. As one cost $460,000 for the 6 ft. and over $600,000 for the nine, it is hardly fair to expect a little $143,000 dredge to have the same."

He continued, "Another thing: -- if the [diesel] man Van [Deinse] had selected for the work gone on and been engaged by the Company (Gold Placers Inc.), there would have been no hasty conclusions re the engines and pumps. How meat and bones got into the manifold is beyond me, prehaps (sic), sabotage at the plant, I should have thought it would have a smell – perhaps someone was killed and ground up into sausage, there are still missing persons being hunted for down here?"

Finally, in addressing the ballast question, he pointed out that the big Yuba dredges required 145 tons. He personally put over 100 tons on a Lena dredge. In his opinion, thirty tons on a small four-foot dredge like Coal Creek was not out of the ordinary. The only thing Janin could fault the manufacturer for was not sending either Johnson himself or Van Deinse, his chief engineer to visit the dredge when it was almost completed for a final check. This would have "provided not only an expert who really knew the business but of some one in authority, to make immediate adjustments necessary on the ground." It is interesting to note that Janin summed up the letter with "I wouldn't show this to Patty, but it is OK to let the General see it."[87]

As previously mentioned, Joralemon's experience with dredging was limited, primarily to operations in the California gold fields. At Coal Creek and Woodchopper Creek, unlike

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[86] Patty to Walter W. Johnson Co., letter dated August 14, 1936 and telegram dated August 18, 1936.
[87] Janin to Joralemon, letter dated August 10, 1936. Janin MSS. The overall tone of this letter comes from its context rather than content. Janin's correspondence is always carefully worded. In the case of this letter, it is filled with short, choppy sentences, often incomplete sentences with many typographical errors.

California, the gold tended to be in large chunks or nuggets. In observing the action of the pebbles flowing over the riffles on the gold saving tables, he noticed that they moved too rapidly for the gold to settle sufficiently to be caught by the mercury in the sluices. To test his theory, he had one of the mechanics make an "artificial nugget," one-half inch in diameter from heavy solder. He attached a thread to the "nugget" so he could watch its progress through the riffles. When dropped onto the table, the water easily carried it down and out the tail sluice.

To remedy this problem, he devised a "nugget trap" consisting of nothing more than pieces of 1x4 cut long enough to fit across the table. When installed, this caused the water flow to hesitate just enough to allow the larger nuggets to fall to the bottom while the waste material flowed over the top of the dam. In order to test the trap, they installed it on only one table. The first day, Joralemon's "nugget trap" succeeded in recovering $50 worth of gold that otherwise would have been lost. Based on this experiment, the crew immediately made "nugget traps" for the other seven tables. Although results varied from table to table, the traps accounted for a considerable part of the total gold recovered. In summing up his modifications, Joralemon called it the "[greatest] return from an investment of a few cents for the 1x4s."[88]

During the 1936 season, a second penstock was constructed further upstream from the original one. Beginning the next season (1937), water diverted by the upper penstock would be used for stripping operations, water from the lower penstock would be used for the thawing operations.

After running continuously for just over two weeks, they shut the dredge down and the crew started pulling the riffles out of the gold saving tables. Patty described the crew's demeanor as:

> Nobody said a word. We were all too keyed up. I had not felt the same stomach-gripping tension since my college days when I used to wait for a report on final examinations.[89]

The first cleanup was a rather joyous event at Coal Creek. General McRae, accompanied by his daughter, came to the camp for the occasion. Although in the end, Patty called the first seventeen days of operation a "total loss." When put into perspective, the dredge was new, the crew new and there remained many "bugs" to work out. Patty rationalized that "about two-thirds of this [poor performance] can be charged to the failure of the steam thawing and one-third on account of adjustments and alterations on the dredge." [90]
The initial cleanup would be the decisive test of their investment. As Patty described it, "It would show whether we had the wrong pig by the tail."[91]
After collecting the amalgam from the sluices, they took it to the gold room in the assay office. There it was heated in a process called "retorting." At this point, the heat

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[88] Joralemon, *Adventure Beacons*, 329.
[89] Patty, *North Country Challenge*, 99.
[90] Patty, "Gold Placers Inc. Annual Report, 1936," 11.
[91] Patty, *North Country Challenge*, 99.

evaporates and drives off the mercury, leaving behind the gold "sponge." The mercury was recovered, by distilling the vapor, for continued use in the sluices. The assayer then melted the gold sponge in a furnace where the impurities floated ("slagged") to the top and the molten gold was cast into bars.

During the first several weeks, the dredge dug 30,300 cubic yards of gravel producing 597.420 ounces of gold bullion having a value of $18,578.24, an average of $0.62 per cubic yard. For the remainder of the season, the dredge processed an additional 165,000 cubic yards of gravel recovering a total of 3,896.74 ounces of gold valued at $122,092.29.[92]

Subsequent cleanups illustrate an increase in value to a high of 74.2¢ per cubic yard, followed by a steady decline down to 38.5¢ per yard which was considerably less than the first cleanup. As the operation continued, additional cleanups reflected the company's prospecting estimates almost exactly. Patty noted in his annual report that: "It is significant to note that the first three cleanups checked the prospecting exactly. This is exceptional for it is the experience of dredging companies that it generally requires three seasons of dredging for the law of averages to work out."[93]

Overall, the year's production proved successful with 204,800 cubic yards of material passing through the dredge. The dredge recovered almost 3,500 fine ounces of gold with a value of over $121,000.00. Since dredges are "cleaned up" every few weeks rather than daily, it is impossible to know just what the daily production figures may have been for the dredge. The first cleanup took place on July 29, 1936 after operating for 29 days. If Patty's comments about the first seventeen days are in fact accurate, the dredge was VERY successful during the final twelve days. Over the next three years, the dredge averaged slightly more than $23,000.00 per cleanup. The final two cleanups in 1938 skew the average considerably because the dredge worked unusually rich ground during October of that year.[94]

There were a number of design changes made during the first season. Among these: (1) extending the 'save-all' sluice to catch a greater amount of the spillage coming from the buckets; (2) replacing the upper section of the screen with one having larger openings to ensure more material was passing over the gold saving tables (sluices); (3) installing a "retarding ring" at the lower end of the screen to slow down the material passing through the screen allowing it to be washed more thoroughly; (4) installing a small grizzly and an additional sluice between the end of the screen and the stacker belt; (5) installing permanent nugget traps based on the temporary ones devised by Joralemon; (6) adjusting the riffles on the gold saving tables (sluices) and adding some larger riffles to slow the progress of materials as they washed down – similar to the nugget traps at the top; and finally (7) lengthening the stacker so material was carried farther astern before being dumped into the dredge pond. All of these improvements would be in place before the

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[92] Patty, "Gold Placers Inc. Annual Report, 1936," 13, 16.
[93] Patty, "Gold Placers Inc. Annual Report, 1936," 13.
[94] See Appendix II "Cleanup Reports, Gold Placers Inc." for detailed information on each cleanup.

1937 season and requests made in the specifications for the new dredge at Woodchopper Creek.[95]

As a dredge processes gravel, the gold accumulates in different sluices at different rates as illustrated in the following table, based on the 1936 production figures for the Coal Creek dredge. In this case, the sluices located directly below the screen captured over ninety percent of the gold immediately after falling onto them. The remaining ten percent settled out as the material continued down the cross and side sluices before passing out of the dredge with the finer tailings.[96]

Sluice Location	Total Ounces of Amalgam[97] Recovered	Percent of Total[98]
Upper Screen Sluice[99]	3,471.10	66.4
Lower Screen Sluice	1,249.50	23.9
Cross Sluices	220.27	4.2
Side Sluices (long)	26.95	0.5
Nugget Sluice[100]	185.06	3.5
'Save-All'	77.97	1.5
Total	5230.95	100.0

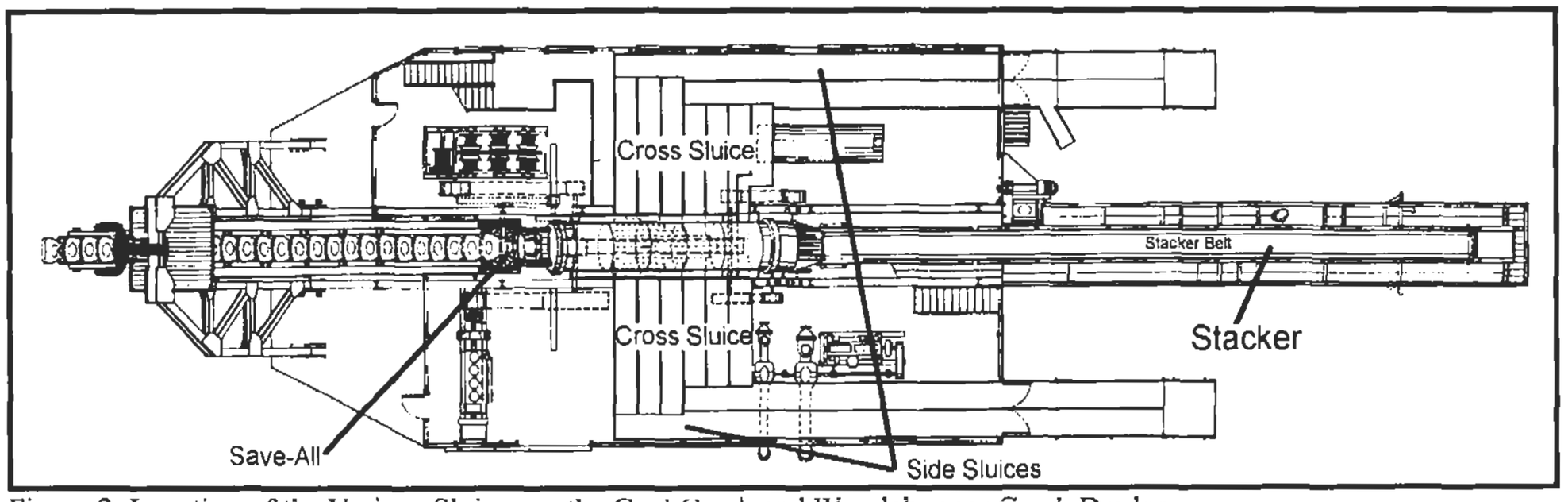

Figure 2: Location of the Various Sluices on the Coal Creek and Woodchopper Creek Dredges

[95] Patty, "Gold Placers Inc. Annual Report, 1936," 13.
[96] Patty, "Gold Placers Inc. Annual Report, 1936," 15.
[97] Amalgam consists of gold combined with mercury. This figure is not an accurate representation of the amount of gold recovered because the two elements must be separated during the retort process where the amalgam is heated to drive off the mercury (which is distilled and re-used) leaving the gold behind. The resulting "sponge" consists of gold in combination with other minerals and precious metals including silver. Mercury was only added to the upper and lower screen sluices in the Coal Creek and Woodchopper dredges. (Dale Patty, personal communication, June 25, 1998).
[98] These figures were fairly consistent throughout the history of the dredging operations on both Coal Creek and Woodchopper. According to Dale Patty, the upper screen sluice accounted for 70%, the lower screen sluice 20-22%, the side sluices 6-8%, the nugget sluice 1/2-1% and the tail sluices 1-2% of the gold. (Dale Patty, personal communication, June 25, 1998).
[99] The upper and lower screen sluices are located directly below the screen.
[100] The nugget sluice is located directly below the junction of the screen and the stacker. It's purpose is to catch any nuggets that are too large to pass through the perforations in the screen.

Perhaps one of the highlights of the year's operation was the fact that after properly adjusting everything and remedying the problems with frozen ground the dredge exceeded its guaranteed average digging rate of 2400 cubic yards per day by one hundred yards. This attested to the quality of the product produced by the Walter W. Johnson Company. On the down-side however, Patty noted that it fell short of the estimated 3000 cubic yard capacity Johnson predicted the dredge was capable of digging.[101]

COAL CREEK ROAD CONSTRUCTION

The placer area at Coal Creek extends from the Yukon River, approximately seven miles upstream. Gold Placers Inc. located its camp near the upper end of the placer so their facilities would be near where the dredge was operating. As the dredge moved up and down the creek, the crew moved the camp buildings from time to time as well. Constructing them on skids helped accommodate this.

The camp itself was first located approximately seven miles from the Yukon River. From the beginning, the logistics of getting equipment, supplies and men from the river to the camp caused problems because of a lack of a quality road. They hauled the parts for constructing the dredge overland after the ground froze and had a covering of snow.

During the 1936 season, Gold Placers Inc. constructed one and a half miles of "automobile truck" road from the camp, working downstream toward the Yukon River. The Alaska Road Commission (ARC) surveyed a right-of-way for the remainder of the road and a cooperative agreement wasentered into between the company and the ARC to complete the road. Under the terms of the agreement, the ARC supplied a crew of men paying their wages and transportation. It also furnished a dump truck for moving road-building materials. Gold Placers Inc. supplied "subsistence" for the camp and a tractor with a bulldozer and a driver.[102]

The ARC crew arrived on June 14, 1936 and worked through the middle of October. The first two miles of the right-of-way, from the Yukon River, crosses frozen muck with numerous ice lenses.[103] After stripping the muck the ice began to thaw creating many problems associated with the deep mud. The only way to maintain a road over this portion was to corduroy[104] the entire stretch, covering it with a layer of crushed rock.[105]

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[101] Patty, "Gold Placers Inc. Annual Report, 1936," 11.
[102] Patty, "Gold Placers Inc. Annual Report, 1936," 18.
[103] An "ice lens" is an area of permanently frozen ground that is composed primarily of ice with little or no vegetative matter or dirt. When ice lenses are exposed to natural thawing processes they create puddles or small ponds depending on their size.
[104] "Corduroying" a road was a common technique used in road building in Alaska. After surveying a right-of-way, the upper layers of moss and vegetation was removed. Then a layer of poles and logs was layed perpendicular to the road. On top of this, a layer of crushed stone was laid to provide a reasonably smooth surface to drive over. One difficulty with this type of construction is that the wet, muddy conditions quickened the decay of the logs resulting in a need to replace the corduroy.
[105] Patty, "Gold Placers Inc. Annual Report, 1936," 18.

The six and one half mile long Coal Creek road was completed to within one half mile of the Yukon River during the 1936 season. The ARC agreed to have its surfacing crew return the following year to complete the work and make any necessary improvements. Patty reported the cost of constructing the road as slightly less than $3500.00 for the season.[106]

The next season (1937), the ARC provided a crew and dump truck under the same agreement as the previous year. They completed the remaining one half mile of road to the Yukon River. Gold Placers Inc. constructed a bridge over Coal Creek and made minor repairs to the remainder of the road.

It was evident that without major changes, the two miles of road leading to the Yukon River would become unusable. The ice and soil conditions could not stand up to the heavy truck traffic. Even heavy corduroying soon deteriorated. Patty stated that the only way to bring this up to useable standards would be to have a heavy surfacing of gravel or "slide rock." The company again put in a request for the ARC to supply a crew and truck to work on the road in order to put it in "permanent shape." During 1937, the company spent $1500 on the road, bringing the total over the three years (1935-37) to $5703.47.[107]

By the end of the 1939 season, with the continued assistance from the ARC, Gold Placers Inc. constructed and surfaced seventeen miles of road from the landing at Slaven's Roadhouse up Coal Creek crossing the ridge to Woodchopper Creek. According to Patty, the road was in constant use throughout the summer. Most of the camp supplies and materials were hauled by truck. This virtually eliminated the need to haul anything by tractor further cutting transportation costs. However, the lower two miles of road required expending almost ninety percent of the total labor allocated for road construction during the entire season. Even at that, he calculated that it would be yet another season of work before this section became permanent. Overall, in 1938, they company spent $2761.26 on road construction and repairs.[108]

Each year that passed saw increased traffic along the road owing to the increased operations at both Coal Creek and Woodchopper Creek. The upper fourteen to fifteen miles of road did not require much in the way of repair or upkeep. However, the lower two to three miles of road, upstream from the landing at Slaven's, continued to need constant repair. By the end of the 1939 season, the road was "finally in such shape that truck hauling is no longer difficult." During 1939, trucks carried almost ninety percent of the supplies needed at the two camps. Tractors were only used to haul the heaviest items.[109] By 1940, the road crews improved it to a point that Patty commented that it "stood up well under the heavy [truck] hauling."[110]

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[106] Patty, "Gold Placers Inc. Annual Report, 1936," 19.
[107] Patty, "Gold Placers Inc. Annual Report, 1937," 10.
[108] Patty, "Gold Placers Inc. Annual Report, 1938," 8.
[109] Patty, "Gold Placers Inc. Annual Report, 1939," 7.
[110] Patty, "Gold Placers Inc. Annaul Report, 1940," 7.

CHAPTER FIVE
WORLD WAR II AND ITS IMPACTS

IMPACTS OF WORLD WAR II

Gold Placers, Inc.'s dredging operation on Coal Creek began in 1936. Alluvial Golds, Incorporated started on Woodchopper Creek the following year. Over the next six years, the two companies, in full production, extracted 89,975.454 ounces of fine gold (46,825.639 from Coal Creek and 43,149.815 from Woodchopper Creek). As international events continued unfolding in both Europe and Asia, war conditions made gold mining difficult at best, especially in a place as remote as Alaska.

By early May 1941, it was becoming obvious that the demand for strategic and critical metals, primarily non-ferrous metals like copper and lead, was out-distancing the availability of the machinery, materials and facilities, to produce them. Continued competition with the gold mining industry exacerbated the situation. The increase in demand to support the planned two million-man army for the US, and the needs of the Allies would only compound the problem. Consequently, the Office of Production Management[1] issued a preference rating order titled "First Priority Control on Mining Machinery: Order P-23." Under Order P-23, an A-3 rating for material deliveries was needed for producing mining machinery. The order applied only to a selective list of qualified manufacturers. Although the intent of Order P-23 was to aid most underground non-ferrous metal mining operations with war time significance including drilling, blasting, loading and transport, crushing and elevating ores, the same concerns also applied to coal and base metal mining. It was quickly becoming apparent that gold mining was also one of the industries supported. With an expiration date of November 30, 1941, the order was intended to be short lived. It soon became evident that although gold mining accounted for an extremely small percentage of new mining equipment going into production, the use of maintenance and repair equipment in gold mines was much greater.[2]

The Office of Production Management re-visited the situation in the early autumn of 1941. The result was to exclude placer gold mines from priority ratings under Preference Rating Order P-56 on September 17, 1941. This order granted each mine whose operations were deemed "important from the standpoint of defense or essential civilian needs," a serial number that allowed the company to apply for a priority rating under the order. A preference rating of A-1-a was assigned to repair material deliveries to a mine in the event actual breakdowns occurred minimizing delays in resuming production.

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[1] During WW II, the Office of Production Management used the acronym OPM. To avoid confusing the historical office with the Office of Personnel Management, which currently uses the acronym OPM, when referring to the historical office, the title is spelled out.

[2] Mary Claire McCauley, *The Closing of the Gold Mines: August 1941 to March 1944* (Historical Reports on War Administration: War Production Board, April 5, 1946), 3.

General repair parts and mine supplies were assigned an A-8 rating. Order P-56, intended to facilitate an uninterrupted flow of essential materials to the war effort, covered approximately 15,000 mines.[3]

Gold placer mines were not granted serial numbers and were thus cut off from the priority benefits of Order P-56. Wilbur A. Nelson, who served as Priorities Specialist and Administrator for Order P-56, explained the rationale behind the move as: "we felt that we must start restricting mining activities where they were not essential to the production of materials needed in a defense effort."[4] An additional reason for the restrictions on placer mines centered on the fact that these operations were often, operated only seasonally. As a result, the government assumed that their operations could be discontinued without equipment deteriorating.[5] Nelson further explained that placer mining operations could apply for a lower priority (A-10) under Preference Rating Order P-22. Using form PD-1, mine operators could apply for a specific piece of equipment in special cases. Nelson said that his office would "expedite [the purchase] as promptly as possible, provided [the owner] is not asking for an unreasonable amount of materials. In other words, we wish to keep the mines going on a restricted basis and not to dislocate any more labor than is necessary."[6]

Almost immediately cries of discrimination against the gold mining industry reverberated throughout Washington DC. The loudest of these came from Alaska and other western states where placer mining was a major industry. Out of 7891 gold and silver mines in the western United States and Alaska, in 1941, 3349 were placer operations. Out of 855 gold mining operations in Alaska, 799 worked placer deposits.[7]

Because placer mining accounted for a very large number of both jobs and territorial revenue, the Supply, Priorities and Allocations Board (SPAB), in issuing its "Status of Gold Mining Report" in late 1941 suggested that:

> Some special basis of treatment might be worked out for Alaska, where gold-mining assumes the proportions of a major industry. To cut off suddenly all shipments of new equipment needed for replacement, and to makc it unduly difficult to secure supplies, might have severe effects upon employment in Alaska, and upon the revenues of the Territory. The Labor Division might be asked for a formal opinion on the probable impact upon employment in the Territory of … suggested restrictions. The Territorial Government could also be asked for a formal report on the importance of gold-mining, with all relevant statistical data.[8]

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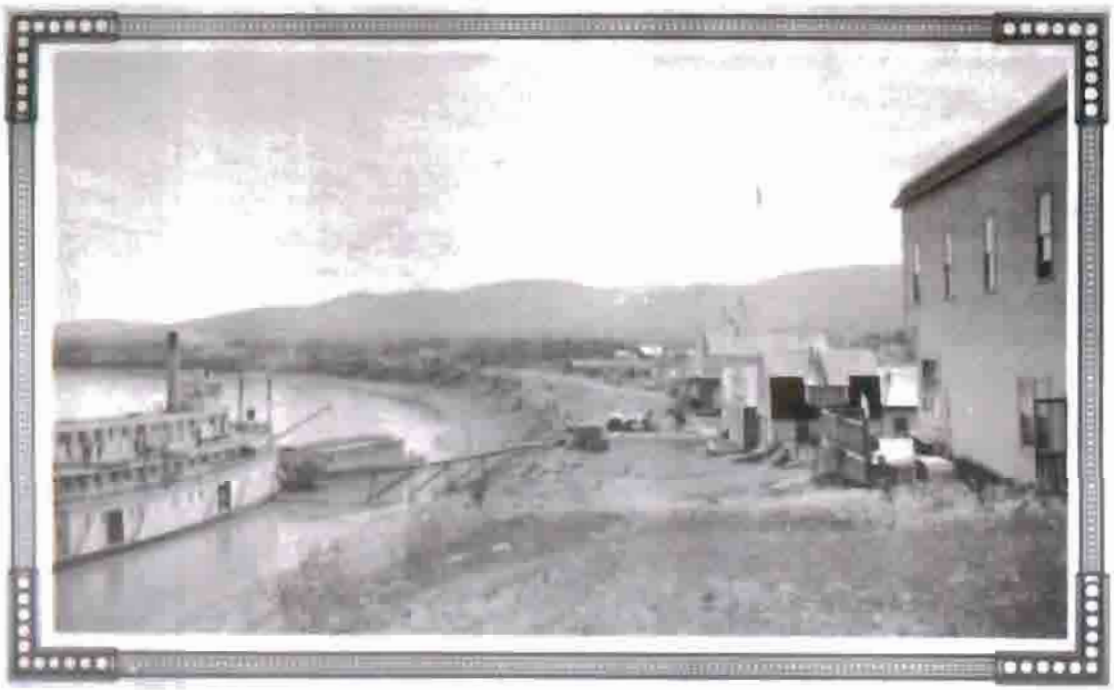
[3] Ibid., 3-4.
[4] Wilbur A. Nelson, "Address Before Training Group of the Priorities Field Service," November 10, 1941. In McCauley, *The Closing of the Gold Mines*, 4.
[5] "Status of Gold Mining," November 18, 1941 (Supplies, Priorities and Allocations Board (SPAB), Document 12d). In McCauley, *The Closing of the Gold Mines*, 4.
[6] Wilbur A. Nelson, "Address Before Training Group of the Priorities Field Service," November 10, 1941. In McCauley, *The Closing of the Gold Mines*, 4.
[7] US Bureau of Mines, *Minerals Yearbook* (Washington DC: Government Printing Office, 1941), 67.
[8] "Status of Gold Mining," November 18, 1941 (SPAB Document 12d).

Increasing tensions, followed by the actual outbreak of war late in 1941, profoundly affected Alaska. Unlike the Lower 48, Alaska was the only territory under the United States flag that was occupied by the Japanese during the war.[9] Because of its strategic, centralized location plans for the defense of the territory led to adopting many restrictions on normal living and business operations. Increased construction and manufacturing in aircraft and other war-related industries placed demands on materials needed to continue dredging operations. Items such as heavy machinery, petroleum products and steel alloys were being diverted to the war effort instead of mining.[10] Construction of the Alaska Highway took much of the mobile equipment such as draglines, tractors and grading equipment away from mining. In addition, higher wages paid by military contractors lured away the experienced labor supply that previously worked the dredges. Drastically increased transportation costs along with reduced shipping schedules served to slow dredging operations in Alaska.

The 1942 season was particularly difficult on Gold Placers Inc. and Alluvial Golds because the river steamer on the *Yukon* only made three round-trips. According to Patty, the only thing that kept the Gold Placers Inc. operation going was the fact that the company maintained a large inventory of parts and supplies on hand. He further commented that, "The loyalty of our older employees in staying with us during this period is highly commendable."[11]



Steamer *Yukon* at Eagle, Alaska. NPS photo, Bill Lemm Collection.

[9] The Japanese attacked Dutch Harbor in June 1943 and occupied the small islands of Kiska and Attu in the Aleutians afterward.
[10] Spence, 113.
[11] Patty, "Gold Placers Inc. Annual Report, 1942," 1.

On March 2, 1942, the board amended Preference Rating Order P-56 specifically excluding gold and silver mines from ratings assigned by the order. This in fact barred these mines from obtaining any materials and machinery necessary to continue operating.[12] Again, the outcry from western states was almost immediate. Of particular concern was the outright exclusion of all operations deriving thirty percent of their profits from gold or silver. As an example, echoing the cries of other western states including Alaska, Governor Herbert B. Maw of Utah pointed out that:

> We have one of the largest copper mines in the world, but not counting that, the silver and gold mines produce ten million ounces of silver a year, one hundred fifty million pounds of lead, eighty-seven million pounds of zinc. Yet, the value of the gold and silver is 40.8 percent of the total value of the ore taken out. That would mean … if the order were enforced, every single gold and silver mine in Utah except for one small one … would be closed down … Forty percent of the people of Utah are dependent almost entirely on the mining industry for their livelihood. Shut down our silver and gold mines, and we will be moving out.[13]

When asked by Senator Pat McCarran, of Nevada, where the thirty percent "figure came from, who is responsible for it?" Wilbur A. Nelson, administrator for Order P-56 quickly passed the buck replying, "The orders were drawn by the Priority Division, not by the Materials Division. I am in the Materials Division."[14]

The following May, allegations about discrimination were corroborated during hearings before the United States Senate.[15] Consequently, the board eliminated the "thirty percent" clause from the amended order. This action removed psychological if not actual deterrents to obtaining mining machinery for placer operations. The War Production Board stated that simply changing the language of Order P-56 would "have no practical effect, as no person can use the ratings assigned; unless a serial number is assigned by the Director of Industry Operations, and gold and silver mines which produce no substantial quantities of critical materials have not been and will not be issued serial numbers."[16]

Because copper was in critically short supply, government officials hoped that sufficient numbers of miners who previously worked in gold mines would move over to copper in support of the war effort. Finally, on October 8, 1942 the War Production Board issued

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[12] McCauley, *The Closing of the Gold Mines*, 16. The clause relating to gold and silver mining described mines eligible for ratings under Order P-56 as "Any plant actually engaged in the extraction by surface, open-pit or underground methods, or in the beneficiation, concentration or preparation for shipment of the products of mining activity, but not including any plant more than 30 percent of the production of which in dollar value consists of gold and/or silver."

[13] Minutes, Meeting and Priorities, University of Nevada, March 12, 1942, Statement of Herbert B. Maw, Governor of Utah. In McCauley, *The Closing of the Gold Mines*, 20.

[14] Ibid., Statement of Senator Pat McCarran.

[15] U.S. Senate, 74th Cong., 2nd Sess., Subcommittee of the Special Committee on the Investigation of Silver, *Hearings*, May 6, 1942, p. 562.

[16] "Recommendation for Issuance of Amendment to Order P-56," on file with the Recording Secretary, War Production Board. In McCauley, *The Closing of the Gold Mines*, 21.

Order L-208 declaring gold mining, with few exceptions, a non-essential industry.[17] In the Order, the Board called for virtually closing down all non-essential mines as rapidly as possible. In addition, it deprived them of further supply and equipment allocations. As a result, all of the major gold mining operations throughout the territory (as well as the United States as a whole), except those specifically exempted, suspended operations.[18]

Many of the crewmen working for Gold Placers Inc. and Alluvial Golds Inc. were drafted into military service. During September and October of 1942, Gold Placers Inc. lost an average of one man per week for army service – and it was impossible to replace them.[19] Other workers were attracted elsewhere by the high prevailing wages in war-time industries. It was difficult to hire experienced point drivers and dredge crews. At first, the company relied on nature to thaw ground ahead of the dredge. Then, when this was not as productive as hoped, Patty hired seven Natives from Eagle and brought them to Coal Creek where they trained as point drivers. He noted in his report that "they worked out much better than anticipated."[20] Relying upon inexperienced labor and higher competitive wages led to ever-increasing costs associated with operating on both creeks.

By 1943, overall gold production from Alaskan dredges dropped to less than one-sixth of what it was just two years earlier. This is in part due to Order L-208 and its immediate effect of closing down the industry. Given the difficulty mining companies found themselves in with attracting experienced labor, it is likely that operations would have been curtailed to a vast degree by natural attrition as companies suspended work until the end of the war. The real losers under Order L-208 were the individual small operators, mining communities, and the territorial government that drew almost one-third of its revenue from taxes on mine output. Large companies like the Fairbanks Exploration Company and the United States Smelting Mining and Refining Company (in Nome) were sufficiently diversified in other areas of mining, smelting and refining to weather the troubles of World War II in fairly good shape.[21]

Although the outlook for continued dredging was not particularly pleasant the crew moved Coal Creek camp, and all of its associated buildings, from its original location to a new site opposite drilling line 12 during the winter of 1941-42.[22] This placed the camp between the Coal Creek-Woodchopper Creek road and the dredging area, on the west

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[17] Order L-208 addressed the gold mining industry exclusively. It directed each operator to take immediate steps to close down operations and, after seven days, not to "acquire, use or consume any material or equipment in development work." The order further directed that, within 60 days, all operations should cease, excepting only the minimum activity necessary to maintain mine buildings, machinery and equipment, and to keep the workings safe and accessible. Placer operations, processing less than 1000 cubic yards of material in 1941 were exempted from the order. Neither Gold Placers Inc. or Alluvial Golds Inc. met this criteria having processed 624,200 cubic yards. (See: *U.S. v. Central Eureka Mining Co.*, 357 U.S. 155).

[18] Philip S. Smith, *Mineral Industry of Alaska in 1940 and 1942*, USGS Bulletin 943-A (Washington DC: Government Printing Office, 1944), 3-4.

[19] Ibid.

[20] Patty, "Gold Placers Inc. Annual Report, 1942," 5.

[21] Spence, 123.

[22] Patty, "Gold Placers Inc. Annual Report, 1942," 1.

side of Coal Creek, opposite its confluence with Boulder Creek. Today evidence of the camp includes several structural depressions and a can/trash dump approximately 50 yards downhill from the main road between Coal Creek and Woodchopper Creek.

Dredging operations on Woodchopper Creek during 1942 faced an interesting problem. The ground the dredge worked was tightly packed with sediment that was almost as difficult to dig as if frozen. This sediment acted like soft cement. The bucket chain would actually break a granite boulder into pieces before the sediment released it from its grip.[23] The company considered drilling the ground and "shaking it up" with explosives before bringing the dredge through it. However, because it was high-grade ground, they decided simply to work the dredge carefully to avoid damaging their equipment.

Although production was down to slightly more than 60% of that in 1941, the Territory of Alaska taxed excess profits. Working the ground more slowly held production down and in the end, the company was able to maximize its profits – yet remained below the level qualifying for the excess profit tax – and avoided any serious breakdowns with their machinery.[24]

At the close of the season, in anticipating the possibility that the dredge might not operate for several years, the crew dug a shallow area just ahead of the dredge pond. They then raised the water level in the pond and floated the dredge onto the shelf. Then, on October 12, 1942, they lowered the water and the dredge settled onto the bottom for safe storage.

Operations at the Alluvial Golds Inc. camp on Woodchopper Creek shared equally in the difficulties facing mining companies because of the war effort. However, the company also tried to "participate constructively," as Patty called it, in the war effort by using some of their cash reserves to carry out a "determined field program to locate a commercial war mineral deposit." These efforts focused on a very wide range of minerals including cinnabar (mercury), zinc, manganese, tin, lead-zinc, antimony, tungsten and copper. The prospected areas included Alaska, British Columbia, Washington, Oregon, Nevada and Montana. The company spent over $10,000 from its general exploration account writing it off as a loss against the year's operating profit. Their efforts resulted in a nickel prospect near Winesap, Washington that showed indications of being profitable. They applied to the Reconstruction Finance Corporation (RFC) for a $20,000.00 development loan. Optimism for getting the loan ran high after the RFC field engineer examined the property.[25]

In recapping the first six years of the operation on Woodchopper Creek, Patty calculated that the dredge processed 1,965,800 cubic yards of material with a mineral yield of $1,512,768.39. From that, deducting operating expenses left a profit for the company, for the same period, of $65,162.09. In addition, the company paid off the Reconstruction Finance Corporation loan used to purchase the dredge ($280,000.00), paid out dividends to shareholders ($120,000.00) and repaid General McRae's initial capital advance

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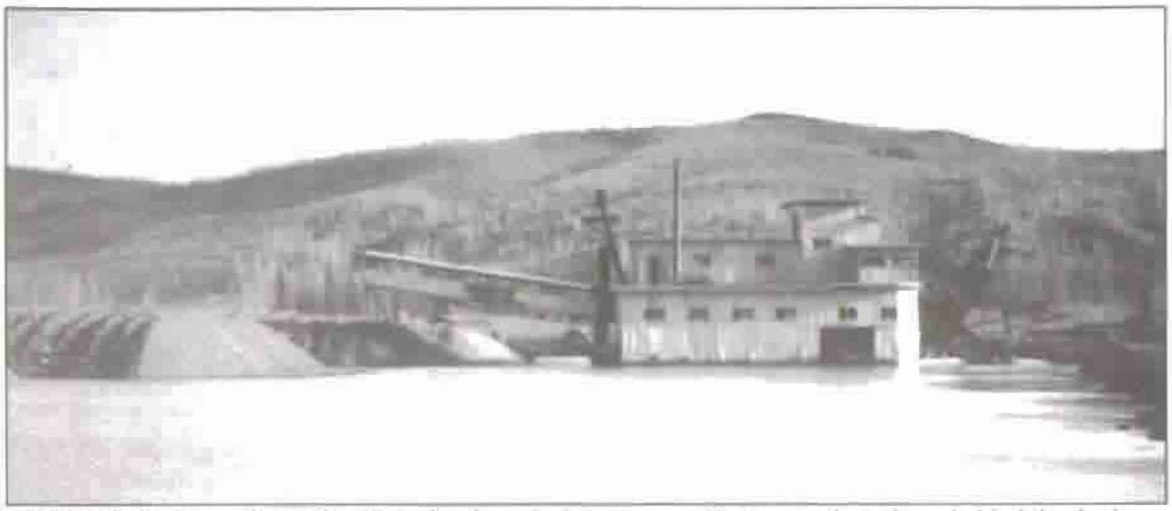
[23] Patty, "Alluvial Golds Inc. Annual Report, 1943," 2.
[24] Patty, "Alluvial Golds Inc. Annual Report, 1942," 4.
[25] Patty, "Alluvial Golds Inc. Annual Report, 1942," 1, 6-7.

($41,438.36). Overall, true to the early USGS predictions, the Woodchopper Creek placers turned out more valuable than those on Coal Creek.[26]



Coal Creek dredge, early 1940s. Note the characteristic "crescent" shape to the tailings behind the dredge. Each ridge represents one cut by the digging ladder across the digging face of the pond, after which the dredge is "stepped forward" to make another cut. NPS photo, Bill Lemm Collection.

To quote an oft-times over used phrase, in 1943, "It was the best of times. It was the worst of times."[27] Gold Placers Inc. did not operate its dredge on Coal Creek that season. Alluvial Golds Inc. had one of their hardest years on record at Woodchopper Creek, beginning with finding a crew that was willing to work for the wages the company could afford to pay. In the end, Patty was able to hire an eight-man crew to work the dredge with a woman to work as the camp cook. Later in the season, he hired a Native from Eagle for general work about the camp. Patty commented in his annual report that: "This skeleton crew, chiefly of men past the age of sixty years, remained on the job throughout the season and their loyalty, energy and cooperation was one of the bright spots of the year."[28]

On the other side of the coin, the ground in which the dredge operated was almost completely thawed naturally and required only a single thawing unit to break up the "seasonal frost" (gravel that froze during the winter and required thawing before the dredge could start the season). The remaining gravels were never exposed to thawing points at all. With the exception of an occasional small area of frost, dredging went on without difficulty.

In addition, the dredged ground was some of the richest that either company encountered. Averaging $1.11 per cubic yard in 1942, it declined slightly to 70.8¢ per yard in 1943. Based on prospecting estimates, the company expected to remain in gravels with these values for several more years.[29]

[26] Patty, "Alluvial Golds Inc. Annual Report, 1942," 9.
[27] Charles Dickens, *A Tale of Two Cities* (Boston: G.K. Hall, 1980), 1.
[28] Patty, *North Country Challenge*, 190-91; also, Patty, "Alluvial Golds Inc. Annual Report, 1943," 1.
[29] Ibid.

Patty was able to secure permission from the War Production Board to operate one of their Alaskan dredges during the 1943 season. This permission was premised on several additional restrictions:

1. All employees except the General Manager and superintendent must be hired from within the Fairbanks area;

2. The War Manpower Commission Office at Fairbanks must approve the employment of each individual on the crew and reserved the right to withdraw any member of the crew if at any time that man was needed for essential war work.

Fortunately, the Commission did not make any withdrawals until late in September when it took one man, an experienced driller, to drill water wells at several new airfields.[30]

The difficult digging conditions from the 1942 season continued to plague the company in 1943. These improved somewhat as the season progressed. This is borne out in the increased digging capacity of 113 yards per hour in 1943 as compared to only 75 yards in 1942. Because of the limited size of the crew, they were only able to work two ten-hour shifts per day. The dredge worked a total of 95.3 days from June 18 through September 22. During this time, they processed 199,500 cubic yards of gravel recovering almost $150,000.00 of gold. Dredging costs appeared higher this season because the company installed forty new buckets and a new spud on the dredge at a cost of $12,000.00. Factoring out these exceptional expenses, the actual 1943 costs were 2¢ less per yard than those in 1942.[31]

Perhaps one of the most amazing things about the 1943 season is the lost time record the "skeleton" crew accomplished. Unlike previous years, four hours each day were lost when the dredge was shut down simply because there were not enough men to operate it. The same crew also carried out clean-up operations. Under normal operating conditions, the dredge crew would carry out repairs while the clean-up crew did their work. By eliminating lost time due to cleanups, moving the dredge ahead and oiling, the 1943 crew was able to maintain dredging operations for 97.6% of the available working time. Patty accredited this "exceptional record" to the fact that "the company regularly maintained their equipment in good mechanical condition; that [they] had on hand a good stock of spare parts; the skill of the men in handling the equipment and last but not least, such good luck."[32]

Due to the war effort and the government ban on gold mining, neither Gold Placers Inc. nor Alluvial Golds Inc. operated during the 1944 season. In 1945, under a special dispensation from the government, Gold Placers Inc. resumed operations with a limited crew. The government rescinded Order L-208 on July 1, 1945. During the season, the

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[30] Ibid.
[31] Ibid., 2.
[32] Ibid.

dredge produced gold with a gross value of only $123,130.49. This accounted for the second lowest production year in the company's history.[33]

Order L-208 had tremendous impacts on the gold mining industry throughout the United States. As illustrated by the following table, the value of gold produced in the US declined almost 75% over the four-year period from 1940 to 1943.

Value of Gold Produced in US Mines (1940-1943) and the Effect of Order L-208[34]

State/ Territory	1940	1941	1942	1943	Decrease[35] Under Order L-208
Alaska	$26,458,950	$24,172,715	$17,066,735	$3,741,150	- 85.9%
Arizona	10,318,245	11,025,000	8,877,785	6,055,000	- 41.3%
California	50,948,485	49,413,000	29,679,865	5,180,000	- 89.9%
Colorado	12,856,800	13,212,605	9,401,945	4,764,480	- 62.9%
Idaho	5,126,800	5,250,000	3,325,700	1,120,000	- 78.2%
Montana	9,541,070	8,627,500	5,141,220	2,082,500	- 78.2%
Nevada	13,437,655	13,030,500	10,328,920	4,830,000	- 64.1%
New Mexico	1,258,005	996,415	418,635	199,955	- 84.1%
Oregon	3,969,070	3,311,000	1,618,155	35,000	- 99.1%
South Dakota	20,533,170	21,357,805	18,273,430	3,967,320	- 80.7%
Texas	10,920	11,375	8,260	175	- 98.4%
Utah[36]	12,442,290	12,172,440	13,704,040	13,361,705	+ 7.4%
Washington	2,874,760	2,854,915	2,638,860	2,317,000	- 19.4%
Wyoming	25,900	16,870	805	70	- 99.7%
Totals:	**$169,802,120**	**$165,452,140**	**$120,484,355**	**$47,654,355**	**- 71.9%**

The only exception to the dramatic impacts Order L-208 had on the gold mining industry was the increase in gold production in Utah. This is attributed in part to the increase in production at the Bingham Copper Mine west of Salt Lake City and the associated increases in gold and silver recovered as "by-products" generally found in conjunction with copper.

In Alaska, where gold mining counted as one of the major industries in the territory, the various orders cut production by 85.9%. Although the stated expectation was for miners to move from gold mining to non-ferrous metal mining (primarily copper and lead), the fact of the matter was that Alaska was so far removed from the major non-ferrous metal mines that few Alaskan miners actually helped in producing minerals essential to the war

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[33] Patty, "Gold Placers Inc. Annual Report, 1946," 1.
[34] McCauley, *The Closing of the Gold Mines*, Appendix E.
[35] With the exception of gold mines in Utah, all those in the western US and Alaska suffered substantial decreases in production as a result of Order l-208. Utah is the only state that actually increased its production during the period in question. This is due in part to the increased output of the Bingham Copper Mine and the gold produced as a "by-product" of copper mining.
[36] Utah's Bingham Copper Mine remained a viable mine during the war because copper was a strategic metal needed for militarly applications. As a result, some miners who were put out of work in gold mines were able to obtain employment in mining copper and other strategic metals.

effort. Those miners displaced by the idled gold mines sought employment in a variety of areas including building military bases in the territory and other war-related projects.

Penstock on the Coal Creek ditch. The penstock serves as a reservoir to hold water and build pressure or "head" for the water to force through the pipes used in the thawing and stripping process. The flag, visible on the penstock, indicated the level of the water to the crews working in the valley below. The main hydraulic ditch is visible running across the valley on the right, with a bridge supporting it across Coal Creek. Everett Hamman Collection, University of Alaska – Fairbanks, Rasmuson Library (Acc. #85-110-09).

CHAPTER SIX
RECOVERING FROM THE WAR

POST-WORLD WAR II OPERATIONS

Gold Placers Inc. attempted to resume normal operations during the 1946 season. However, the continued fear of war with Russia, combined with the on-going military base construction throughout Alaska, competed against the mining industry for the available labor pool. Unfortunately for the mining companies military contractors continued to offer contracts that in Patty's words, "were far above the gold mining scale." Patty further commented that these conditions "forced the mining organizations to work with limited crews and to explore around the edges to find men willing to accept mining work at lower [wages] than the contractors were paying." To make up for the shortage, Gold Placers Inc. continued to hire Alaskan Natives to work for the company. Coupled with the high wages offered elsewhere, material costs were at an all time high and some supplies were difficult if not impossible to secure at any price.[1]

When the government rescinded Order L-208 and removed restrictions on gold mining operations, the Gold Placers Inc. crew made a somewhat better showing in 1946 than in 1945. The dredge worked 318,286 cubic yards of material recovering gold and silver with a gross value of $136,825.00. Because of the poor showing, Patty concluded that the company actually operated at a loss of $15,187.58.[2]

Ernest Patty, ever the optimist when it came to the operations on the Yukon, preferred to look forward to the 1947 season's potential rather than dwell on the previous two years' shortcomings. There were several factors looming on the horizon that warranted consideration in his annual report. First, according to his sources, the Federal government planned to spend fifty million dollars on military bases in Alaska during 1947. To provide a substantial labor force the contractors were recruiting 15,000 laborers from the Lower 48. Patty also learned that the Alaska railroad spent $500,000.00 on transportation costs for workers recruited in the states. With competition like this, it was no wonder that Gold Placers Inc. and Alluvial Golds Inc. had such a difficult time hiring experienced crews to work their dredges. In spite of these discouraging signs, Patty believed that the company had an "excellent chance" of recruiting a crew "equal or better" to the one they had the previous season. He based this estimate on the fact that they had already received more applications since the first of the year than they had received since the beginning of the war.[3]

One factor remained that would make a difference in whether or not the company could afford to operate in 1947. The contract between Gold Placers Inc. and the Congress of

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[1] Ibid.
[2] Ibid.
[3] Ibid., 1-2.

Industrial Organizations (CIO), representing the workers at both Coal Creek and Woodchopper Creek, was due to expire the following April. If the CIO agreed to renew it without a wage increase, the company would operate. If not, they could not afford to start up the dredges and the companies would shut down again. A new contract was ratified on August 1, 1947 and fortunately included only a minimal wage increase of 8¢ per hour.[4]

The war years took their toll on mining operations across Alaska. After working their first seven years making a solid profit, increased costs for wages, supplies and materials forced Gold Placers Inc. and Alluvial Golds Inc. to take a harder and harder look at their finances. The companies were faced with trying to shave what little they could from every facet of their operations. As an example, the companies charged employees $2.25 per day for room and board at the camps. Because of the heavy increase in costs, the mess hall at Coal Creek operated at a loss of $6,384.43 in 1946. Food costs and transportation charges increased dramatically during this period. In addition, the wages paid to cooks and waiters doubled between 1942 and 1946.The management feared raising charges for room and board would set off an immediate demand for increased wages. The fine line the company walked was due in part to the fact that government contractors were charging from 90¢ to $1.50 per day, between one-third and one-half of the actual cost to feed and house workers.[5] This trend continued into the 1950s when mess costs at Woodchopper Creek had risen to $1.79 per meal in 1952, a slight drop from $1.83 per meal the previous year. The company continued to charge only $2.25 per day for room and board. This resulted in taking a substantial loss each year rather than increasing what they charged workers. Charging workers more would require an increase in wages to offset the loss in take-home pay.[6]

The 1946 Operating Report for Gold Placers Inc. contains an interesting cost comparison for 1942 and 1946 and is reproduced below. While labor costs rose only 9.15% since the beginning of the war, other costs, particularly parts, supplies and freight, rose much more sharply. Parts increased 71.22%, mining supplies 68.74%, freight and hauling 44.59%, mess charges (food, cooks' wages, etc.) 59.24%. Of all the costs associated with operating the dredge, those that increased most dramatically are attributed directly to the war effort and the lasting impacts of Order L-208. Although many of the costs represented in the 1946 Operating Report show marked increases, Patty felt confident that the company would be able to "shave about $10,000 from operating costs" the following season. A large portion of the increased costs, particularly in Freight and Hauling, and Repair Parts, was due to rehabilitating equipment and facilities following the two years the company shut down during the war. A new cookhouse and bunkhouse were also among the improvements made at the Coal Creek camp during 1946.[7]

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[4] Ibid., 2; Patty, "Alluvial Golds Inc. Annual Report, 1947," 1.
[5] Ibid., 4.
[6] Patty, "Alluvial Golds Inc. Operating Report, 1952," 4.
[7] Patty, "Gold Placers Inc. Operating Report, 1946,", 4-5.

	1942	1946	Percent Change
Dredge Labor	$20,076.72	$22,097.69	9.15%
Fuel	9,172.68	8,816.90	-4.04%
Other Supplies	45.90	40.41	-13.59%
Repair Labor	5,901.70	7,951.23	25.78%
Repair Parts	3,418.31	11,876.34	71.22%
Mine Supplies	444.08	1,420.47	68.74%
Freight & Hauling	3,455.56	6,236.81	44.59%
Depreciation	11,752.17	11,752.17	no change
Mine Supplies Used	N/A	1,534.52	N/A
Mess Charges	1,419.15	3,482.07	59.24%
Total Costs	$55,686.27	$75,208.61	26.11%

While rising costs challenged the operation at Woodchopper, the dredge was having problems of its own digging through the semi-cemented layer of gravel that had plagued it during the previous four seasons. Patty noted that the dredge appeared to be gradually getting through the area because the average daily yardage was increasing slightly (in 1943 they averaged 2100 cubic yards per day as opposed to 1674 cubic yards per day in 1942). He calculated that once they cleared the problem area the dredge's average would jump to almost 3000 yards per day and the dredge would again start turning a profit.[8]

In 1946, the company decided to abandon their operations at the Chelan, Washington nickel prospects that they had started four years earlier. This enabled them to take a tax loss after spending $14,734.97 on the property during the war years. At the same time, they were involved in a number of Canadian mining ventures including Clear Creek Placers Ltd., Spruce Creek Placers Ltd. and Yukon Gold Placers Ltd. In addition, they began investing in the Zolata-Yellowknife Mines Ltd. near Gordon Lake in the Yellowknife district of the Northwest Territories. Alluvial Golds' investment in the Zolata-Yellowknife operations came on the recommendation of Mr. W.M. Archibald. Alluvial Golds put up one-quarter of the funds, Archibald one-half and Mr. Austin Taylor of Vancouver the remaining one-quarter.[9]

It appears that by the 1947 season, the companies had stemmed the tide of hard economic times resulting from World War II. Alluvial Golds turned a gross profit of $43,056.06 while Gold Placers showed a gross profit of $26,154.87. In both cases, after deducting depreciation, depletion and income taxes, the companies realized net profits of $5,832.45 and $3,130.82 respectively. Although these may seem rather low, the previous years saw the companies operate at losses. One factor that cut almost $10,000.00 from the Alluvial Golds profit was the loss of the company's airplane.

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[8] Ibid., 1.
[9] Ibid., 1-2.

During 1946, Alluvial Golds Inc. purchased a Grumman Widgeon amphibian, twin-motor airplane. Having their own aircraft cut costs considerably and led to more efficiency in operating all of the mining interests that Patty was a partner in (Gold Placers Inc, Alluvial Golds Inc, as well as the various Canadian mining ventures). The companies no longer depended on commercial airlines for transporting their crews, a cost the CIO contract required them to pay. The company's new plane provided for bringing fresh produce and meat to camp and for transporting various management personnel between the four major mining operations at Coal Creek/Woodchopper Creek, Clear Creek, Henderson Creek and Thistle Creek near Dawson, Yukon Territory. Patty's son, Ernest N. Patty Jr., who trained as a pilot during World War II, served as the company pilot and superintendent for the Gold Placers Inc. and Alluvial Golds Inc. operations.

An example of the efficiency and money saving capabilities afforded by having a company airplane came in the spring of 1947. That year, a sudden early thaw left the runway at the Fairbanks airport too muddy to use at the time the company needed to fly crews to the mines. Ernest Patty, Jr. made arrangements with the U.S. Army to use the facilities at Ladd Field (present day Fort Wainwright). In addition to Pan American Airways and one or two other large carriers flying between Fairbanks and Seattle, Patty was the only small operator permitted to use the military runway. If the companies (Gold Placers and Alluvial Golds) had been required to wait for other commercial operators to get the crews to camp, they would have lost 10 or more days from their already short season.[10]

On October 24th, the Woodchopper dredge shut down when weather conditions deteriorated to a point that it could no longer work. Because Ernest Patty, Jr. was busy closing out the season for both camps, he arranged for a commercial aircraft company to fly both crews back to Fairbanks. He attempted to send a wire from the camp on the 24th to have the planes come out to move the Woodchopper crew to town. Radio reception was poor and communications could not be established on either the 24th or 25th. The crew had finished a long season and was impatient to get into town. Patty agreed on the afternoon of the 25th to make a flight into Fairbanks to notify the company to send the planes out. In order to cut down on the transportation costs, Merle and Lloyd Edmundson, and Jerome "Jack" Warren, all employees on the dredge, accompanied Patty.[11]

During the ten days before Patty's flight, the area had been covered by "an ice-laden stratum of clouds" according to Ernest Patty, Sr. During the flight to Fairbanks, the clouds lowered, forcing Patty into low-level flying. The radio tower at Fairbanks reported hearing Patty call the mine announcing that conditions had deteriorated to a point where he decided to turn back. Apparently, as he turned in a mountain pass, the plane was heavily iced and unable to recover normal flight. The impact killed all of the

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[10] Patty, "Gold Placers Inc. and Alluvial Golds Inc., Operating Report, 1947," 6.
[11] *Fairbanks Daily News-Miner*, October 28, 1947, p. 1 and Patty, *North Country Challenge*, 193-96.

occupants of the plane instantly and destroyed the plane when it crashed into the mountainside.[12]

The radio tower at Fairbanks heard Patty attempt to call the camp on the 25th. According to the *Fairbanks Daily News-Miner*, the plane was not reported missing until two days later. On October 27th, George Thorson, a Wien Airlines pilot reported seeing a badly wrecked plane near the headwaters of Birch Creek while returning from the mail run to Eagle. Weather conditions prevented search and rescue personnel from reaching the site for four more days. Rescue efforts involved pilots from several commercial carriers based in Fairbanks, among them Wien Airlines, Alaska Airlines and Northern Consolidated Airways. In addition, the U.S. Army had a rescue helicopter standing by at Ladd Field to assist. The Army also dispatched a "Weasel," a tracked all-terrain vehicle, to the site when a heavy fog settled into the region grounding aircraft. Two trappers, hearing reports about the downed plane, took their dog teams to the Palmer Creek runway to stand by in the event they were needed to access the crash site.[13]

Four days after rescue attempts began the Army helicopter was able to land at Birch Creek below the wreckage. An hour later, the two dog teams joined them. The pilot, Lt. Charles Weir, and C.A.A. inspector Don Gretzer, accompanied by the dog teams, climbed to the site. They found that the plane had apparently crashed at high speed, followed by a cabin fire. The four men died on impact. After their removal, the dog teams carried the men's bodies to the helicopter. They were then flown to Palmer Creek and on to Fairbanks.[14]

Ernest Patty, Sr. had been on his way to Toronto for a business meeting and, while in the Chicago airport, was notified by telegram of his missing son. He immediately returned to his home in Seattle. From there he took the first plane to Fairbanks to assist in the rescue efforts. He flew over the crash site three times with pilot Frank Pollack, manager of Northern Consolidated Airways, a veteran Alaskan pilot and a family friend. Ernest Patty was at Palmer Creek when the bodies were brought out.[15]

The loss of his son had a tremendous impact on Patty. Ernest Jr. had taken over as primary superintendent of the Coal Creek operations the season before his death. His father, in the 1947 Annual Report praised his son for his "close attention of the day-to-day economy and his 'drive' to keep the work running smoothly and effectively..." He continued, "It is most difficult these days to get good superintendents of this class because most of the up and coming young fellows go into the placer mining on their own account."[16]

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[12]Patty, "Gold Placers Inc. and Alluvial Golds Inc., Operating Report, 1947," 4-5 and *Fairbanks Daily News-Miner*, October 30, 1947, pp. 1, 6.
[13] *Fairbanks Daily News-Miner*, October 29, 1947, pp 1, 3.
[14] *Fairbanks Daily News-Miner*, October 31, 1947, p 1.
[15] *Fairbanks Daily News-Miner*, November 1, 1947, p. 1 and Patty, *North Country Challenge*, 193-96.
[16] Patty, "Gold Placers Inc. and Alluvial Golds Inc., Operating Report, 1947," 1.

DIMINISHING PROFITS AND INCREASING COSTS

Carrying sufficient food supplies over the winter to feed the crews the next season until the first steamer came down river was a problem that continually plagued the companies. Between the two camps, these supplies generally represented an annual investment of nearly $10,000.00. Before 1946, groceries were stored in a warehouse at Woodchopper Creek where the winter watchman kept a fire going to prevent them from freezing. This alone consumed 30 to 50 cords of firewood each winter depending on the weather.

During the summer of 1947, in attempting to cut down on the expenses associated with heating the warehouse, the companies excavated into a hillside and put in what Patty called a "warm storage room." It consisted of a log structure, heavily insulated with moss and loose dirt heaped over the roof and three sides. Because of the insulation offered by the logs, moss and dirt, the room required only a small fire to keep the temperature above freezing. According to the watchman, it worked very well.[17]

Typically, the dredge crews arrived at camp during the last week of April. The crew spent the next four to five weeks overhauling the dredges and other equipment in preparation for starting the mining season. Normally operations were ready to commence sometime around the first week of June. Although the operations at both Coal Creek and Woodchopper Creek relied heavily on naturally thawed ground ahead of the dredges, it was necessary to break up the frost from the previous winter to get the dredge started. To accomplish this, the crews could not begin driving points until the ice on the creeks broke sufficiently to make it worthwhile. This generally delayed operations until early June.

RECOVERING FROM THE WAR YEARS

After having what appeared to be a slow recovery from the war years, 1948 hit with a comedy of errors. Both dredges suffered catastrophic breakdowns requiring weeks to repair. First, while the crew carried out their annual overhaul on the Woodchopper dredge, the dredgemaster discovered a crack running through a large steel plate at the upper end of the digging ladder. At first, the company thought they could repair the problem simply by cutting out the damaged plate and welding a new one in its place. Upon further inspection inside the digging ladder, they found the damage was much more extensive and actually involved broken parts. Repairs required removing the entire digging ladder (this was no easy task since it weighed many tons) and completely rebuilding the upper end. The machine shop at the camp fabricated many of the large steel pieces needed for the repairs. Because of the tremendous stresses placed on the ladder, the opportunity to work inside it was used to reinforce it as a safeguard against future problems. Consequently, the dredge did not start work until June 21, fully three weeks later than normal.[18]

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[17] Ibid., 4.
[18] Patty, "Alluvial Golds Inc., Annual Report, 1948," 1.

In addition to the mechanical breakdown, within the first month of the season one of the winchmen quit to take a higher paying job elsewhere. Shortly after starting the dredge, a second winchman aggravated an old back injury and was laid up for the remainder of the season. This left only one experienced winchman for the three shifts. According to Patty, "It was simply impossible to replace these men in Alaska." The company was finally able to hire a man in San Francisco who had just come from a dredging operation in South America. After paying his way to Alaska, the company found that he was "a poor workman, but we had no choice except do the best we could with him." Therefore, the daily yardage for the dredge was down dramatically owing to the inexperience of the key workers.[19]

Finally, in August, the crankshaft broke on the main diesel engine on the Coal Creek dredge. The company always prided itself on its advanced planning and the fact that it carried a complete line of replacement parts, thus cutting down on lost time due to repairs. Unfortunately, no one had considered the possibility of something like a crankshaft breaking. They did not have a spare one on hand at the camps. They immediately ordered a replacement from San Francisco, but as luck would have it, the Atlas factory did not have one in inventory either. The new part, which cost $3,600.00 from the factory was air freighted to Coal Creek, but still required shutting down the dredge for nearly two weeks in the middle of the season. Because of the acute labor shortage in the Alaskan mining industry in 1948, it was necessary to hold the dredge crew while repairs took place. Had they let any of them go it was unlikely that the company could have replaced them in time to finish the season.

In order to bring the dredge back on line, the company used the engine from the stripping pump to operate the machinery. This permitted the dredge to operate at roughly 80% capacity. The new crankshaft did not arrive until September and it took several weeks to get it installed and the big engine reassembled. Rather than effect a changeover between the two power plants, possibly adding an additional delay of several weeks, Patty decided to finish out the season using the smaller engine. Patty estimated that had the crankshaft not broken, the dredge would have processed 380,000 cubic yards of material. In spite of the breakdown they were able to work 325,000 cubic yards, a loss of less than 15% for the season.[20]

Exclusive of the diesel engine breakdown, the dredge only lost 26 hours and 50 minutes out of the total elapsed time of the season (2741 hours 26 minutes). This represents a loss of less than one percent (0.99%) of the season's workable time, a factor that was consistent with both Gold Placers Inc. and Alluvial Golds Inc. throughout their history on Coal Creek and Woodchopper Creek.

Late in 1947, the crew at Coal Creek built a dam 300 feet downstream from the dredge and flooded the area with three to five feet of water. This, they hoped, would prevent the underlying gravels from freezing over the winter. Sometime after the ice had formed to approximately 24 inches thick, the water between the gravel and ice seeped out leaving

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[19] Ibid.
[20] Patty, "Gold Placers Inc., Annual Report, 1948," 1-2.

an airspace. When the ice finally melted the following spring, the miners found that very little of the already thawed gravels had actually refrozen. The only gravel that required thawing was a small area that had not been flooded. Consequently, the company was able to reduce its thawing costs from $11,316.82 in 1947 to $6,022.08 in 1948, a savings of 46.8%. During the post-WW II period of inflated operating costs, a substantial savings like this was a welcome benefit to an operation struggling to turn even a small profit.

Patty reported, almost braggingly, that:

> During the past years we have pioneered the development of natural thaw but have never been able to avoid one thaw in the spring to break up the winter frost. Now it appears that we may be able to omit artificial thawing entirely. The winter of 1947-48 was comparatively mild. We flooded ahead of the dredge again last fall and this winter Alaska is having one of the coldest winters on record so the experiment is now being subjected to an acid test and we should have reliable information next Spring.[21]

Comparing the Years 1946-1949:

	1946	1947	1948	1949	Average
Cubic Yards Dredged	273,240	314,485	213,000	323,200	280,981
Gold Recovered (Value)	$160,836.85	$164,813.00	$107,167.00	$133,116.14	141,483.25
Avg. Value per Cu. Yd.	$0.589	$0.524	$0.500	$0.410	$0.506
Number of Days Dredging	130	146	118	129	104
Cubic Yards per Day	2100	2140	1824	2507	2143

In 1949, Patty decided to work the dredges on alternate years rather than try to hire enough men to work both. This was primarily due to the difficulties they faced with hiring two complete crews to operate the dredges. It proved more feasible to simply concentrate one a full crew and move them from creek to creek. In addition, by stripping the overburden from an area and letting it lay exposed to the summer sun, the company was able to completely by-pass hydraulic thawing. This included the early spring thaw to break up the initial frost from the previous winter.

Additional reasons for concentrating on each creek in alternate years had to do with the declining values in the gravel they dredged. The pay streak at Woodchopper appeared to be "pinching" out as the last five cleanups of the year averaged only $0.346 per cubic yard of gravel. At this rate, the company could barely afford to operate. Operating on a hunch (and knowing that the ground outside the left dredge limit was covered by only a few feet of overburden that could be removed relatively cheaply) Patty decided to turn the dredge to the left. He was pleasantly surprised to find the ground richer than the paystreak itself. Working carefully and constantly panning the sluices to check the values, the crew moved the dredge a full 130 feet beyond the left limit of the original prospects. This area proved to contain values of $0.70 a yard as compared to the $0.35 they were getting inside the paystreak. Thus is the luck of the placer miner.[22]

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[21] Ibid., 3.
[22] Patty, "Alluvial Golds Inc, Operating Report, 1949," 1-2.

The company's work with natural thawing was coming along quite well. By September of 1949, areas ahead of the dredge on Woodchopper where the crew had stripped to gravel three years earlier had thawed almost 30 feet deep. In early October, the dredge encountered an area that drilling tests had shown to be some of the deepest gravel on the creek. Bedrock, where the gold was naturally concentrated, was over 30 feet below the surface. According to his annual operating report, Patty anticipated that this area most likely would remain frozen when the dredge reached it. Owing to the lateness of the season, the fact that driving points into the frozen area would add between 7¢ to 10¢ per yard to the cost of processing the gravels, and the very small profit margin the company was operating on, Patty recommended that the Woodchopper Creek property remain idle in 1950. This would give the deep gravels a chance to thaw naturally.[23]

Late in the summer, Patty reached a deal with Henry H. Wheeler of Compton, California, to purchase "natural" gold at $38.00 per fine ounce, fully $3.00 over the market price paid by the U.S. Mint. Wheeler apparently had $300,000 in cash he wanted to convert into gold as a speculation. He was also considering re-packaging some of it into 100-ounce containers, selling it at a higher price still. In order to be classified as "natural," the gold could not be processed using mercury or other chemical means to separate it from the gravels and sand. To accomplish this, the company eliminated mercury from the upper sluices on the dredge, using it only in the lower gold saving tables. The upper sluices trapped the bulk, almost 75%, of the gold during the dredging process regardless. The company shipped the gold amalgam as gold sponge to the U.S. Assay Office in Seattle. The "natural" gold recovered from the upper sluices was carefully cleaned by hand and weighed it at the mine. It was then shipped to the Seattle First National Bank where workers removed a sample and assayed it to determine its fineness. After a Seattle laboratory certified both weight and fineness, the bank then determined its value based on $38.00 per fine ounce, and notified the buyer in California. The buyer would then forward a cashier's check for payment and the bank would send him the gold via special messenger.[24]

Initially, Wheeler was reluctant to accept the Seattle certification and required a California lab to perform the same tests. When the two tests resulted in similar findings, they did away with the second tests and the process continued smoothly.

Patty discussed the plan with Mr. Wheeler several times. Apparently, other Alaskan miners were taking advantage of similar offers. The following tabulation shows how much gold Alluvial Golds Inc. sold to private investors during the 1949 season:[25]

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[23] Ibid., 4.
[24] Ibid, 6-7.
[25] Ibid.

Gold Sales on the Open Market (1948):	
Total Troy Ounces Free Gold Shipped	666.60
Less removed for assaying --	
these samples later sold to government	10.58
Sold	656.02 Troy Oz.
Fine ounces (pure gold)	554.54
Selling price per fine ounce $38.00	
Amount Received	$21,071.00
Sales Cost	207.69
Net	$20863.31
Net per Fine Ounce	$37.62

The only work accomplished at Coal Creek the 1949 season was to continue stripping overburden downstream from the dredge. Again, they tried new techniques that proved effective both in terms of cost and in accomplishing the task at hand.

For many years, the companies had been using a technique called ground sluicing to flush the overburden off the underlying gravels. This called for diverting water from the ditch well above the camp and running it through ever-decreasing diameter pipes to build up a head of pressure. The water was forced through hydraulic giants (large swiveling nozzles, similar to those found mounted on modern fire trucks, only much bigger). The stream of water was directed onto the ground where it broke up and washed away the overburden and muck.

During the summer of 1949, the crew at Coal Creek diverted the creek out of its channel onto the area they wanted to strip. By using the force of the flowing stream, they cut a channel through the muck. Again, the crew diverted the stream into a new area where it cut another channel. They managed to cut a number of parallel channels through the area after which they used a bulldozer to divert the stream flow against the standing blocks of muck pushing it into the path of the creek. This technique proved very successful, not to mention inexpensive. They were able to strip approximately 140,000 cubic yards of overburden at a cost of $5,176.00 or 3.7¢ per cubic yard. This is approximately one half of the cost of using traditional hydraulic stripping techniques.[26]

As the season ended, it was obvious that the operations at Coal Creek and Woodchopper Creek were facing difficult financial times. Again this resulted from the intense competition the mining industry in general faced with the post-World War II military construction in Alaska. The company planned on hiring only 18 crewmen in 1950, eliminating the hydraulic stripping operations entirely and using a tractor and ground sluicing for removing muck to prepare the ground ahead of the dredge. Patty continued to maintain the equipment on both creeks because he felt that the price of gold would rise

[26] Patty, "Gold Placers Inc., Operating Report, 1949," 1.

within the next several years. At which point he said optimistically, they were "ready to throw both properties into full production."[27]

In 1950, the company's directors took Patty's advice and only operated at Coal Creek. The dredge worked almost to the maximum season possible in interior Alaska, a period stretching around the clock from 9:00 AM on May 26th until 7:00 AM on the morning of October 28. Sub- zero temperatures forced the dredge to cease operations for the season.

During 1950, the dredge processed 401,400 cubic yards of material and recovered $127,822.60. This resulted in a net profit, after deductions and adjustments, of only $10,549.49. Although this was one of the company's longest seasons, the ground the dredge was working carried an average value of just 31.8¢ per cubic yard, barely within the tolerances that allowed the company to continue operating. This was in part due to the dredge diverting from the ground within the paystreak into areas to the east of the established limits onto the Adamick Claim at the mouth of Boulder Creek. Because of the very poor values realized on this claim, they abandoned future work and the dredge worked its way back onto the paystreak. From there, the last two cleanups showed marked increases to 36¢ and 45¢ respectively.[28]

Camp #1 located across from Cheese Creek. The machine shop is the large building in the center rear of the photograph. The tractor garage and parts warehouse is the second building to the right (with the large white garage doors). The blacksmith shop sits between the two. The dredge is visible in the far right near the base of the hill. (Photo courtesy of Glen Franklin).

On June 9, 1950, while working with an electric arc welding machine, a spark ignited a fire in the Coal Creek machine shop. Consequently, the shop burned to the ground destroying everything in it. The company rebounded by immediately purchasing a used Butler Building (a quonset hut covered with galvanized iron) and located it near Beaton Pup, approximately one half mile below where the dredge was working. Gold Placers

[27] Patty, "Alluvial Golds Inc. Operating Report, 1949," 10.
[28] Patty, "Gold Placers Inc., Operating Report, 1950," 1-2 and Dan Coben, Interview with Dave Schmitz, June 19, 1997, Fairbanks, Alaska.

Inc. received an insurance settlement of $18,550.00 on the shop and equipment, and Alluvial Golds, Inc. received $3,972.04 to replace equipment stored on Coal Creek.[29]

This is the only known photograph of the machine shop showing the crew and the interior of the shop. It was taken in the late 1930s. (NPS Collection, photo by Bill Lemm).

During the winter of 1950-51, the company purchased the following equipment to replace what they had obtained from the Walter W. Johnson Company and used for assembling and maintaining the dredge in 1936. The result was a thoroughly modern machine shop for working on both dredges. This equipment remains on site in the machine shop today. Dan Coben, a later owner of the Coal Creek dredge commented on the quality of the new equipment during an interview in 1997.[30]

Cost of new building, erected	$1,045.93
Lathe[31]	2,500.00
Drill Press	200.00
200-ton Hydraulic Press	504.00
Diesel-electric, Caterpillar generator	3,957.00
Small tools	1,761.00
Sub-total	$9,974.00
Estimated freight and installation	1,000.00
Total	$10,974.00

[29] The machine shop was located two miles above the dredge at the time of the fire. It had remained at that location since it was originally constructed in 1936. Ironically, the company had planned on dismantling the shop and moving it to a more convenient location one-half mile below where the dredge was working, near the confluence of Coal Creek and Beaton Pup, where it remains today.

[30] Dan Coben, Interview with Dave Schmitz, June 19, 1997, Fairbanks, Alaska.

[31] The 16" lathe, capable of handling stock with a diameter of 16 inches, remains on the property and in the machine shop today. Coben Interview, op. cit.

CHAPTER SEVEN
A CHANGING OF THE GUARD

1951 DREDGING SEASON

In 1951, the Coal Creek dredge had a rather profitable year in spite of the fact that the daily yardages were down by almost 25% over the previous three seasons.[1] Although the quantity of gravel processed was down, the actual value of that gravel was up to an average of 57.1¢ per yard. This was due in part to the fact that the dredge encountered several areas of bedrock that formed ribs which created natural riffles concentrating the gold more heavily than in other areas. Generally when dredging, the bucket chain scoops up the gravels lying on top of the bedrock, and also takes the top foot or two of bedrock thus "thoroughly cleaning" all of the gold. By doing this, not only did the dredge encounter these rich concentrations of gold, it also brought up some of the largest nuggets found on the creek up to that season. One weighed in at 5.25 ounces with a value of $162.[2]

During 1951, the paystreak on Coal Creek widened more than the company had experienced in the previous seasons. The dredge maintained a working face[3] of 500 feet and advanced 1450 feet downstream toward the Yukon. Considering the total amount of gravel processed was 292,100 cubic yards, the dredge was digging an average of almost 11 feet deep through this area.[4]

By the end of the season the company had dismantled the camp preparing to move it downstream to the vicinity of Beaton Pup. There it would be more accessible for the dredging operations as they continued advancing toward the Yukon. The former location was approximately two miles above the dredge and brought in both logistical and economic problems with transporting each of the three crews back and forth from the dredge to camp each day.

The company originally constructed the camp buildings on wooden skids with the intent of moving them from one location to another as needed. Since the camp had remained at the previous location for a number of years, the skids had begun to deteriorate and rot. It was necessary to replace them on all fourteen buildings before moving them. Following the first snowfall of the season, in October, the company began moving all of its buildings and support facilities downstream to an area adjacent to the new machine shop.

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[1] The following figures represent the total yardage dredged on Coal Creek: (1947) 394,000 cubic yards (cy), (1948) 325,000 cy, (1949) did not work, (1950) 401,400 cy, and (1951) 292,100 cy.
[2] Patty, "Gold Placers Inc., Operating Report, 1951," 1, 3.
[3] The "working face" is the area that the dredge is actually cutting as it advances forwards. It is measured from the left and right limits as the digging ladder is moved side to side.
[4] This figure is calculated as follows: (292,100 yd^3 x 27 ft)/(500 ft. X 1450 ft.) = 10.878 ft. Patty, "Gold Placers Inc., Operating Report, 1951," 3, 1.

This served the operation for the remaining decade that they were on Coal Creek and remains in that location today.[5]

Gold Placers, Inc. began acquiring interests in various claims on Coal Creek in 1935. Under the terms of the option for the Nels Nelson claims, the company had been making annual payments of $1,000 his estate. In 1951, Gold Placers, Inc. made the final payment that gave them full title to all the claims on the creek. In addition, Samuel Harvey's estate and William Spooner, both of whom held minority interests in claims the dredge operated on, were paid $700 and $250 respectively to acquire their interests outright. This avoided paying the two men royalties on gold recovered from these claims.[6]

The company continued struggling to keep experienced crewmen on their payrolls. In 1951, Patty reported that the wages paid by Gold Placers Inc. were only 60% of those paid for mechanical work in the defense construction industry around Fairbanks. In his report to the company directors, he stated that:

> For several years, we have given up all attempts to compete with these high wages but we have still been able to secure enough 'old timers' to keep one dredge running. So far as we can determine most of our crew will be back with us again in 1952.[7]

Because of the difficulties facing both companies, Patty recommended that the Gold Placers Inc. properties be left idle in 1952 with the crews focusing their attention on the Alluvial Golds Inc. properties over on Woodchopper. In addition to the problem of hiring enough crewmen to man both operations, Patty also believed it to be a "wiser policy to not use up our reserves too rapidly under present unfavorable conditions for gold mining." He continued to hold out hope that the value of gold would rise within the next several years.[8]

THE 1952 SEASON

Heeding Patty's recommendation, the crew worked Woodchopper Creek in 1952. During a season of 142 days, the dredge processed 350,000 cubic yards of gravel recovering approximately $150,000.00 of gold and silver. This accounted for a net profit of $27,126.17, translating into a dividend of $2.00 per share paid on company stock.[9]

From 1935 on, the companies (Gold Placers Inc. and Alluvial Golds Inc.) had maintained a solid working relationship with the White Pass & Yukon Route Company (WP&YR) who hauled freight between Dawson and the creeks. Owing to the decline in traffic and freighting along the upper Yukon, the WP&YR Company decided to abandon all river

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[5] Ibid., 4.
[6] Ibid., 5.
[7] Ibid., 3.
[8] Ibid., 5.
[9] Patty, "Alluvial Golds Inc., Operating Report, 1952," 1.

traffic and freighting below Dawson after 1952. A single vessel operated between Whitehorse and Dawson in 1953. The company actively considered abandoning all steamboat operations in 1954.[10] This would cause additional hardships on the two mining two companies whose normal operating requirements called for between 200 and 250 tons of freight each season (mainly diesel fuel and various lubricating oils and greases for the dredge).

In order to replace the freighting services offered previously by the WP&YR, Patty opened negotiations with the Black Navigation Company of Fairbanks. Black Navigation operated two diesel driven tugs and several tanker barges between Nenana and Fort Yukon. Under the terms of the agreement worked out by Patty, Black Navigation agreed to make one trip to Whitehorse each season. During this trip, they would pick up all the freight for Gold Placers Inc. and Alluvial Golds Inc. delivering it to the mouth of Coal Creek. Before Black could enter into a contract with Patty, it was necessary that they (Black Navigation) have some word from the U.S. government regarding its contracts for hauling freight for the railroad. Because the government contracts were uncertain from year-to-year, Black was very interested in working with Patty. The alternative was to arrange for purchasing fuel, etc. in Fairbanks, and trucking it to Circle where it could be loaded onto small boats for the 60-mile trip upriver to the creeks. By Patty's estimate, this would add approximately 10¢ to the cost of every gallon of fuel. Absorbing these costs would push the envelope of operating costs vs. profit more and more, bringing the company closer to not being able to operate at all, on either creek.[11]

At the close of the season, on October 21, 1952, the Woodchopper dredge floated onto a shelf at the side of its pond. Then the water level was lowered and the hull came safely to rest for the winter. The area in front of the dredge was flooded and allowed to freeze, preventing the frost from penetrating deep into the already thawed gravels. Perhaps thinking optimistically, Patty stated that he hoped to start dredging by May 25 the following season.[12]

As is generally the case when starting any major business venture, it is difficult to predict what economic factors would drive the market. In 1952, Patty commented to the Board of Directors that he was "sorry now that we didn't put in a hydro-electric installation to power the dredges."[13] At the time the companies built the dredges it did not seem necessary to spend the additional capital electrifying the machinery. Continually climbing costs of diesel fuel and other petroleum products rapidly eroded the narrow profit margin on which they operated. Over the winter, Patty investigated the cost of converting the dredges. He found that at the present value of gold, the only way it would be feasible to switch over to electricity would be to find a used power plant fitting their needs.

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[10] Ibid. According to Patty, the WP&YR Co. notified him that in 1951 the company (YP&YR) suffered rather heavy losses on freighting below Dawson. They planned on operating a single river boat between Whitehorse and Dawson in 1953 and abandoning all traffic in 1954.
[11] Ibid.
[12] Ibid., 3.
[13] Ibid.

Almost as if the company was regressing to earlier techniques to shave the barest of savings, stripping operations on both creeks were scaled way back in 1952. This season stripping consisted solely of ground sluicing off the overburden and muck by using the flowing waters of Woodchopper Creek and forcing the creek to meander across the valley, Alluvial Golds Inc. was able to keep its expenses to less than $5200 for the season.

Like a traveling army, a mining crew works on its stomach. During the 1952 season, the mess hall served 8,800 meals at an average cost of $1.79 per meal. This in fact showed a saving over the previous year's average cost of $1.83 per meal. Of the total mess charges ($15,752.48), $6,622.80 went toward the wages paid to the cook and waitress; this alone accounted for more than the $2.25 per day the company charged for board. By contrast, the US Smelting Refining and Mining Company charged $4.50 per day.[14]

With this dilemma, Patty considered raising the daily board charge from $2.25 per day to $3.00, still well below that paid by the big companies in Fairbanks and Nome. In order to offset first the increase in withholding taxes and second the drop in take-home pay, it would be necessary to increase wages sufficiently to cover the losses felt by the miners. Overall, this equated to an operating cost increase of about $4,000.00 per year with no actual take-home pay increase for the crews. The advantage of doing this was to put the company in a stronger position regarding taxes if the authorities questioned their board charges. It also meant that the company could continue operating.[15]

The only activities taking place at Coal Creek in 1952 were cleaning up the dredge and accumulated black sands from the previous season, when a sudden cold snap froze everything in the dredge. This amounted to recovering $15,787.00 in gold and silver.[16]

Although the Coal Creek dredge sat idle for 1952, crews continued to strip muck and overburden ahead of it. As at Woodchopper Creek, the crews used ground-sluicing methods such as diverting the creek back and forth cutting channels down to the gravels below. Due to a heavier than normal snowfall the previous winter, Coal Creek flowed strong and deep throughout the summer enabling the company to remove an estimated 350,000 cubic yards of muck at a cost of slightly over $7300.00. At 2¢ per yard, this season represented the cheapest stripping costs to date. By the end of the season, crews stripped sufficient overburden to expose approximately 1.3 million cubic yards of gravel ahead of the dredge. Patty estimated this would keep the dredge working for at least three seasons, assuming all other economic factors remained constant.[17]

In addition, during the summer of 1952, the company finished moving the various camp buildings to their present location near Beaton Pup. When management decided to move operations back over to Coal Creek, everything was in place.

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[14] Ibid., 4.
[15] Ibid.
[16] Patty, "Gold Placers Inc., Operating Report, 1952," 1.
[17] Ibid.

The Gold Placers Inc, TD-24 moving a cabin. Note the skid logs placed under the cabin to slide it from place to place. Harry Gingrich is operating the tractor. Dale and Karen Patty Collection, photograph courtesy of Dale and Karen Patty.

THE 1953 SEASON

Alluvial Golds Inc. continued its slow climb recovering from the effects of Order L-208 and the competition for experienced labor. As Patty predicted, the dredge started on May 21, 1953 continuing through October 23 for 156 working days. During this time, production figures, as illustrated in the table below, increased on an average of nearly 12% over the previous season.[18] The largest increases occurred in total cubic yards dredged (16.6%), gold produced (16.2%) and overall production (16.2%).

Operating Statistics, 1952-1953
Alluvial Golds Incorporated[19]

	1952	1953	% Increase
Number days dredge operation	142	156	9.9%
Cubic yards dredge during season	350,000	408,000	16.6%
Cubic yards dredged per day	2,465	2,615	6.1%
Cubic yards dredge per hour	112.4	118.8	5.7%
Gold produced	$150,061.38	$174,385.60	16.2%
Total production[20]	$150,344.96	$174,719.03	16.2%
Average Increase:			11.8%

[18] As shown in the table, the average increase amounted to 15.8%. When the anomoly of a 39.8% increase in silver production is factored out, which may account for an unusually rich deposit being processed, the average increase drops to 11.8% which is more representative.

[19] Patty, "Alluvial Golds Incorporated, Operating Report, 1953," 3.

[20] Total production includes silver produced (1952: $238.58, 1953: $333.43). This amounts to such a minimal amount in comparison to the amount of gold produced that it is not considered in these factors.

Several factors came into play with the increase in the season's total yardage. Most importantly was the fact that flooding the ground ahead of the dredge to a sufficient depth prevented the frost from penetrating the gravel immediately ahead of the dredge.[21] This allowed the operators to begin work, as planned, on May 21 without breaking up the seasonal frost. A second factor involved using a more efficient crew than in previous seasons. Alluvial Golds Inc. increased salary rates somewhat to keep in line with other dredging companies. This eliminated, in part, the competition that was attracting men from the Yukon camps into Fairbanks. Although the salaries paid were still far below those offered by defense contractors, the crew at Woodchopper Creek was more long term (they did not quit for higher paying jobs elsewhere). Because of the lower turnover rate there was less time lost due to men learning new jobs, etc.

Although the company did fare better in terms of production, overall operating costs increased, primarily due to a sharp increase in the cost of diesel fuel and gasoline. Patty illustrated this by showing that diesel fuel increased from 30.7¢ to 42.9¢ per gallon. When put into perspective of a season's average consumption of 42,600 gallons of fuel, this amounted to an increase of almost $5,200.00. Fortunately, impacts were not as severe as they could have been. The company was able to operate using their old inventory of fuel for most of the season having an average increase of 7¢ per gallon (slightly less than $3000 for the season). Nevertheless, the company purchased their inventory for the 1954 season at the new higher price although it they made the purchases in 1953.

The WP&YR continued to run a single boat down river from Dawson during 1953 to supply the operations at Coal Creek and Woodchopper Creek. In order for them to agree to this however, Alluvial Golds Inc. and Gold Placers Inc. had to agree to a substantial increase in freight costs, including an increase of 10.2¢ per gallon on fuel. In addition to the higher freight charges, the suppliers at Skagway increased their prices by an additional 2¢ per gallon.

On the other side of the ridge, the buildings at Coal Creek camp were improved and rehabilitated at a cost of over $1800. This work included rehabilitating the mess hall, painting the bunkhouses and in general getting the camp into "ship shape condition" for resuming operations in 1954.[22]

During the two years the Coal Creek dredge lay idle a flood struck Coal Creek breaching one of the dams and filling the dredge pond with sand. Consequently, the crew removed the sand, strengthened and straightened the dams and finally refloated the dredge. At the same time, they built five additional dams across the valley, downstream from the dredge,

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[21] By this time, both companies had switched entirely over to natural thawing processes combined with flooding the area ahead of the dredges to create an insulating layer of ice.
[22] Patty, "Gold Placers Incorporated, Operating Report, 1953," 1.

to flood the exposed gravels shielding them against the winter frost. This work cost the company over $1000.[23]

In addition to the rehabilitation work and excavations around the dredge, the company spent $6556.60 for a single tractor to finish clearing isolated islands of muck from below the dredge. Patty's experiments had shown that leaving even a small piece of muck over the gold-bearing gravel would insulate the area enough to maintain the permafrost below. When the dredge hit these pockets of frost, it was almost like hitting concrete. Severe damage to the dredge could result.[24]

For the previous four years management decided it would be best, given the price of gold and the costs of recovering it, to alternate working between the two creeks every two years. Under this plan, they would work Coal Creek in 1950 and 1951 then Woodchopper Creek in 1952 and 1953. In his annual operating report in 1953, Patty proposed the idea of extending this to a four-year cycle. He based his recommendation in part on the heavy costs associated with re-starting production at the mine that had lain fallow the previous two years. He predicted that it would require nearly $23,000 to restart the dredge at Coal Creek. With a cash reserve of $6739, it would take an additional $16,000 to $17,000 to bring the Coal Creek properties back into production. Although this sounds pessimistic, the company was actually in a good position financially. When the dredge shut down at the end of the 1951 season, it was digging in high-grade ground. Drill tests ahead of it showed the values would continue. Patty expressed a desire to put in additional drill tests but explained that it was impossible to get "competent" drillers because they were all working on construction projects making higher wages than Gold Placers Inc. could afford to pay.[25]

In May 1953, the Board of Regents for the University of Alaska invited Ernest Patty to give the commencement address. At the same time, the university had undertaken a candidate search for a new president. Following Patty's address which was titled "Be Bold," the Board of Regents unanimously asked Patty to be the next university president. The problem was that Patty had not applied for the position, nor was he particularly interested in taking it. According to his son Dale, Ernest and Katherine tried to dissuade the regents by making what they felt was an unattainable request. They asked for a new house for the president, "equal to the title." Patty really thought he had them and was off the hook given the condition of the university and the economy of the day. According to Elmer Rasmuson, then president of the Board of Regents, they wanted Patty so badly that his "condition was nothing."[26]

Following several days of hurried negotiations, Patty agreed to consider the position if they allowed him to finish out the 1953 mining season. After realizing the financial and physical condition the university was in, he agreed to take the position sooner.

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[23] Ibid.
[24] Patty, "Solar Thawing," 28.
[25] Patty, "Gold Placers Incorporated, Operating Report, 1953," 1.
[26] Dale Patty, personal communication to the author, June 25, 1998.

In planning for the upcoming season, Patty recommended that the company shift operations back to Coal Creek where they would remain for the next four years.

Patty also announced to the companies' Boards of Directors that the University of Alaska had offered him, and he had accepted, the appointment as president of the university. Because Ernest Patty was a man who put everything he had into a challenge, he reduced his active involvement with Gold Placers Inc. and Alluvial Golds Inc. He also dropped completely the Canadian ventures focusing his attention totally on the university. He suggested that the board appoint his youngest son Dale resident manager of the Alaskan operations in his place. The fact that his son had "learned the business from the ground up" and was "very familiar with every aspect of the operation" made him the logical choice to follow his father.[27]

[27] Ernest Patty, "Alluvial Golds Incorporated, Operating Report, 1953," 2.

CHAPTER EIGHT
A NEW GENERATION TAKES CHARGE

The choice to appoint Dale Patty as resident superintendent was an excellent one. Summer at the mines had always been a family affair for the Pattys. Beginning in 1935, each summer when the boys finished the school year in Fairbanks, Ernest Patty, accompanied by his wife Kathryn and their three sons, Ernest Jr., Stanton and Dale spent their summers at Coal Creek. This continued for six summer. Suspecting that Alaska was vulnerable to attack by the Japanese before World War II, Ernest Patty moved his family to Seattle in 1940 where he felt they would be more secure. In 1945, at the age of 16, Dale returned to work with the dredges and quickly became familiar with every aspect of their operation.

His first "real" job at the camp came in 1945 when he was hired as a "mechanic's helper." He was responsible for greasing the heavy tractors, a job generally carried out lying on one's back beneath the belly of the mechanical beast, more often than not in oil and grease soaked dirt. For that he was paid $0.91 an hour![1] By 1950, Dale was an engineer making $425.00 a month.[2] He continued working at the mines until drafted into the Army Signal Corps in 1952.[3] When he returned to the mine in 1954 as resident manager, his salary was $937.50 a month, quite an increase over what he made as a mechanic's helper.[4] Dale's intimate knowledge of the company and its operations advanced his career rapidly as he went from mechanic's helper to winchman to being in charge of thawing (1950), then resident manager (1954-55), general manager (1956-57) and finally vice president and general manager (1958-60).[5]

Dale and Karen Patty continued the family tradition of taking their children to the mines each season. Dale, Karen and their 9-month-old son, Tom, arrived at the camp on June 16, 1954. It was Karen's first trip to the mines, and was quite an experience for a southern California girl.

When the plane landed at the Woodchopper airstrip, Ted and Sally Murray, the accountant and postmistress for the operation, met them. After transferring the Patty's gear, weekly mail and fresh food supplies for the camp to an open bed truck, Dale climbed in the back letting Karen and Tom ride up front. There they met Harry Gingrich,

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[1] Gold Placers, Inc., General Ledger Books, located in the Patty Collection, University of Alaska – Fairbanks, Rasmuson Library, Alaska-Polar Regions Archives. These books contain annual accounting records for both companies. They list each person working on the crew, their position, wage scale or salary, amount of taxes paid, room and board, etc. This source provides an interesting insight into the accounting structure of the company.
[2] Gold Placers, Inc., General Ledger Book, 1950.
[3] Dale Patty to Douglas Beckstead, letter, May 8, 1998.
[4] Gold Placers, Inc., General Ledger Book, (1954).
[5] Dale Patty, personal communications, May 25, 1999 and July 20, 1999.

the camp superintendent, who Karen described as "truly grizzly looking … and a really nice old guy."[6]

Before their arrival Woodchopper Creek had flooded washing out the only bridge across it. Still flowing deep and swift when the truck reached the bank, Gingrich knew that it could not make the crossing under its own power. They attached a steel cable to a CAT on the opposite bank and slowly pulled the truck across. Karen notes that "during the crossing and from my vantage point inside the truck, I looked down through the holes in the floor-board and saw the foaming water of the creek-turned-river churning beneath my feet and over the floorboards in the truck's cab."[7]

As described earlier, many of the camp buildings could be moved from place-to-place by dragging them on log skids behind a CAT. In 1950, the company decided to concentrate work on Coal Creek for two years, then shift over to Woodchopper for the 1952 and 1953 seasons. When Dale arrived to take over management of the operation in 1954, the crew moved the camp back to Coal Creek where it remained until 1957. What was to become Karen's first home at the mine is best described in her words:

> It was a tiny cabin built of Celotex walls and a tin roof. There was a kitchen with a two-burner, kerosene stove and a little sink. No water, but a sink! The little living room had a pot-bellied stove promising a future source of heat. A tiny bedroom held two twin beds more like army cots, a small chest of drawers, and one corner framed off with plywood to create a closet with a curtain to pull across the front of it. Oh, yes -- there were some scattered boxes piled with items that had been on shelves before the move. Then, there was the floor -- linoleum in the kitchen area that had not taken well to the cross-country trip on the log skid and as a result was a series of loosened and curled-up strips. A mess![8]

Karen looked at Dale, knowing that he was just itching to get down to *his* dredge. He had known it all his life and after all, *he* was home again. With Karen's encouragement, Dale bounded out of the cabin and headed down the road like a school kid.

It was not until years later that Dale found out that Karen had sat and cried that afternoon after he left.[9]

The two of them, working with the dredge crew as needed, began slowly to turn their tiny Celotex cabin with its tin roof into a home. One of the first major additions came the next day, which happened to be their second anniversary, but their first one together.[10] Although Dale gave Karen a lovely ivory and gold nugget necklace, the really important

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[6] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 1.
[7] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 2.
[8] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 2.
[9] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 2; and Dale Patty, lecture given to the Eagle Historical Society, July 18, 1998, Eagle, Alaska.
[10] Dale was in Okinawa with the Army the previous year.

gift came by way of a hole, dug in their backyard by Harry Gingrich at the controls of a CAT. After fashioning a foundation of sorts over the hole, Gingrich and the CAT came rumbling back down the road with a pre-built, but also pre-used, outhouse chained to its blade. A two holer at that! Gingrich retrieved it from Dale's parents' house above Cheese Creek, just for Karen. No longer would they have to cross the road to use the "public" facilities.[11]

Dale Patty (standing) and Harry Gingrich delivering Karen Patty's anniversary present, a two-holer of her very own. (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

Within a week, Dale was making changes. For almost two decades, the two camps never had the convenience of running water. That was about to change. At the suggestion of Harry Gingrich, Dale ordered a ram pump[12] for the camp and installed it on a small reservoir just below camp. Using some of the hydraulic pipe and hoses from the old thawing points, he rigged up a system to get water to the front of each cabin. Karen got something special. Her little waterless sink had a spigot coming through the wall so that now all she had to do was turn the knob. No longer did she have to haul it from the creek by the bucket full and no more brushing her teeth in a glass of water. This was almost

[11] Dale Patty, personal communication, December 19, 1998; and Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 3.

[12] Water rams are an inexpensive, creative way to pump water. These semi-efficient pumps use the force of running water to pump water up an elevation. With six feet of drop you can pump water 100 feet up a hill. A Frenchman created the first self-acting water ram over a century ago. The pumps were celebrated as an easy, efficient and cheap means of pumping water without any electricity. All that was needed was flowing water, pipe, and the pump. Ads were produced in which water rams, and large amounts of pipe, sold for just a few dollars. These pumps are now quite common in the rural areas in Washington, Oregon, and Northern California. (Source: http://members.tripod.com/~dberger/index).

like city living, almost.[13] They also installed water taps in the cookhouse and several cabins.[14]

THE 1954 DREDGING SEASON

Two challenges faced the younger Patty when he assumed the reins of the companies in 1954. First, finding a suitable shipping company to freight the necessary supplies and materials they needed. (The White Pass Route shut down their operations below Dawson when the U.S. Congress had passed the *Jones Act*.[15] Patty entered negotiations with Hayes Navigation Co. out of Carmacks, Yukon Territory for freighting services from Dawson to Coal Creek. If the negotiations worked out, Hayes would use the same boat and barge as had the White Pass Route the previous year.[16]

Second, the economics of running a placer operation were starting to catch up with the company. The price of diesel oil continued its steady climb upward so that it now cost an additional ten to twelve cents per gallon more for transportation than it had in 1953. Wages, crew size and food costs were a constant concern. Added to this was the fact that the price for replacement parts for the dredges, bulldozers, trucks and other equipment continued to climb. How far could they cut back in order to maintain their profits, yet still have enough crewmen to work the placers?

The following table illustrates this point by presenting operating costs and dredge repair costs for 1952 through 1956:

Table 9-2. Operating and Repair Costs, 1952-1958.

Year	Company	Operating Costs	Repair Costs
1952	Alluvial Golds Inc.	$49,420.50	$23,282.57
1953	Alluvial Golds Inc.	21,266.24	29,160.49
1954	Gold Placers Inc.	49,073.92	23,521.71
1955	Gold Placers Inc.	55,817.63	24,451.31
1956	Gold Placers Inc.	62,765.66	29,099.38
1957	Gold Placers Inc.	65,709.46	35,470.42
1958	Alluvial Golds Inc.	N/A	42,981.40

Over the next seven years, with the price of gold remaining at a regulated $35.00 an ounce, and with the cost of everything else rising steadily, cutbacks were necessary. The

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[13] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 6.
[14] Dale Patty, personal communication, July 20, 1999.
[15] The *Jones Act* was intended to help the east coast transportation industry. It essentially prevented foreign flagged, or registered, vessels from picking up passengers on the American side of the border and then dropping them off on the American side of the boarder. At the time it was passed Alaska did not have the clout in Congress to prevent it from applying to transportation on the Yukon River below Dawson where the White Pass & Yukon Route operated its Canadian flagged steamboats. The end result, for Alaska, was that the *Jones Act* destroyed the in-place transportation industry on the Yukon.
[16] Dale Patty, "Gold Placers Incorporated, Operating Report" (1954), 1.

first cut was the Assistant Superintendent, then the mechanic's helper, the dredge line mover and several other positions. Finally the company consisted of a vice president/on-site manager, a mine superintendent, an accountant, cook, waitress, mechanic, two CAT operators, and three 3-man dredge crews. One of the amazing things about what transpired at this time is the fact that in 1936, when the dredge was first constructed and operations began, the company employed a crew of 75 to 100 men. They were now holding their own with a crew of 17.

Had the company continued operations after 1960, Patty had plans for cutting the swing- and midnight-shift engineers. To accomplish this, they would rework the dredge so the winchman could read the gauges from the winchroom. They would also install shutdown devices in the event that anything went wrong. In addition he was considering cutting the waitress, and since most of the stripping was done, one CAT driver. That would have resulted in a crew of just 13 people, something that would have been unthought of 25 years earlier.[17]

At the end of June, during the first cleanup under Dale's supervision, there were several surprises. First, among coarser then usual gold were two large nuggets, one weighing almost an ounce. Second, was a variety of metal "stuff" including nails, bits of metal, and parts from an old clock. The dredge worked over ground previously occupied by William Beaton's cabin. The cabin had burned, leaving the metal pieces.[18]

In the meantime, Karen was experiencing some "tummy troubles" that eventually prompted a trip to Fairbanks for a check-up. Dale notified his parents to let them know Karen and Tom were coming in for a visit. At that point the camp was no longer using Morse code to transmit between the camp and Fairbanks. They had moved up to a two-way voice radio system. Therefore, when he added "Possible family addition," to his message, it went out not only to his parents, but to everyone in the territory with a receiver listening to the "Tundra Topics" that evening.[19] This included everyone in camp who had radios heard it as well. Like any small town, secrets are a hard thing to keep in a mining camp.[20]

During the 1954 season, the dredge worked some unusually rich ground. It worked through the claims originally staked by William Beaton and Nels Nelson in 1907; from just below the mouth of Beaton Pup, to just below that area.[21] Evidence of Beaton and

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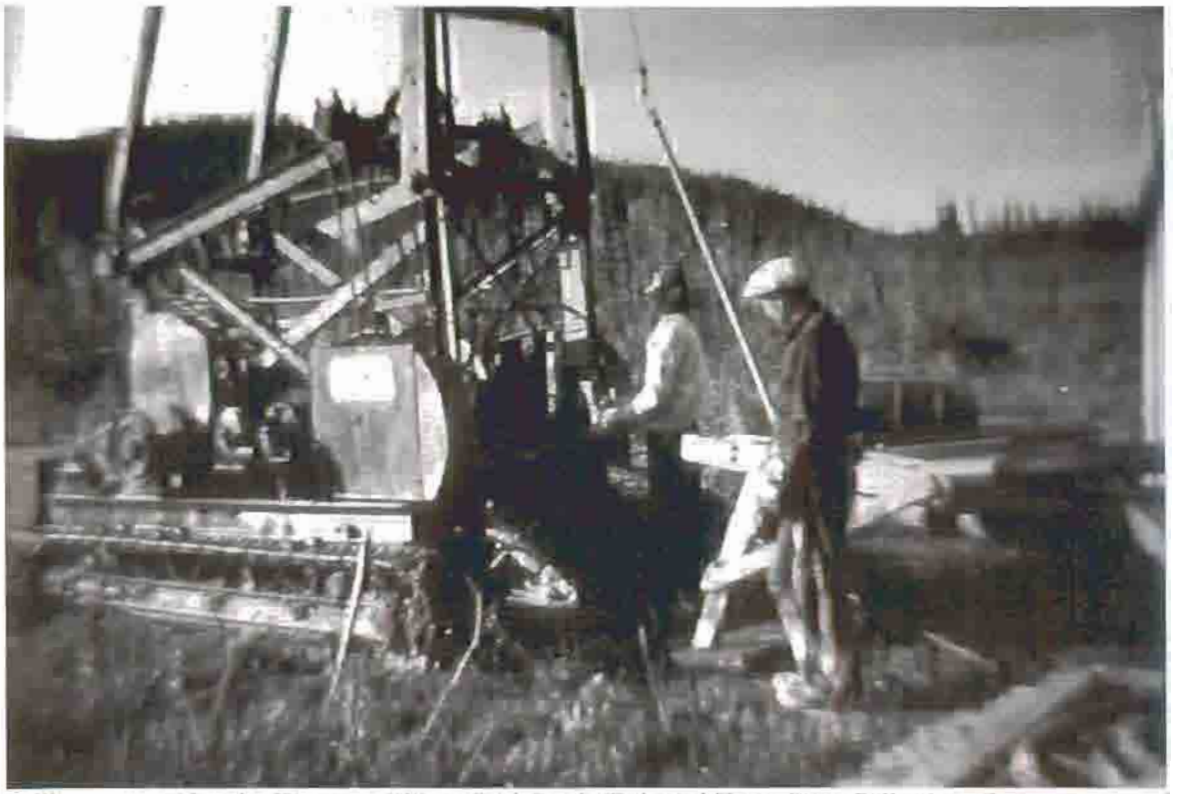
[17] Dale Patty, personal communication, May 25, 1999.
[18] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, pp. 5-6.
[19] "Tundra Topics" is a communication service unique to Alaska. People living beyond telephone access can get messages broadcast via AM radio stations at set times throughout the day. The messages come through in a format such as "To Jim and Donna on May Creek. Mom and Dad will be arriving next Tuesday. Hope all is well with you." Because the messages go out over the radio waves, there is no privacy at all. Since most of Alaska is still without cellular phone coverage, "Tundra Topics" or "Caribou Clatter" (depending on the station transmitting the messages) is still a dependable means of communcation, even in the 21st century.
[20] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 7.
[21] Location Notices, Circle Mining District, Book 3 (1907-09), pp. 49-51. Dale Patty, personal communication, July 20, 1999.

Nelson's early mining included shafts where they had dug down to bedrock and the drifts that they used to follow the paystreak as it meandered. According to Dale, they did much of their drifting in tunnels so shallow that they literally crawled along through the permafrost on their bellies.[22]

Although the drill testing in the area showed only fair amounts of gold, the actual dredge results revealed some of the richest ground on the creek. Cleanup No. 121 (June 28, 1954) and No. 122 (July 10, 1954) averaged 98.9¢ and $1.029 per cubic yard respectively. Similarly, Cleanup No. 25 (June 30, 1939) -- which contained the results from dredging the ground originally worked by Frank Slaven -- had an average value of $1.03 per cubic yard.[23] How the old-timers were able to locate the pockets of unusually rich ground, without first removing the muck and overburden is anyone's guess.



Drill crew operating the Keystone drill on Coal Creek (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

The ground worked during 1954 was good. It was shallow, averaging 10 1/2 feet deep with firm granitic bedrock below, "perfect for holding gold." The company was making money like it had not for a number of years. So much so in fact that it bothered Dale. He

[22] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession. Dale Patty, interview, July 19, 1998, Coal Creek, Alaska.

[23] Cleanup values are compiled from the Annual Reports for Gold Placers Inc. and Alluvial Golds Inc. See Appendix __ for actual figures.

saw the company paying heavy taxes in 1954 and then hurting later.[24] As shown in the following table, the average cleanup for 1954 ranked third overall in the production history of Coal Creek.[25]

Table 9-1: Cleanup Values on Coal Creek, 1936-62

Year	Total Value of Gold	Number of Cleanups	Average per Cleanup
1936	$121,924.20	6	$20,320.70
1937	152,771.82	8	19,096.48
1938	261,580.48	9	29,064.50
1939	354,425.59	9	39,380.62
1940	290,834.95	N/A	N/A
1941	266,238.75	N/A	N/A
1942	N/A	N/A	N/A
1943	Gold Placers Inc did not operate in 1943.		
1944	Gold Placers Inc did not operate in 1944.		
1945	123,130.49	N/A	N/A
1946	136,458.02	9	15,162.00
1947	158,270.00	N/A	N/A
1948	106,365.00	N/A	N/A
1949	Gold Placers Inc did not operate in 1949.		
1950	127,565.32	12	10,630.44
1951	182,200.89	11	16,563.72
1952	Gold Placers Inc did not operate in 1952.		
1953	Gold Placers Inc did not operate in 1953.		
1954	229,124.11	9	25,458.23
1955	208,154.76	10	20,815.48
1956	197,001.84	9	21,889.09
1957	130,553.85	N/A	N/A
1959	Gold Placers Inc did not operate in 1959.		
1960	Gold Placers Inc did not operate in 1960.[26]		
1961	They did not work Coal Creek in 1961.		
1962	They did not work Coal Creek in 1962.		

With the support of the Board of Directors, Patty made a decision shutting down the dredge on September 19 to keep taxes from devouring their profits.[27] In describing the economics of shutting down early, Patty pointed out that the first $25,000 was taxed by the Federal government at 30%. After that, the tax rate jumped to 52%. To illustrate

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[24] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 15.

[25] Data was compiled from various Annual Operating Reports for Gold Placers Inc. See Appendix ___ for complete cleanup tabulations.

[26] Gold Placers Inc. and Alluvial Golds Inc. both ceased operations in 1960. The ground was leased to Mr. Ted Mathews of Fairbanks in 1961 and 1962 during which time he only operated the dredge on Woodchopper Creek.

[27] The Board of Directors decided that $229,653.21 was the cut-off point for making a profit versus paying the higher tax liabilities for continuing the operation beyond mid-September. (Dale Patty, "Gold Placers Incorporated, Operating Report" (1954), 1.)

how shutting down the dredge early actually saved the company a great deal of money, see the following:

Gross value of gold and silver produced:	$229,602.96
Less depreciation and operating costs:	-160,000.00
Net value (before deducting mint charges):	$68,512.71
30% tax on first $25,000.00 profit:	7500.00
52% tax on the remaining profit:	22,631.29
Total tax as of 9/19/54 cleanup:	$30,131.29

Had the dredge continued working for another four to six weeks, assuming three additional cleanups averaging $29,051.25 (the average value per cleanup of the first eight cleanups), the company would have produced a gross value of $316,756.71. Using the same figures for depreciation and operating costs would leave a net profit of $156,756.71. This would result in a tax liability of $76,013.49.

Although the dredge shut down a month early, management feared that if the crew were let go early they would be impossible to rehire the following season. Because of this, the crew was kept on carrying out "dead work" around the camp that had been neglected for a number of years.[28]

Because the two companies were alternating between the creeks every two years there was a lot of maintenance required to keep the camps in good condition. To accomplish the many tasks facing the crew, Patty divided them into five teams. Each was responsible for a different group of tasks: (1) work on the dredge to get it ready for the 1955 season as well as work on the Woodchopper dredge repairing its pontoons, gearing and rollers; (2) stripping the ground ahead of the dredge; (3) repairing the road from the camp down to the Yukon;[29] (4) construction around the camp including work on the bunkhouses, mess hall and enlarging the General Manager's cabin with the expectation that Dale and Karen had a new addition to their family on its way; and, (5) drilling the remaining three miles ahead of the dredge to determine the scale and location of the pay streak. Taking this approach to accomplishing the work seemed to get a lot more done in the short period of one month.[30]

The ground dug during the 1954 season was well thawed and the gravels were unusually easy to dig. This coupled with shutting down for the season a month early allowed the company to forego re-lipping the bucket line before starting the 1955 season. In his 1954

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[28] Dead work consists primarily of maintenance activities on the dredge, the camp and other equipment and machinery. It is essentially that work necessary to support a mining operation, without actually mining.
[29] This required miles of corduroy (logs laid perpendicular to the roadway to help "bridge" boggy parts) and filling with new gravel. The barrow areas where the crews dug the "gravel" fill (actually a type of shale) are still visible at several places along the road. Dale later commented that he had often thought "why hadn't they just abandoned the upper road and moved it to the valley below instead of constantly trying to maintain it year after year."
[30] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, pp. 15-16.

annual report, Patty announced to the board of directors that, "If the digging continues to be as good next year, the old bucket line should last the full season." This in itself would result in big savings in both time and money.[31]

The average depth the dredge worked during the season was only 10 1/2 feet. At places, the bedrock was less than 3 feet deep, and in some, it reached right to the surface. In order to maintain sufficient water to keep the dredge afloat the crew had to dig these areas down eight feet deep. However, Patty notes in his annual report that some of these high bedrock areas proved to be extremely rich.[32] To prevent having to dig more bedrock than necessary, the area ahead of the dredge was flooded with 3 to 5 feet of water, thus raising the level of the dredge pond.[33]

Always thinking of future seasons, the company had approximately three years of ground stripped and thawed ahead of the dredge. Their plans for the 1955 season included cutting back on the stripping operations on Coal Creek and moving the bulldozers over to Woodchopper. There they would start stripping and thawing in preparation for moving the operations back to that creek in 1958.[34]

THE 1955 DREDGING SEASON

The 1955 mining season for the dredge was by all measure routine. That was not the case for Karen and Dale however. She had given birth to twins. On May 27, Karen and Dale returned to the mines at Coal Creek with their three children, the four month old twins, James and Stephen, and Tom who was now 20 months. According to Karen, "Don Holshizer flew like raw eggs were loose in the plane, he was so careful. He even circled a rain squall and came down unusually slowly so as not to bother the babies." Among the many tasks to deal with upon their arrival at the camp was building something to keep Tom, who was by now mobile, out of harm's way. To do this, Dale used several of the old thawing points, cut them to five-foot lengths driving them into the ground as fence posts. Around these, he hung three-foot high chicken wire to create a 15' X 25' "play pen" alongside the house.[35]

It was as though the 1955 season was a harbinger of things to come. Harry Gingrich, the charismatic superintendent at the mine, became seriously ill. A helicopter, chartered by the General Petroleum Company that was basing some prospecting work out of Coal Creek camp, flew him from Coal Creek to Woodchopper. From Woodchopper, Gingrich flew by plane to Fairbanks where his condition deteriorated to critical. Flo Gingrich, Harry's wife and the camp cook, joined her husband in Fairbanks.

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[31] Dale Patty, "Gold Placers Incorporated, Operating Report" (1954), 3.
[32] Dale Patty, "Gold Placers Incorporated, Operating Report" (1954), 3.
[33] Dale Patty, personal communication, July 20, 1999.
[34] Dale Patty, "Gold Placers Incorporated, Operating Report" (1954), 4.
[35] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 15.

Harry Gingrich passed away a week later. He was one of the few men who had been with the company since its beginning in 1935.[36] Dale commented that with Harry's death, his world appeared to come crashing down around him. "Not only did I lose one of my best friends and teachers, but more importantly the mine lost the finest superintendent that it could possibly have had."[37]

Bill Finnigan, assistant mine superintendent was promoted to replace Gingrich. Although he lacked the experience of Gingrich, Finnigan tried to run the operation as best he could.

The dredge started work on June 5th, almost two weeks later than usual. This was due in part to a very late spring leaving the gravels frozen until June 2nd. In addition, when the crew floated the dredge off its winter storage shelf, they found trouble with the pontoons which required three days to repair. The overall record for the year was somewhat depressed. The dredge ran for a total of 138 days working at 97.5% efficiency. During that time, it processed 355,600 cubic yards of gravel that averaged 54.4¢ per cubic yard, down from the 75.3¢ the season before.[38]

This was the last season either of the dredges broke the $200,000.00 mark for seasonal production. In 1955, the Coal Creek dredge recovered $208,643.02. After the close of the season, between $8,000 and $10,000 dollars remained frozen in the side sluices that would be recovered the following year.[39]

One point that Patty made to the Board that fall was the fact that although the company's production was down by nearly $21,000 from the previous year, their "operating costs were also substantially reduced."[40] Two things affected their operating costs. First, the company purchased a new International TD-24 bulldozer at a cost of almost $30,000, including freight.[41] According to Patty, the new TD-24 was capable of doing the work that had previously taken two or three TD-18s to accomplish. They planned to use the TD-24 almost exclusively for stripping. Moreover, because it could handle so much more, they were able to get by with only one CAT driver. The second driver transferred to the position of shoreman. This would enable him to use a TD-18 to accomplish any bulldozer work that might be necessary around the dredge, the pond and the camp such as building dikes in front of the dredge to raise the water level. This CAT was also used for moving dredge lines and hauling.[42]

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[36] Dale Patty, "Gold Placers Incorporated, Operating Report" (1955), 5; and Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 16.
[37] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 16.
[38] Dale Patty, personal communication, July 21, 1990.
[39] It was not uncommon to have the dredge freeze before the last cleanup could be carried out. The gold left frozen on the sluices would be cleaned up the following spring and the income would be used to carry the operation through until the second cleanup (which was actually the first for gravels processed that season). This practice helped avoid taking out loans from the bank to finance each new season.
[40] Dale Patty, "Gold Placers Incorporated, Operating Report" (1955), 2.
[41] Dale Patty, personal communication, July 21, 1999.
[42] Dale Patty, "Gold Placers Incorporated, Operating Report" (1955), 5.

In late 1955, the company fabricated a rectangular steel tank to fit on the Athey wagon.[43] It measured roughly 12' 6" wide and 5' high, and held approximately 2,500 gallons of diesel oil. From that time forward, they hauled all diesel fuel using the Athey wagon. The decision to build the tank on the Athey wagon was a good one. When in 1958 the company moved the operation to Woodchopper, they added almost 12 miles to the trip. Hauling fuel in barrels, with trucks, would have been a huge undertaking because the road from the camp at Beaton Pup along the hillside to Slaven's Roadhouse was no longer passable with heavy equipment.[44] Beginning in 1957 access from camp to the river for supplies, etc. was via a route that followed Coal Creek, on the right limit.

The problem of transporting supplies and materials continued to plague the company. To remedy this, in part, they reached an agreement with Standard Oil Company of California to purchase two 2500-gallon storage tanks and one 5000-gallon tank.[45] Under the terms of the deal, Gold Placers Inc. would pay half of the cost of the tanks over a five-year period and Standard Oil would pay the other half. This enabled them to cut their freighting costs from one cent per pound to three-quarters of one cent per pound. In addition, the company realized a substantial saving because it no longer needed to back haul empty barrels at one dollar per barrel. In order to receive these benefits however, the company had to agree to buy only Standard Oil products for the next five years, "provided the mines are operating."[46]

One of the other low points of the 1955 season was an accident that occurred at Slaven's Roadhouse. Several crewmen, including the aging Phil Berail who, like Gingrich had been with the company from the beginning, were riding in the back of the truck. Dale was driving. Patty called to the men to be careful and stay put because he was going to pull the truck forward. Berail either failed to hear the warning or failed to heed it. He started to jump off the truck as it started to move forward and stumbled hitting the ground hard. This time after he got up and tried to tell the others that he could walk back to his cabin no one believed him. They took him immediately by truck to Woodchopper and then flew him into Fairbanks where he was hospitalized for a fractured hip.[47]

The outlook for 1956 was strong. They had retained three quarters of their crew from 1954 to 1955 and they hoped to have them back again in 1956. But Patty notes in the annual operating report that although the company carried a good inventory of supplies and spare parts, there would be a "considerable amount of work to be done on the screen,

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[43] An Athey wagon is pulled behind a CAT. Instead of having wheels or runners, it has tracks similar to those found on a CAT. The remains of the wagon are located a few hundred yards upstream from where the Coal Creek dredge now sits, on the west side of the road.

[44] Dale Patty, personal communication, July 21, 1999.

[45] Although the "Gold Placers Incorporated, Operating Report (1955)" states that a 5,000 gallon tank was installed on the beach, Dale Patty recollects it being considerably larger. He remembered it as being "8,000 to 10,000 gallons in size." Dale Patty, personal communication, July 21, 1999.

[46] Dale Patty, "Gold Placers Incorporated, Operating Report" (1955), 2. The statement "provided the mines are operating" is a significant one at this juncture. Such a comment had never been written into official company documents prior to 1955.

[47] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 5.

digging ladder, pontoons, and diesel engines next spring."[48] During the time that Dale ran the mines, the company never needed to borrow money. As is the case of most small companies, the secret to success is a positive cash flow.

Coal Creek Camp No. 3 (c. 1954-57), located on Beaton Pup. The Patty's house is located at the lower right of the photo. Other prominent structures include the assay office (left center, behind the birch tree), mine manager's office (to the right of the assay office), mess hall (right center of the photo), "bunkhouse row" angles away from the mess hall to the left rear of the photo (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

THE 1956 DREDGING SEASON

As Patty predicted, the 1956 season began on Coal Creek with five weeks of maintenance work overhauling the dredge. Spring arrived early that year so the crew rushed repairs to get the dredge into production as early as possible. The dredge began working on the afternoon of May 26, nearly two weeks earlier than in 1955. The company hoped to get a full 150 days into this season, but cold weather forced them to close on October 14, after only 141 days.

During the season, the dredge worked 358,000 cubic yards of gravel that averaged 55.3¢ per yard as compared to the 58.9¢ per yard the previous season. The production for the year was valued at $197,479.03, also below that of the previous season. However, one advantage of the early cold, Patty estimated between $7,000 and $9,000 of gold remained

[48] Dale Patty, "Gold Placers Incorporated, Operating Report" (1955), 5.

frozen on the dredge in the black sand. They would recover this and send it to the mint the following spring. This practice generally carried the company through the initial startup phase of the next season, until the first cleanup. Consequently, they would not have to borrow any money from the bank to get the next season going.[49]

Operating the dredges at Coal Creek and Woodchopper had been a tenuous balancing act since WW II. By early June, two men had already left Gold Placers Inc. taking construction jobs in Fairbanks and on the DEW Line. These jobs at twice or more what they were earning on the creeks, tended to draw off the best people and they were virtually impossible to replace. In late June, four older employees, including Flo Gingrich (widow of Harry Gingrich the former superintendent), Les Gingrich (brother of Harry Gingrich and chief engineer on the dredge), Tim Timmerman (a CAT driver) and Jim Peterson threatened to leave if Bill Finnigan were not removed from his job as superintendent at the camp. Patty tried his best to convince them to change their minds and stay. He was able to get them to give him two weeks to solve the problem. He finally relented allowing them to leave, after all, he was the manager and was not going to be pushed into making any rash decisions, on anybody's part, especially his. It was a decision made on *"Who was going to be the boss of the operation."*[50]

In August, Patty found Roy Nay, a winchman, sitting on the steps of one of the bunkhouses. From a distance, he found nothing seemed out of the ordinary, except for the rifle lying across his legs. Upon investigating, Roy was rambling on, having a nonsensical conversation with himself. Dale decided that something was definitely wrong. Because of the weapon on Roy's lap, Dale took his own rifle, carrying it in a relaxed, non-threatening manner, ever vigilant of the potential danger and ready to use it if need be, he approached the seated winchman.

Slowly walking up to him, Dale called out "Hi Roy, how are ya?"

Dale continued talking to him as he approached closer and closer until finally he was standing right in front of the man. The winchman made no resistance as Patty took his rifle out of his hands and said; "Now Roy, you're going to have to go into town."

Nay replied simply, "Oh that's fine Dale. I'll go into town."

Patty, in later reminiscing about the scene stated "I never had a plane here so fast in my life."[51]

Although it seemed like the company was falling apart around him, Dale noted in the Operating Report to the Board of Directors, "the majority of the work was carried on by a

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[49] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 1.
[50] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 1. Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 19. Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 16. Dale Patty, personal communication, July 21, 1999.
[51] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 1; Dale Patty, personal communication, May 25, 1999; and Dale Patty, interview, July 19, 1998.

few men who were more experienced and they turned in a very good job." It was impossible to replace Nay as winchman. Because of this the two remaining winchmen worked longer shifts making up for the missing man. Patty also worked a minimum of four hours at winching each day in addition to his regular duties to take up the slack.[52]

Patty discussed the problems of hiring qualified, experienced individuals in light of the economy of the day, in his report to the Board of Directors. He also suggested that the remaining winchmen "be offered a raise in pay, based on seniority, to try and insure they remain with the company.[53]

Life at the camp was anything but dull. One day, the camp dog named Keeno was running loose when he ran into a porcupine. As is generally the case, Keeno came out of the encounter with a face full of quills. After dinner, a group of men tried to pull the quills out with pliers and the frightened dog just about went wild. Susie Paul[54], a native from Eagle who drove one of the CATs, took him quietly aside and the dog laid perfectly still for him while he pulled them all out, even those inside his mouth.[55]

Keeno was not the only "pet" living at the mine. Les Gingrich worked all summer as the chief engineer on the dredge. The highlight of his season actually came when the last of the crew left the mine each fall and he then took on the mantle of winter caretaker. Dale Patty tells of him complaining about never seeing the sun from mid-November until mid-February. His only company was "a couple of dogs he never used and a cat named Bozo."[56]

Bozo was probably the most unusual cat in the world. The Patty family got the cat in 1938, and according to Dale:

> He was tough from the start. One time in 1939, I heard a big husky yelping in front of our home in Fairbanks. I looked out the window and here was Bozo, on the dog's back, claws dug in, riding the Husky down the block.
>
> In 1939, some person beat the cat with a club and we [thought] he would die. He was really beat up. My mother fed the cat with an eyedropper for about 2 weeks. The cat recovered, but one eye was gone.
>
> Then in 1940, we decided to move to Seattle. What to do with the cat? Dad decided to take it to the mine. I am sure he [thought] the cat would live a very short time out there. When I came back in 1945, he was there, but would have nothing to do with me. He was the biggest, most

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[52] Dale Patty, personal communication, July 21, 1999.
[53] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 1, 6.
[54] Although "Susie" is generally considered a feminine name, in this case, it is masculine. Susie's Native name was "Soo-suh" (phonetic spelling) which was in turn familiarized to Susie.
[55] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 20.
[56] Dale Patty, lecture given to the Eagle Historical Society, July 18, 1998, Eagle, Alaska.

independent animal I have ever known. He ate what he wanted and was no one's friend during the summer.

I am told by Les Gingrich, that during the winter, when he lived with Les, he was often attacked by wolves. He would get on the wolf's back and ride him all over camp. Finally in about 1953, the wolves figured him out and a pack attacked him and killed him.

What a cat. I guess this cat is a little bit like the old timers that settled those creeks.[57]

While the men at camp spent their days and nights working on the dredge, moving muck with CATs and any of a dozen other heavy jobs, Karen Patty, with her three young boys worked every bit as hard as any man on the crew. She describes her daily routine in her unpublished memoirs as:

> Dale brings pancakes and a pot of coffee back from the cookhouse at 6:30. I get up and eat, usually before I get the boys up. Get stove going and water for wash heating. (I tried washing every other day, but it was no good).
>
> I had to get a fire going in the pot-bellied stove in the middle of the living room, no matter how hot the day might prove to be, as well as a fire in the small kitchen stove. On both stoves I put buckets of water, somewhat overhanging the stove surfaces.
>
> Then I got the boys up, fed them, got them on and off the toidy seat (potty) -- always a gamble as to whom to put on first and who could wait the longest before I had a nasty diaper to contend with. Soon as possible, I got them all out in the yard.
>
> Did the dishes, then assembled the table (used their feeding table with the seat folded down out of the way in the center for this), the washing machine (a 7 gallon machine ordered from Montgomery [Wards]), a box to hold rinse water, the tub and 7" hand-wringer, and the clothes for washing. While loads went thru, I made beds and cleaned the house. The washing machine would hold 7 diapers at a time -- this was long before the days of disposable diapers. By the time the clothes were hung out on the line (on dry days) and all the washing equipment was put away, it was just in time to get the twins in to change them and wash them up before feeding them here at the house. Then we all went down to the cookhouse for lunch. The twins were in their teeter-babes[58] and fed tid-bits by Flo.

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[57] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 17.

[58] According to Dale, the twins "would rock and move all over the mess hall. Sometimes I think they were the entertainment for the crew every night at dinner." Dale Patty, personal communication, July 21, 1999.

Back to the house to put the twins to bed. When Dale was in the area, he would play with Tom and put him down for a nap in our bed. Usually the twins were up first and put out in the yard, followed by Tom.

Late afternoon, I always "dressed" for dinner, got the twins in for their dinner; then we all went [to the cookhouse] for our dinner. Afterwards there was pandemonium as the boys played in the house. At 7:00 pm, it was finally bath time and then bed for the boys at 7:30, when we were lucky.[59]

The labor problems on Coal Creek had a profound affect on both creeks. Because skilled crewmembers were so difficult to find the company paid little attention to stripping or thawing on Woodchopper. The problem with several thousand feet of ground ahead of the Woodchopper dredge was that the ground thawed naturally and thus was never drilled. In thawed ground, the drill crew must place casings in the hole to keep it from caving in on itself. Frozen ground eliminates this need. Even with the use of casings, the results are questionable.[60]

Likewise, they delayed repairs to the Woodchopper dredge pontoons because work on the Coal Creek dredge was more pressing.[61] The pay streak pinched down to a narrow area of the creek. Consequently, the dredge moved rapidly downstream to a point where, by the end of the season, it passed the last reliable drill line put in before 1956. From here, it went into an area where the drilling showed poor results. At the close of the season, there was one more line, approximately 2,000 feet below the dredge but the results of this line were poor. The company hoped that by the end of the 1957 season there would be a good estimate of how many dredging seasons remained on Coal Creek. This is one of the first times the annual operating reports considered that the end of the paystreak and thus the end of the mine was near at hand.[62]

As an example of the difficulty the company had attracting experienced crewmen, they were unsuccessful at trying to hire a driller before the start of the 1956 season. In their desperation, they decided to train a man for the job. A former employee, who was working in Fairbanks agreed to come to the mine for a week at the end of June to serve as a trainer. After getting the new employee trained so that drilling could begin in early July, the man quit in late July. He left for a higher paying job on the DEW Line. They promoted the drill helper to driller where an experienced panner trained him to do the job. By the time he was competent at the job, they wrote off the first line put down as "practice." When they put down a second line, 500 feet below the previous one, more problems cropped up. First, the drill clutch broke. The crew repaired it temporarily and ordered a new one. Before the new clutch arrived, the temporary repairs gave out and it

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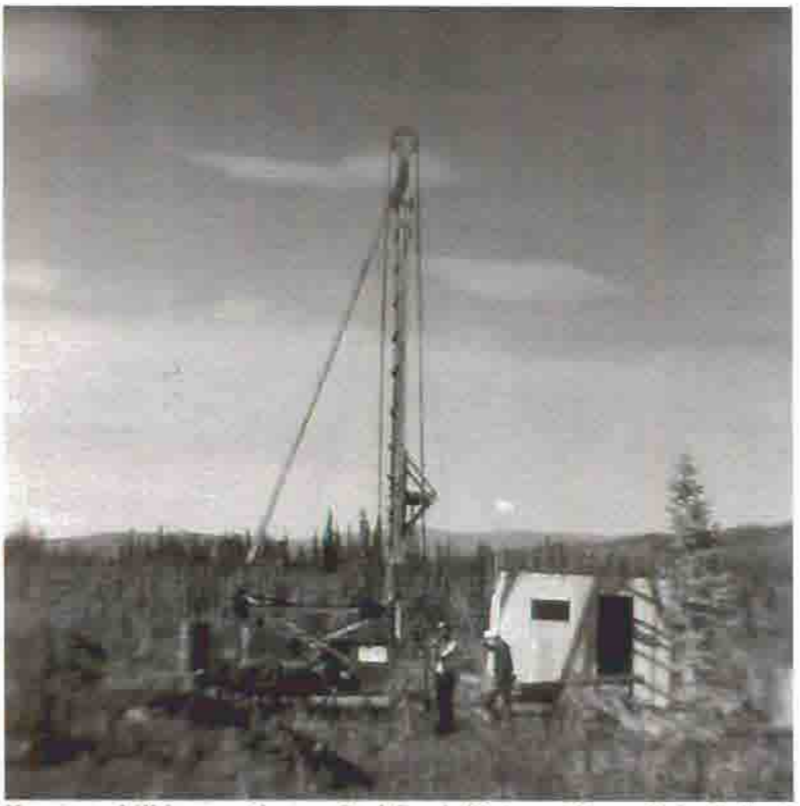
[59] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 17-18.
[60] Dale Patty, personal communication, July 21, 1999.
[61] Dale Patty, "Alluvial Golds Incorporated, Operating Report," (1956), 1.
[62] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 6-7.

failed a second time causing damage to the engine bearings. Three weeks later, the new parts arrived.[63]



Keystone drill in operation on Coal Creek (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

With the clutch repaired, work continued for only a short period until the bit jammed at the bottom of a 37-foot hole. Try as they did, the crew could not work it loose. They borrowed a second bit from another mining company and drilled a new hole along side the first in an attempt to break the bit loose. Unfortunately, the season ended before they could free the bit. The crew felt certain that with the next season the bit would come out without much difficulty.[64]

An overall feeling of despair started creeping into the annual reports beginning in 1956. The company was plagued with an inability to compete against the high wages being offered elsewhere. The value of the ground the dredge was working was steadily declining to where it was only slightly higher than 50¢ per cubic yard. The company had seen lean gravels in the past and always seemed to work through them to richer ground. Now, with the price of gold still frozen at $35 an ounce, ever increasing problems with hiring and keeping experienced crews, the end was relentlessly creeping into view.

[63] Dale Patty, personal communication, July 21, 1999.
[64] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1956), 7.

THE 1957 DREDGING SEASON

The 1957 season brought with it more problems for the Coal Creek operations, even before the crews arrived in the spring. Alaska's weather is fickle at best. Rarely are winters, or summers for that matter, consistent. At some point during the winter of 1956-57, Interior Alaska temperatures rose rapidly from -20° F (-28.8°C) to +40°F (4.4°C) in the space of a few days. This chinook[65] brought with it heavy rains in mid-winter. The melting snow sent a flood surging down Coal Creek washing out the dike in front of the dredge. This released the water under the ice in the pond that was insulating the already thawed gravels. When the temperatures turned cold again, a large glacier filled the dredge pond covering the exposed gravels. Consequently, the frost penetrated, this time deeply. Because of the amount of ice before the dredge, both in the pond and covering the gravel, the crew was eight days late getting it into operation. They spent the first three weeks of the season fighting the heavy frost in the gravel. Dale Patty commented that, "at times the dredge felt like a bucking horse beneath your feet as it hit pockets of frozen gravel."[66]

In addition to the freakish winter weather, labor problems continued to plague the company. During the winter, injuries hospitalized their best winchman and prevented him from returning for the season. The other two winchmen decided to go into construction work because of the higher wages. This meant training three new winchmen. The problem was compounded by the fact that every year there were fewer and fewer dredges operating, so experienced dredgemen were hard to come by. One of the new winchmen had some previous experience, but it was not up to the level of the people the company was able to hire in the 1940s and early 50s.[67] After losing the third winchman, Patty was filling in with a four-hour shift from 4 pm to 8 pm, after working his regular duties as manager. This meant the other two winchmen only had to work 10 hours a day instead of 12. At that time, it was impossible to hire additional winchmen. No one was around although most of the dredges had already shut down.[68]

The dramatic drop in the amount of gravel dredged reflects the inexperience of the winchmen. During the period from 1952 to 1957, the dredging season lasted an average of 138.6 days. During that time, they processed an average of 346,533 cubic yards of placer material. In 1957 however, during the 140 day season, only 305,200 cubic yards was processed. This was nearly 14% less for roughly the same length of season. Experience still counted and experienced winchmen were impossible to find.

When the 1954 dredging season is factored out the differences between seasons becomes even more dramatic:[69]

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[65] A *chinook* is warm, moist wind, generally originating from the ocean that causes a rapid increase in temperature during the winter. After a short time, temperatures generally fall and return to normal.
[66] Dale Patty, interview at Coal Creek, Alaska, July 19,1998.
[67] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1957), 1.
[68] Dale Patty, personal communication, July 22, 1999.
[69] As noted earlier, the dredge shut down early in 1954 because of the very high values it was digging in an attempt to reduce the tax liability the company would have faced had it continued. In 1954, the dredge only worked for 116 days and yet had the seventh highest production value ($236,664.23) of the entire history of

	1952-56 Averages (Excluding 1954)	1957
Length of Dredging Season	144 days	140 days
Yards Dredged	367,250 yd^3	305,200 yd^3
Average Yards per Day	2550.35 yd^3	2180 yd^3

According to people who worked on dredges, you became accustomed to their constant noise so that you did not even notice the continuously rumbling din in the background. At least you did not notice it until it stopped. Then you knew something was wrong. If it stayed quiet for a long period, something was really wrong.

At about 8:00 in the evening of June 22, the first thing people noticed was the silence. Then the camp suddenly filled with a commotion of trucks and men running about gathering pumps and hoses. This could mean only one thing. The dredge was going down.[70]

Earlier that morning, the crew replaced the original bucket chain with a heavier one. To counter-balance the additional weight on the digging ladder, the crew added water to the rear pontoons. The winchman was digging too heavily causing the bow of the dredge to rise and the stern to sink deeper. At the same time, Virgil Wasser, one of the crewmen, had been checking the pontoons leaving the hatches open as he went from one to another.[71] Water rushed over the stern filling the open pontoons. A large bolt broke between two pontoons allowing them to fill rapidly with water compounding the problem. The dredge began to list to the port side. The quick thinking of the engineer averted major damage when he shut down the diesel engines before they went under water.[72]

When the men from the camp arrived at the scene, they found it almost supernatural. The night was pitch black. Although with the diesel engines shut down, the light plant was still above water produced electricity for the lights now shining beneath the dredge pond. Every now and then something would slide off one of the workbenches or fall from an upper deck clattering on its way to the bottom. Dale Patty commented that it was "eerie." It sounded "just like a ghost was out there throwing things."[73]

Several years earlier, late in the season, the Woodchopper dredge suffered a similar fate when the winchman applied the brake too quickly and too hard while swinging it back for another pass at the face. The sideways force of the digging ladder caused the dredge to

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both Alluvial Golds Inc. and Gold Placers Inc. Factoring in this year's figures skews the average unnecessarily.

[70] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 24.

[71] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 24.

[72] Dale Patty, "Gold Placers Incorporated, Operating Report, General Statement," (1957), 1.

[73] Dale Patty, Interview at Coal Creek, Alaska, July 19, 1998.

tilt to the starboard side. Normally it operated with less than a foot of freeboard.[74] The top heavy nature of the Walter Johnson dredges carried it further and further to the right until water rushed over the side of the hull filling the right pontoons. This just exasperated the tilt and the dredge went over, almost onto its side.[75]

In both cases great care was necessary so as not to capsize the boats. Had either dredge rolled, the damage done could have been tremendous. Probably the only thing that prevented the dredge from rolling over on its side was the sand at the back of the dredge that kept the stern more level.[76]

Carefully surveying the situation, Patty chose a point and directed the CAT driver to carefully cut through the dike lowering the water level in the pond. In the case of the Coal Creek accident, they only had to drain about five feet of water letting the dredge settle onto the bottom.[77] Using every pump available between the two camps, they pumped out the pontoons and the reflooded the pond. After draining, cleaning and reassembling the diesel engines, the dredge was back in action within 35 hours of sinking. At the same time, Patty took advantage of the down time to carry out a cleanup.[78]

Righting the Woodchopper dredge posed a greater problem. The dredge face was nearly ten feet higher than that at Coal Creek and the pond was considerably deeper. Ernest Patty was at the camp at the time and directed the operation to re-float the dredge. Taking a level, Patty went downstream and found the point where the water would just drain out of the pond. He had the CAT driver cut a drain below the dike. When that was completed, he breached the dike allowing the water to flow out lowering the pond. After calculating the drop of the valley in front of the dredge, the fall of the creek was not sufficient to drain the pond. Roughly two feet of water remained on the starboard side of the bow deck after the dike was broken, with the dredge deck still below water.[79]

Patty ordered cofferdams[80] to be built that would fit over the pontoon hatches. They painted heavy pitch on the bottom of each cofferdam before positioning it. This sealed the bottom to the deck leaving the top of the dam above water. Carefully, working in sequence, they pumped some water from each pontoon, then repeated the sequence. If

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[74] Freeboard is the distance between the gunwales of a boat and the water. It measures the area above the water.

[75] Dale Patty, personal communication, June 15, 1999.

[76] Dale Patty, personal communication, July 22, 1999.

[77] Dale Patty later stated, "After we bulldozed below the dredge to get as much drop as possible, we broke the dike in front of teh dredge with a sbig a hole as possible to reduce the water level as soon as possible. The only reason we did not break the dike earlier, was that we had to doze out the area below the dredge first so the water level would go down enough for us to pump out the pontoons." Dale Patty, personal communication, July 22, 1999.

[78] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession.

[79] Dale Patty, personal communciation, July 22, 1999.

[80] A cofferdam is a temporary watertight enclosure built in the water and pumped dry to expose the bottom so that construction, such as piers, may be undertaken. It is also a watertight chamber attached to a ship's side to facilitate underwater repairs. In this case, the cofferdams allowed the crew to pump water out of the pontoons even though they were still submerged.

they took too much water out of any given part of the pontoons at one time, the result would be to wrench the hull, possibly compounding the problem by pulling bolts, etc. Slowly the dredge began to right itself until finally the pontoon hatches were above water and the cofferdams removed. The dredge was again on an even keel. In this case, it took three days until the dredge was again upright.[81]

Not only did the dredge cause a great many problems during the 1957 season, so did the CATs. It was not unusual to find one of the big tractors out of commission for a day or so, either due to general maintenance or outright breakdowns. However, this season they seemed to have more than their share of problems.

Dale Patty (right) and Ted Murray (left) placing a retort vessel into the furnace to drive the mercury off the gold amalgam (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

By this time, the company was working with two International Harvester TD-18s and a new TD-24. The company purchased the TD-24 in 1955 as a replacement for one of the aging TD-18s. The company expected the larger and more powerful bulldozer to pay for itself within a few years through significant savings in labor and material costs. According to that year's annual operating report, the first year alone the company saved "thousands" of dollars on materials that would have been required to maintain the ailing machine it replaced. However, by late in the season, problems with the hydraulics that operated the new bulldozer's blade forced the stripping operations to slow considerably. International Harvester promised to send a representative out the following spring to get

[81] Dale Patty, Interview at Coal Creek, Alaska, July 19, 1998.

the new machine back up and running before the start of the mining season.[82] This was only the beginning of what Karen Patty later came to call "The Farce of the Cats."[83]

The International Harvester representative did come to Coal Creek early in 1956 and worked on the troublesome TD-24. When he left the machine was working. Soon thereafter, the old problems started cropping up again. By July, the bulldozer was already stuck in the mud. Two months later it started exhibiting more mechanical problems. The men started tearing it down and rebuilding it on September 5. They replaced the clutch on September 10 and an equalizer spring on it by mid-month. It was finally back to work by the 28th, almost too late since the dredge shut down for the season on October 16, 1956.[84]

By late May in 1957, the TD-24 was down again, along with one of the TD-18s. Before they got them back up and working, the remaining TD-18 that was supposed to be working with the drill crew downstream on Coal Creek limped back to camp. Having all three CATs down so early in the season was a serious problem, especially since the water was running high in the valley. Later the same day, the light plant went down. It was not a good day at the camp. However, as was generally the case, by pulling together and tackling the problems head-on, one of the CATs was running after dinner, and the lights came back on soon after.[85]

The next month, almost four weeks to the day, the blade on the TD-24 again decided to stop working. Also, Susie Paul's TD-18 was stuck in the creek. Dale and Paul got the TD-24 back on its tracks and headed down to pull the TD-18 out of the creek. As he tried to run to help, Dale's feet sank deep into the soft, sticky mud. His momentum carried him forward and "*SPLAT*" he fell face first into the muck. The air temperature was about 20 degrees above zero and the muck was about 33 degrees. After pulling himself free from the cold, wet ooze, he stayed for over an hour until they could get the TD-18 out of the muck.[86]

The International Harvester Company sent a representative out to the mine three times to attempt to fix the hydraulic system for the bulldozer blade. They finally had to re-engineer the pump. After that, the TD-24 worked perfectly, except for normal maintenance problems, until the company shut down in 1960.[87]

The season was as hard on the people at the camp as it was on the machinery. In June, Jim Patty, one of Dale and Karen's twin sons, let out a howl from the bedroom. Karen ran to investigate finding his thumb caught in the hinge side of the door. Camp first aid was not enough to repair the damage so they ordered a plane to take the family to a doctor in Fairbanks. Woody Clyburn cut his hand severely enough to require medical

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[82] Dale Patty, "Gold Placers Incorporated, Operating Report, Dredging," (1955), 5.
[83] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 25.
[84] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, pp. 21-22.
[85] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 24.
[86] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 24.
[87] Dale Patty, personal communication, July 22, 1999.

treatment, again in Fairbanks. Susie Paul, the CAT driver was periodically plagued throughout the summer with a serious rash on his face and neck. He went to go to Fairbanks for treatments following which Dale Patty added another hat to his already overburdened repertoire of tasks when he had to play the role of doctor giving a shot every night after dinner. The shots did not cure him and Paul had to fly to Fairbanks again. At the end of September, one of the engineers was stricken by terrible stomach cramps that required a plane to come to camp to take him to Fairbanks. Paul came back to camp with the plane. As it turned out, he had been suffering with pleurisy, pneumonia AND yellow jaundice for most of the summer.[88]

In July, Dale Patty wrote to the Board of Directors informing them of the increasingly obvious fact that the operations would have move to Woodchopper in 1958. Among the reasons he cited were the continuing problems with the CATs (the TD-24 was down for five of the 12 months the company owned it). Moreover, that summer, the serious lack of rain put the stripping operations at Coal Creek behind schedule. It was obvious that they really needed to have crews at both camps, but the reality of the situation and the consistently low price paid for gold made the thought of having a second crew unfeasible. On the other hand, making a move over the hill to Woodchopper posed a variety of problems. Including the fact that the machine shop had no machinery in it. It was all at Coal Creek. Many parts of the Woodchopper dredge had been removed and put on the Coal Creek dredge to keep it running. And the cabins at Woodchopper were few in number and in serious need of repairs.[89]

The end of the season brought with it less than stellar results. As shown by the following tables, Gold Placers Inc. had its third worst year in 1957 with a total production of only $130,874.44 in gold and silver. Four things were to blame. First, the average value per cubic yard had dropped from 55.2¢ in 1956 to 41.8¢ in 1957 or a drop of 13.4%. Second, the paystreak at this point began breaking up into two strands with very little gold in the middle. Company management had to decide what the best way to approach the problem would be. Third, the combination of labor problems, with experienced crews leaving, and training inexperienced crews on the job led to reductions in the quantity of gravel dredged. Finally, the continuing problem with the machinery ranging from the dredge sinking to the "Farce with the Cats."

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[88] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, pp. 20-22.
[89] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 26.

Figure 8-1: Operating Costs, 1952-5[90]

	1952 Alluvial Golds Inc.		1953 Alluvial Golds Inc.		1954 Gold Placers Inc.	
	Costs	**Cost / Yd³**	**Costs**	**Cost / Yd³**	**Costs**	**Cost / Yd³**
Shutdown, Airport, Camp	$ 4,912.09	0.0140	$ 5,220.84	0.0128	$10,978.75	0.0360
Stripping, Thawing, Prospecting	15,146.84	0.0432	17,440.13	0.0427	28,236.14	0.0926
Dredge Operations	49,420.50	0.1412	21,266.24	0.1502	49,073.92	0.1609
Dredge Repairs	23,282.57	0.0665	29,160.49	0.0715	23,521.71	0.0771
Subtotal:	92,762.00	0.2649	67,866.86	0.2772	111,810.52	0.3666
Administrative	23,822.43	0.0681	37,911.69	0.0929	41,529.37	0.1362
Depreciation	5,728.77	0.0164	5,616.55	0.0138	5,602.66	0.0184
Total Costs:	122,313.20	0.3494	111,395.10	0.3839	158,942.55	0.5212
Value of gold and silver:	149,634.79		173,895.59		236,664.23	
Less Costs:	-122,313.20		-111,395.10		-158,942.55	
Profit/Loss:	$ 27,321.59		$ 62,500.49		$ 77,721.68	
Yards Dredged	350,000		408,000		305,000	
Days Dredged	142		156		116	

The company knew from their previous drilling that they would run into an area of low values during the end of the 1957 season. The dilemma was that the company could not work both limits because the center section was so barren that it would dilute the values to a point wiping out any profit. The company made a decision to cast off the higher valued, but narrower streak on the right limit. Instead, the crew concentrated on the left limit where they estimated there was approximately 220,000 to 250,000 cubic yards of material they could work at a profit. This led the way to richer ground further down the creek.[91]

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[90] Information contained in these tables was found in a hand written ledger page the "1957 Annual Operating Report for Gold Placers, Inc. and Alluvial Golds, Inc." The original ledger also includes a breakdown for the dredge operations costs and dredge repair costs. This information was not included in this table. Annual value of gold and silver production for the years 1952-57 was collected from the appropriate annual reports.

[91] Ernest Patty, "Gold Placers, Inc. and Alluvial Golds, Inc., 'Review of the 1957 Operations on Coal Creek and Plans for 1958," 2. Dale Patty, personal communication, July 22, 1999.

Figure 8-2: Operating Costs, 1955-57[92]

	1955		1956		1957	
	Gold Placers Inc.		Gold Placers Inc.		Gold Placers Inc.	
	Costs	Cost / Yd^3	Costs	Cost / Yd^3	Costs	Cost / Yd^3
Shutdown, Airport, Camp	$ 5620.14	0.0158	5,192.20	0.0146	$ 7,491.36	0.0268
Stripping, Thawing, Prospecting	23,898.96	0.0673	27,888.01	0.0783	15,965.44	0.0570
Dredge Operations	55,817.63	0.1572	62,765.66	0.1763	65,709.49	0.2349
Dredge Repairs	24,451.31	0.0689	29,099.38	0.0817	35,470.42	0.1267
Subtotal:	109,788.04	0.3092	124,945.28	0.3509	124,636.71	0.4454
Administrative	39,743.29	0.1120	39,284.78	0.1100	40,623.35	0.1451
Depreciation	19,148.36	0.0539	19,870.13	0.0558	20,244.86	N/A
Total Costs:	168,679.69	0.4751	184,100.19	0.5167	185,504.92	0.5905
Value of gold and silver:	207,575.56		196,469.31		130,874.44	
Less Costs:	-168,679.69		-184,100.19		-185,504.92	
Profit/Loss:	$ 38,895.87		$ 12,369.12		$ 54,630.48	
Yards Dredged	355,000		356,000		305,200[93]	
Days Dredged	138		140		140	

By the end of the 1957 season, the company decided operations would shift back over to Woodchopper in 1958, in part due to the decline in values in the gravel in the lower Coal Creek valley and the fact that gold still remained valued at $35.00 an ounce. The annual operating report for 1957 notes that testing carried out on the ground below Pendergast Creek added almost a million dollars to the company's gold reserves on Coal Creek. However, until the price of gold rose, getting to it would be difficult. Consequently, they placed the Coal Creek dredge on a gravel shelf with no dikes below it to impound water. Here, sitting high and dry, it would be safe from glaciers and floods until, and if, the company moved back to Coal Creek.[94]

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[92] Information contained in these tables was found in a hand written ledger page the "1957 Annual Operating Report for Gold Placers, Inc. and Alluvial Golds, Inc." The original ledger also includes a breakdown for the dredge operations costs and dredge repair costs. This information was not included in this table. Annual value of gold and silver production for the years 1952-57 was collected from the appropriate annual reports.

[93] There is a discrepancy between the figure presented in the original accounting ledger and the narrative annual report. The ledger lists 280,000 cubic yards while the 1957 "Annual Report, General Statement," (page 1) states 305,200 cubic yards. The larger figure is presented here as it appears in several other documents as well.

[94] Ernest Patty, "Gold Placers, Inc. and Alluvial Golds, Inc., 'Review of the 1957 Operations on Coal Creek and Plans for 1958," 1 and Dale Patty, "Gold Placers, Incorporated and Alluvial Golds Incorporated, 'Operating Reports, 1957'," 5.

Although the company operated at a loss in 1957, they were still able to pay a small dividend of $10,000 divided amongst the shareholders by carrying some of the loss over to the following year.[95] When the dredge shut down in mid-October. Nobody realized that this would be the last time the Coal Creek dredge would operate with either Gold Placers, Inc. or the Patty family at the helm.

THE 1958 DREDGING SEASON: WORK SHIFTS TO WOODCHOPPER CREEK

Dale Patty, Suzie Paul and Harry David arrived at Woodchopper at the end of March, to start preparations for moving the operation from Coal Creek back over the hill to Woodchopper. They also needed to move four buildings from Coal Creek to the other camp, including the Patty's house.

When they arrived at camp, the winter watchman Les Gingrich, the brother of former superintendent Harry Gingrich, joined them. During the summer, Gingrich worked as the chief engineer on the dredge. Dale describes Gingrich as a loner, "The exact type, as the early prospector who came to these creeks in the early 1900s and lived a life alone."[96]

Before landing on the Woodchopper airstrip, Patty had the pilot make several passes between Coal Creek and Woodchopper in order to find the best route for the CATs to take moving the buildings. They knew ahead of time that the road between the two camps was too narrow in places and thus would not provide a feasible route. The previous summer, David Hopkins of the US Geological Survey,[97] used Coal Creek as a base of operations for conducting a study of the area. He brought with him aerial photographs of the drainages that he and Dale used with stereoscopic glasses (providing a three-dimensional effect) to search for the gentlest pass over which to move the camp buildings the next season. This saved a lot of legwork as well as trial-and-error in the end. They eliminated Pendergast Creek along with Little Snare Creek. The two remaining routes were either Snare Creek, about a mile above the camp, and another, six miles farther up Coal Creek that dropped down into Mineral Creek (a tributary of Woodchopper Creek) on the other side.[98]

Dale and Harry Patty took one of the bulldozers to clear the snow from the road between the two camps. After coming over from Woodchopper, at a point within a mile of Coal Creek camp, the tractor ran out of fuel. Jumping off into waist deep snow, the trio had to hike the rest of the way to camp through heavy, wet snow. The next morning they hauled diesel fuel, in five-gallon buckets, back to the dormant tractor. After getting it back up

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[95] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p. 3.
[96] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 16.
[97] David Hopkins later became a professor of geology at the University of Alaska campus in Fairbanks. He is very well known and highly respected for his work on Alaskan geology.
[98] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 28.

and running, they decided to cut a path over to Martin Adamik's cabin to see how he had faired the winter.[99]

When they arrived at his cabin, they found him lying in bed, looking poorly. True to his nature, as soon as the trio entered he started his non-stop talking, continuing for about an hour. At that point, he turned, looked at Dale, and said "Dale, I'm through talking now." With that one simple statement, he closed his eyes and died.[100]

Over the course of the next several weeks Susie Paul used a bulldozer to excavate a grave on a small rise not far from Adamik's cabin. The men then retrieved his body with its canvas shroud from its temporary resting-place in a snow bank and laid Martin Adamik to rest above his beloved creek.[101]

The company had constructed most of the buildings at Coal Creek on log skids with the intention of using a CAT to drag them from place to place. However, those they needed to move to Woodchopper did not have skids on them. Among these was the house the Patty family lived in, Karen's "tiny cabin built of Celotex and a tin roof."[102] Because of the additions added over the seasons, The crew had to divide it into pieces in order to move it.

The men made two large sleds out of logs, bolted together, to support the buildings. Each structure was then jacked up and the sled positioned beneath it. One CAT pulled the sled with the other following behind to slow its downhill progress preventing it from over-running the tractor ahead.

They moved four buildings to Woodchopper camp followed by most of the supplies and inventory of replacement parts. Even at that, Patty commented, "It seemed all that summer we thought of something else we [needed] from Coal Creek." He continued with, "This was a new adventure in my life, and I learned an awful lot about moving and about people."[103]

Getting the dredge up and running took a lot of work. It had sat idle for the previous four seasons and much of its machinery had been "robbed" and taken to Coal Creek to keep that dredge running.[104] Now, all of it had to be removed from the Coal Creek dredge and brought back to Woodchopper. Compounding the problems was the fact that over the winter the Coal Creek dredge had been "glaciered in" when floodwaters coming down

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[99] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 17.
[100] Dale Patty, "The Patty Family at Coal Creek," talk presented to the Eagle Historical Society, July 18, 1998 and Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 4.
[101] The story about Martin Adamik's death is reported at length in Chapter 2 of this book.
[102] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p 2.
[103] Dale F. Patty, "Coal Creek and Woodchopper Mining," unpublished manuscript in author's possession, p. 18.
[104] Dale F. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated, Operating Reports," (1958), 3.

the creek froze covering the hull. There was two feet of ice on and above the deck at the bow and nearly four feet at the stern. The ice entombed the two diesel engines, the pumps and most of the tools on the dredge. Even if the company had wanted to work Coal Creek that season, it would have been nearly impossible to start until well into June.[105]

One advantage that the crews had on Woodchopper over Coal Creek was that the stripping operations had continued for the previous four years without the dredge operating. Unlike the situation on Coal Creek where low water years and breakdowns on the part of the CATs had put the stripping operations way behind schedule, the Woodchopper dredge had several years of stripped ground ahead of it. In addition, the depth of the gravels on Woodchopper was greater than that on Coal Creek, thus the forward progress of the dredge would be slower.

The Woodchopper camp had not been used since 1953. One of the first things the crew did was to put in a water system similar to the one at Coal Creek using a ram pump and the old hydraulic hoses to get water to each of the cabins. This made life much more livable for everyone.

The company used a great deal of wood to heat the cabins and mess hall, in addition to a huge amount used during the last month of the season to fire the boilers on the dredge. They also had difficulty in keeping someone at the camp over the winter to cut cordwood. To remedy this problem they decided to replace the old wood-burning stoves with new oil stoves at Woodchopper. They ordered heavy gauge steel, fashioned a rectangular tank capable of carrying 2,500 gallons of diesel oil, and placed it on top of the Athey wagon.[106] By this time, the road from Beaton Pup to the Yukon River was almost impassable. To get the CAT and wagon with its attached oil tank to the holding tank on the riverbank where the company's supplier dropped off shipments, the CAT followed the road from Woodchopper, over to Coal Creek and down to the camp at Beaton's Pup. From there, they would follow the tailings to where the dredge sat and then over the stripped ground as far as they could. At that point it was only a short distance through the creek to the Yukon. The lower road at Coal Creek follows roughly this same route, even today. From there, the CAT retraced its tracks back to Woodchopper where the first stop was the dredge. After filling the dredge tanks with diesel oil it went on to the camp where the various fuel tanks were filled. By this time, only sixteen crewmembers worked at the camp. This was a great reduction from the original 75 to 100 at the camp in the 1930s. Dale Patty, the company manager, took on the task of driving the CAT and Athey wagon to the Yukon hauling the nearly six tons of oil back to Woodchopper. According to Dale, "Everyone had to do many jobs. Hours were not important. I averaged 15 to 16 per day, 7 days a week."[107]

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[105] According to Karen Patty, the crew found ice in the pontoons at the end of June. (Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 32.)

[106] An Athey wagon is a wagon that rides on tracks, similar to those on a CAT. It is pulled behind a CAT rather than being self-propelled. The remains of the wagon in question are located near the dredge on Coal Creek, across the trail and upstream approximately 200 yards.

[107] Dale F. Patty, "Coal Creek and Woodchopper Mining," unpublished manuscript in author's possession, 18. by 1958 the number of positions at the camp were reduced to the manager, one CAT driver, a cook, a

The dredge started production on June 2, 1958. Out of 142 days in the season, the dredge was in operation for 94.4% of the time during which it had processed 372,000 cubic yards of material. The last time the dredge operated (1953) it processed 381,000 yards. Prior to 1953, the average processed was 350,012 yards (Max = 413,191 Min = 199,500). The increased efficiency was due in part to re-setting the water jets in the screen, processing more material as it flowed through the dredge.

As with the Coal Creek dredge, the Woodchopper dredge was beginning to show its age. During the 1958 season, a weak point exposed itself in the screen drive. It broke three times until the crew finally re-engineered what turned out to be a manufacturing flaw. A little Alaskan ingenuity and a little extra welding solved the problem.

Woodchopper dredge operating near the mouth of Mineral Creek (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

Another modification made to the dredge that saved a great deal of time, effort and money was to change the screen by using new plates that were 50% thicker than the original. The tumbling and grinding action of the gravel as it moved down the length of the screen wore the metal down rapidly. It was replaced, generally once a season, when it reached approximately 1/2" thickness. For the most part, this was required each year. By using the thicker material, the crew estimated that they could get two, if not three years use of it. This would save money in both materials and shipping charges in

waitress, mechanic, accountant and the dredge crew consisting of three 3-man crews for a total of 15 people.

addition to the maintenance costs associated with down time installing new screen sections.[108]

For the first time since World War II, in 1958 Alluvial Golds Inc. and Gold Placers Inc. did not have a problem hiring or holding men to work on their crew. There was a recession going on in the rest of the country that was attributed in part to the success that mining companies in Alaska were having. The outlook for 1959 was equally bright.[109]

In the "General Statement of the Annual Operating Report," Dale Patty mentioned that a second bright spot for the season lay in rumors that the price of gold, which had been held at $35.00 an ounce for many years and might go up. If this happened, the company would have a number of productive years to look forward to. If not, the end seemed to be looming very large before them.[110]

On the low side, the final accounting for the year was not good. Even with a total output of $161,457.18, the bottom line for the season was in the red. This was due in part to a rapid decline in values beginning in September. During the first part of the season, they were running at about 50¢ a yard. In early September, they dropped precipitously to 36¢ a yard. Finally, with cold temperatures coming on hard and fast at the end of the season, the crew was forced to leave an estimated $3000.00 of gold frozen on the dredge until the following spring.[111]

The annual report to the Board of Directors, presented by company president, Ernest N. Patty describes how, although the bottom line for 1958 was in the red, the company should continue to operate in 1959. He explains that the extraordinary expenses associated with bringing the Woodchopper dredge back on line, and the additional maintenance costs to rehabilitate the Woodchopper camp after four years of virtual abandonment, would not be repeated the next season. In addition, the crew left the dredge in very good shape at the end of the season, which would equate to minimal work needed at the beginning of the nextseason. In his opinion, the company should continue to operate another year and evaluate their position again at the end of the season. This is the first time that any real discussion about the possibility of ceasing the operations at Coal Creek and Woodchopper appears in the company records.[112]

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[108] Dale F. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated, Operating Reports," (1958), 3.

[109] Dale F. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated, Operating Reports," (1958), 1.

[110] Dale F. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated, Operating Reports," (1958), 1.

[111] Dale F. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated, Operating Reports," (1958), 1.

[112] Ernest N. Patty, "Report to the Directors of Alluvial Golds Inc." (1958), 1-3.

Figure 9.2: Comparison of Operating Expenses (1956-59)[113]

	Gold Placers Incorporated		Alluvial Golds Incorporated	
	1956	1957	1958	1959 (Estimated)
Dredge Repairs	$29,099.38	$35,470.42	$42,981.40	$7,000.00
Camp Maintenance	2,439.99	2,234.13	10,964.82	8,000.00
Shut-Down Expenses	1,590.00	1,599.93	3,558.95	2,000.00
Administrative Expenses	40,623.35[114]	40,628.35	39,935.34	40,000.00
Totals:	$73,52.72	$79,932.83	$97,440.51	$57,000.00

Several factors were coming together having a profound influence on the company's future. First, the values of gold in the gravels ahead of the dredge were decreasing. Although some areas tested held higher values, to get the dredge to them meant cutting a path through either already dredged ground or that with very little gold. Second, with the price of gold still frozen by the Federal government it was harder and harder for the company to turn a profit, especially with marginal values. The company figured the break-even point for the operation was 35¢ per yard. If values dropped below that, they were simply throwing money out the back of the dredge. If they stayed above that, they could at least cover expenses, possibly making a profit. The decision on whether or not they could continue to operate hung precariously on what happened to the price of gold.[115]

THE 1959 DREDGING SEASON

In 1959, with operations back at Woodchopper, the crew got the camp and dredge up and running. Upon his arrival at Woodchopper, Dale Patty once again found labor problems. The company was already on their third waitress in the kitchen and the season was not even a month old. However, the new cook, Goldie Mortimer, whom Karen Patty describes as "a small and wiry worker," kept the crew amused with her constant malapropisms. When telling of a new shower cap she received from her daughter she described it as "It had two layers of plastic and was all filled with Seagram's." (It had sequins floating in liquid between the two layers of plastic.)[116]

Several years earlier, Ernest Patty commented that "No matter how skilled the management, they cannot put the gold in the ground."[117] The 1959 season brought with it a major downturn for Alluvial Golds Inc. and its sister company Gold Placers Inc. For the second year in a row, the companies operated at a loss. The primary reason for this was due to the gold recovery averaging nearly 20% less than the drilling estimates. Consequently, production figures for the season were only $124,874.00. Although this

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[113] Figures compiled from Ernest N. Patty, "Report to the Directors of Alluvial Golds Inc." (1958), 1-4.
[114] See Figure 9-1.
[115] Dale Patty, interview at Coal Creek, Alaska, July 19,1935.
[116] Dale Patty, personal communication, dated May 25, 1999.
[117] Ernest N. Patty, "Gold Placers, Inc. and Alluvial Golds, Inc., Review of 1957 Operations on coal Creek and Plans for 1958," p. 2.

was not the lowest in the history of the two dredges (see Appendix D), when taking the greatly increased operating costs into account, it was truly a disappointing year.

The highlight of the year was entry of Alaska into the Union of States as the forty-ninth state. Even a remote mining camp nestled above the Yukon River got into the celebratory action on July 4.

Following breakfast, the whole camp was summoned to what has been labeled the "Woodchopper Flag Raising Ceremony." Everyone who could be spared was present -- Louise Paul with her five children and grandson, the Patty family with their three sons, Ted and Sally Murray, a an assortment of the worker crew. As Sally, with help from the Patty boys, hoisted the new forty-nine star flag to the top of the flagpole, Dale, ever mischievous behind his cool managerial demeanor, "tossed a large, economy sized firecracker to herald the new flag." As the explosion reverberated down the valley, Karen Patty later wrote that it was "Quite a site to see both the flag and poor Sally flying from the flagpole by the ropes."[118]

By the end of the 1959 season, Dale Patty realized that the era of gold mining on Coal Creek and Woodchopper Creek was fast coming to an end. Looking forward to completing work on his MBA from Stanford during the winter quarter of 1961, he decided that he wanted to move on to a different career path. At the annual Board of Directors' meeting, he announced his resignation from the company effective at the end of the 1960 season. He based his decision, in part, on the fact that the economics of mining gold on either of the two creeks had become nearly impossible.[119]

In his "President's Report to the Directors," Ernest Patty painted a gloomy picture at best. After stating that the company operated at a "serious operating loss" during the season, he elaborated that the values in the gravels averaged roughly 20% below the drilling test results. Therefore, the company's gross production was $60,800.00 below their normal expectations. He stressed that throughout the company's history, the drilling results and actual recovery were very close on the average. The 1959 season however was the exception to the rule.[120]

Although the ground that would be dredged during the 1960 season was adjacent to Mineral Creek, a rich tributary of Woodchopper, the fact that the undredged gravel lay next to some of the less valuable ground already dredged did not sit well with management. Patty stated that "The best assumption we can now make is that the area now stripped and ready for dredging next year will not be any better then the 1959 ground."[121]

Ernest Patty laid three alternatives before the Board of Directors:

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[118] Karen Patty, unpublished memoirs, copy in Mrs. Patty's possession, p. 34.
[119] Dale Patty, personal communication, July 26, 1999.
[120] Ernest N. Patty, "Alluvial Golds, Inc. President's Report to Directors, 1959," p. 1.
[121] Ernest N. Patty, "Alluvial Golds, Inc. President's Report to Directors, 1959," p. 1.

First: Suspend operations indefinitely and wait for the price of gold to rise. This he stated was not something likely to happen within the next decade. The objections Patty saw to this course of action included the fact that the company would need to employ a watchman at the properties during the summer months to avoid theft and damage. They would need to do annual assessment work on the claims to maintain their validity. Shutdown costs would be in the neighborhood of $5000 to $7000 and would cover both camps. The company would also need to have someone on staff, willing to work without pay, to keep up with required government paperwork. Because the costs of getting the camps back into operation were bound to increase each year, Patty observed that unless the price of gold increased soon "the dredges will not produce again in our lifetime."[122]

Second: the company would run a salvage operation on Woodchopper Creek to use up the remaining supplies and already prepared ground ahead of the dredge. Patty notes that there would be minimal expenses to carry out such a plan, particularly since most of the fuels and lubricating oils necessary for running the operation were already on hand. There was also a fairly complete supply of spare parts for the dredge, including screen plates, wire rope, and diesel engine parts. The only expenses he foresaw, in addition to salaries for a reduced crew, were food and spare parts for the trucks and tractors as needed.

Dale Patty had agreed beforehand to take half a shift as winchman in addition to his duties, as had the dredgemaster. This would eliminate one winchman from the crew. Ted Murray, the long-time company accountant, agreed to work a night shift as an engineer. Because of the reduced crew size, they would not need a waitress to assist with mess duties, thus eliminating another person. Because the dredge would be operating in a salvage mode, it would not be necessary to have a fulltime welder on the crew. Patty suggested hiring one for the first month for any necessary repairs at the beginning of the season then laying him off for the remainder of the season.[123]

The one objection to this plan was that if the company failed to cover expenses, they would be in a more serious financial situation than they were at the end of 1959. In one of the few times Patty took a chance at predicting the odds of success, he wrote, "I feel that there is at least a 75% mathematical chance that the plan will succeed."[124]

Finally, Patty's third alternative: "Attempt to sell both operations at bargain prices." In this case, he cautioned the Board because he did not know where, or even if, a cash buyer could be found. The U.S. Smelting Refining and Mining Company based in Fairbanks[125] would not be interested as he had heard rumors that they too were in salvage mode for their properties. Over the previous several years, they had already idled several of their big dredges.

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[122] Ernest N. Patty, "Alluvial Golds, Inc. President's Report to Directors, 1959," p. 2.
[123] Ernest N. Patty, "Alluvial Golds, Inc. President's Report to Directors, 1959," p. 2-4.
[124] Ernest N. Patty, "Alluvial Golds, Inc. President's Report to Directors, 1959," p. 4.
[125] The Fairbanks Exploration Company came under the auspices of USSRM Co.

A second option under this plan would involve enticing new capital to invest in Alluvial Golds, Inc. and Gold Placers, Inc. but doing so would involve giving up control of the company to "outsiders." Patty states that "Rather than this I would prefer an outright sale at salvage prices."

Finally, he presented the idea that if they could sell the operations for $50,000 under this plan, and retain their investment portfolio, it would give the surest and most prompt return to the company's major stockholder Mrs. McRae.[126] He said that having "cash-in-hand would be better than the inherent risks of mining and future dividends." At last, the end was clearly in sight and everyone knew there was really no way to avoid the inevitable.[127]

When the 1959 season came to a close, the final accounting was not bright. The Woodchopper dredge recovered only $124,186.38 in gold for the entire season. This was down over 25% from the 1958 season. With returns like this, it was virtually impossible for the company to continue operations beyond the following season.[128]

THE 1960 DREDGING SEASON: AN ERA COMES TO AN END

In describing the 1960 dredging season, Dale Patty had few comments other than labeling it "My worst year at the mine." If things could go wrong, they did during that season.

The ground the dredge operated in was marginal at best. The drill tests showed that it was barely worth dredging and the actual results were even lower. For the most part the values were at 40¢ or less per cubic yard. If they held, the company would make a minimal operating profit. If they fell, even slightly, they would operate at a loss for the third season in a row.[129]

Throughout the years, Ernest Patty had always talked about the possibilities of working Mineral Creek. It was one of the first creeks staked in the early 1900s and had all the appearances of being valuable ground. The only problem, the company had overlooked drilling beyond its mouth so they had nothing solid on which to base their conclusions. The values at the mouth however looked promising averaging almost 85¢ per yard. If the Board of Directors were to decide to continue working on Woodchopper, Patty recommended that they put in a small operation using a single CAT and a diesel shovel. The geology and terrain made it impossible to get the dredge very far up the creek.[130]

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[126] General A.D. McRae had died in 1948 after which his wife assumed his position as majority stockholder in the company.
[127] Ernest N. Patty, "Alluvial Golds Incorporated: President's Report to Directors, 1959," p. 5.
[128] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p. 1.
[129] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p. 2.
[130] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p 2.

Because things looked worse than gloomy below the dredge toward the Yukon the company decided to turn the dredge around and move upstream for the mouth of Mineral Creek as quickly as possible. The company expected to see higher values in the gravels there. Finding this not the case, they turned again and headed downstream, digging only enough gravel to float the dredge. By the end of the season, they had reached roughly the same place it had been at the end of the 1958 season.[131]

The problem of holding on to the experienced crew continued to plague the camp. Mid-way through the season one of the winchmen quit. Dale did not attempt to replace him instead assuming the winchman's duties on top of managing the camp and hauling fuel oil.[132]

Downstream from this point, Patty estimated that there remained stripped and thawed gravel for only a single season. Drill testing showed values of approximately 40¢ per yard. Provided these values held, the company could make a very minimal operating profit. He pointed out that testing further downstream showed the paystreak only getting weaker and thus concluded there was little likelihood of working with Woodchopper dredge beyond the next season (1961).[133]

In recapitulating the history of operations on the two creeks, Patty pointed out that the two properties had produced $6,179,992 over two and a half decades. He estimated that there might be recoverable reserves of one to one and a half million dollars in the gravels downstream to the Yukon. They could recover this by cleaning up small pockets along the limits of both creeks.[134]

By the middle of October, the clouds lifted from over the valley and the temperature dropped to 22° below zero. About 10:00 pm that night, Dale was informed the bucket line had turned off the lower tumbler on the digging ladder. They worked all night through the ice and cold trying to get it back onto the ladder. Finally, almost 12 hours later, the dredge was back in operation. The weather forecast for that night was for more of the same, clear and brutally cold. The ice was already thick enough in the dredge pond to support the weight of the crew walking on it. Dale ordered a shelf dug and the dredge floated onto it. The CAT driver broke the downstream dike and as the water level fell the Alluvial Golds Dredge settled softy onto the bottom of the pond.

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[131] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 19.
[132] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 19.
[133] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p 2.
[134] Ernest N. Patty, "Alluvial Golds Incorporated and Gold Placers Incorporated: Report of the President, 1960," p 2.

Dale's words offer a poignant description of what happened next. "We cleaned up and left. That was October 1960 and is the last time I have seen the mines and the last time the dredges have ever run to the best of my knowledge."[135]

CONCLUSION

The era of the big dredges had come to a close. That winter, an eerie silence fell over the creeks where for almost six decades men and women from all walks of life had scratched and clawed out a meager living. First using pans and shovels, later sluices and rockers, finally with tractors and dredges. Some worked on their bellies while crawling twenty or more feet below the surface, literally entombed in permafrost tunnels. Others used heavy equipment forcing the powers of Mother Nature to do their bidding. Most of them left and went on to other lives. Some, like Martin Adamik, John Corcoran, Gus Abrams and Fred Brentlinger are buried on the creeks where they keep silent vigil over the remaining gold.

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[135] Dale F. Patty, "Coal Creek and Woodchopper Mining," June 12, 1998, unpublished manuscript in author's possession, p 19.

When the Woodchopper dredge shut down in 1960, the only other dredge operating at the time was Dredge No. 5 outside Nome. It was operating in thawed ground and as a result did not have the additional economic demands of stripping and thawing expenses to contend with. Dredge No. 5 continued to operate until the latter-1990s when it finally shut down, most likely for good.

When the price of gold was de-regulated in the early 1970s, several companies tried to revitalize the dredging industry. Among these were the Coal Creek dredge under the ownership of Dr. Ernest Wolfe and Dan Coben of Fairbanks. The company was not able to turn a profit eventually selling out. For all intents and purposes, the placers ground at Coal Creek and Woodchopper have not been worked successfully since Gold Placers Incorporated and Alluvial Golds Incorporated sold them.

Dale Patty operating the Woodchopper dredge in the 1950s (Dale and Karen Patty Collection, photo courtesy of Dale Patty).

Dale Patty reminiscing about his days as a winchman on the Coal Creek dredge, July 1999 (photo in author's personal collection).

Dale Patty has since made two trips back to the mines on Coal Creek and Woodchopper Creek. The first was in July 1998, the second in July 2001. On the second trip, the Patty's eldest son, Tom accompanied his father. Dale commented that "even though a lot had changed in the camps, much remained the same as when they shut down the dredges and walked away."

APPENDIX A

CLAIMANTS ON COAL CREEK AND WOODCHOPPER CREEK, 1900-1951

WHO FILED CLAIMS?

Where an individual's name appears as initials, an abbreviation, and a full given name, each occurance has been listed. In a number of cases, the spelling could not be determined based on the handwritten original entries. In these cases, the names appear as variants (i.e., Adamik and Adamvik).

Alluvial Golds, Inc. is the only company name listed as the claimant in the Location Notices books although Gold Placers, Inc. predated Alluvial Golds, Inc., no claims were located under this name.

* = names found in Appendix B ("Roll Call: Names of Early Yukon Pioneers") in Michael Gates, *Gold at Fortymile.*

Early Woodchopper Creek miners with mastodon tusks (1907), (left to right) John C. Boyle, Dan Crowley, John Corcoran, Albert Fisher (Samuel Downs Harvey Collection, photo courtesy of Leona Beck).

A

Abramson, Gus
Adamik (Adamvik), Martin
Alluvial Golds, Inc.
Armstrong, C.
Anderson, Frank O.
Anderson, J.*
Anderson, W.
Andrews, Edward
Armstrong, Charles
Armstrong, Thos
Aubrey, L.H.

B

Babcock, J.F.
Barnes, W.
Beaton,William P.
Belknap, Orange
Bender, Jim,*
Bennett, Frank N.*
Berail, Phil
Berg, Ole
Bergerson, B.
Bernard, Albert
Biederman, Adolph
Bloom, P.,
Bowman, Robert A.
Boyd, Thomas
Boyle, Charles
Boyle, Gladys
Boyle, Hugh
Boyle, John C.[1] (also J.C., Jack* and John)
Brentlinger, Clarence
Brentlinger, Fred E. and Flora E. (also F.E. and F.C.)
Brentlinger, L.C.
Broadwater, J.P.
Brown, A.
Brown, E.M.
Brown, E.W.

C

Callahan, D.M.*
Campwell, Alex*
Carey, W.F.
Carpenter, Wm H.
Carr, A.E.* (Adelbert)
Cathcart, Wallace
Cavanaugh, Jas.
Cavanaugh, Thomas (also T. and Tom)
Chambers, Margaret
Chandler, B.R.
Chandler, W.W.
Clancy, Henry J.
Clark, John A.
Clark, O.S.
Clark, Sam
Cloud, E.L.
Collins, E.B.
Corcaran, John
Cornell, John
Couchman, A.M.
Cowles, J.T.
Crede, George
Crichton, Alex.
Crowley, Dan (also Crawley, D.)
Culligan, William
Currie, Bessie S. (see also: Olsen, Bessie Currie; Mrs. Bessie S., and B.S.)
Currie, James H.

D

Dahl, Ben
Dall, Louis
Dallas, R.
Dallas, Rudolph
Darlington, L. (Lawery)
Darlington, Mrs. R.H. (Hattie Belle McEvoy)

[1] Although this claim is listed under John C. Boyle's name in the Index to *Circle District, Book 1, Locations*, there is no corresponding location notice.

Darlington, Robert H. (also: R.H., and Robert)
Davies, George (Davis, George)
Dever, Arthur H. (also: Arther and A.H.)
Dickey, George
Dietz, Christ.
Dietz, Minnie
Doherty, Eugene
Donnihaugh, N.J.

E

Edmunson, Merle G. (also: M.G.)
Edwards, Charles F. (also: Charles and C.F.)
Ellingson, E. (also: Ellingen, E. and Ellinger)
Ellis, Jack
Ensley, Joe
Erichton, Alex

F

Faulkner, H.F.
Filkerson, R.
Finlayson, Chris (also: C.)
Finlayson, Frank L.
Finlayson, Katie
Fish, Frank
Fish, Peter
Fisher, August
Fletcher, Archey
Fogelbergh, C. (also: Fogelberg, C.)
Forrest, Albert (also: A.)
Fraker, Sherman
Franklin, Glen

G

Gableman, Christ. (also: C.)
Gallagher, E. M.
Gill Philip
Gilpin, Harry
Givens, William
Greathouse, Jennie
Grignon, E. (Edmond)*
Gustafson, E. (Emil)

H

Hagerdy, M.C.
Hall, Frank
Hanson, T.A.
Harman, Geo (also: George and G.)
Harman, M.
Harvey, Samuel (also: Sam)
Hayes, Mike
Herbert, Charles F.
Higgins, George (also: Geo.)
Hoffman, Julius
Hogan, Thos.
Holmstrom, John (also: J. and Hulmstrom)
Hornlein, William
Houser, Elmer
Hughes, Albert

I

Iverson, Lewis

J

Jensen, Peter E.
Jewell, Wilbur
Jewett, Frank
Johansen, Woodrow
Johnson, Harry (by Davies, George, atty-in-fact)
Johnston, William
Julian, W.J. (William)

K

Keating, Michael[2]
King, Tom* (also: Thos.)
Kinnalley, P.J.[3]*

L

Lake, John
Larson, John
Lauchurt, John
Lawrence, John
Leathers, H.M.
Leben, Frank
Lee, S.O. (Sivert O.)
Lemm, William (Bill)
Lerum, C.J.
Lewis, H. (Henry?)*
Lewis, Mary L.
Linquist, John*
Lohbrunner, Max (also: Lobrunner)
Loughery, Jas. (also: James, Jas. and J.)
Loughrey, Leroy (also: L.)
Lund, John Peter
Lundgren, A.

M

MacDonald, Alexander B.
Madigon, James,
Malstrom, Harold (also: H.)
Manley, Joe
Matlock, Geo.*
McCallum, Alex.
McCrabbe, R.D.
McDonald, A.*
McDonald, James
McGrath, Edward
McGregor, George
McIntyre, William
McLaughlin, W.D.
McLeod, M.
Melzer, Henry
Meyer, Otto C.
Miller, Fred*
Mongrain, Chas E.
Mongrain, Lucy
Moon, C.F.
Moore, E.G.
Moran, Oscar
Morency, Al.* (Alphonse)
Morrison, James
Mortensen/Mortinsen, Chris (also: Christopher) Mortimer, E.
Mortimer, Ed. E.
Morton, Chas.
Murphy, Frank J.
Murphy, Mrs. Frank J.
Murray, Charles
Murray, Frank

N

Nelson, C.
Nelson, Frank W. (also: F.W.)
Nelson, M.
Nelson, Nels
Nelson, Oscar (also: O.A.)
Nelson, William
Newlands, Thos. L.
Nicholson, Ed.
Noonan, D.T.
Noyes, W.E.

O

O'Neill, W.A
Olsen, Bessie (see also: Currie, Bessie)
Olsen, Emil
Ott, Chas.
Otts, H.
Overgaard, F. (also: Dr.)

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[2] Stromdahl, H.O. served as witness to this claim. He then located No. 11 Above Discovery with Keating serving as witness.
[3] May be Kinnealy, Pat (see Gates)

P

Parsens, Urnie
Patterson, Alex. (also: A.)
Patterson, N.L.
Patterson, Peter
Patty, Ernest N. (also: E.N.)
Patty, Kathryn S. (also: Mrs. E.N.)
Patty, Stanton H.
Paul, Lucile C.
Pendergast, James T. (also: James and Jas.)
Pendergast, W.
Pennington, G.W.
Peterson, Gus.
Peterson, L.
Petrina, G.
Pollack, Frank
Pompal, Jos. (also: J.M.)
Power, George (also: G.W., Geo W., and Geo.)
Power, J.E.
Powers, Eugene
Powers, Fred E.
Powers, George* (also: G.)
Powers, Jesse U.*
Powers, Rose
Powers, W.W.
Pringle, Chas C.

R

Rasmussen, Ed
Rasmussen, Mrs. A.
Rasmussen, Nels
Ray, L.V.
Reed, R.R.
Rehbrin, W.G.
Reinhardt, William B. (also: Renhardt, William B.)
Renisch, Carl
Richards, H.B.
Riggs, J.K.
Rise, B.J.
Roediger, Richard (also: R.)
Rogers, James M.
Roland, Anna
Roland, Harry
Roland, James A. (also: James)
Roland, Lilla
Rossback, Frank
Russell, W.R.
Rychlew, Stephen

S

Sable, Simon
Samis, J.J.
Sawyer, Frank
Scesniak, Frank
Scheele, J.
Schives, H.F.
Sears, Frank
Seiger, L.H.
Seligman, Margaret McRae
Seligman, Walter
Seminiak, M.
Settlemeier, Charles B.
Sfreddy, W.W.
Shine, Dick
Shine, Patrick
Shine, Thomas
Slade W.C.
Slaven, Emma
Slaven, F.B.
Slaven, F.J.
Slaven, Frank
Slaven, Frank J.
Slaven, James
Slaven, John B.
Smith, Albertine* (may be: Valentine)
Smith, Valentine (also: Val and V.)
Spencer, Winston W.
Spooner, William
Spring, Abe
Stair, Wm (also: W. and W.F.)
Stampe, Leonard
Stankus, Julius
Steel, Warren
Stitzer, A.

Stromdahl, H.O.[4]

T

Tanner, L.B.
Taylor, Charles
Thomas, Bruce
Thomas, David E.
Titcomb, Chas.
Toupain, Carrie
Toupain, G.F. (also: George F.)
Treadgold, A.N.C.
Truran, John

V

Van Heukelom, Henri
Vanderslice, C.S.
Vass, E.
Vetta, A.O.
Vetta, C.H. (Christian H.)
Vetta, T.H. (Thomas H.)
Vinch, Frank
Votaw, Ethel C.[5]
Votaw, L.L.[6]

W

Wagnier, August
Walsh, Mrs. John
Wann, E.F.
Warner, E.
Warner, E.[7]
Warren, Jerome O.
Webb, Sidney
Welch, Jack
Welch, Mrs. Jack
Wells, John P.
Whalen, Pat
Wheeler, W.D.
White, G.
Wickstrom, Paul
Williams, Joe
Williams, W.A.
Wilson, James
Woodworth, H.H.
Woodworth, Hattie M.
Woodworth, J.B.
Woodworth, W.A.
Woodworth, W.N.
Woodworth, William

Z

Zeigler, George

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[4] Keating, Michael served as witness. He located No. 10 Above Discovery immediately adjacent to No. 11 Above.
[5] Wife of Circle Mining District Recorder L.L. Votaw.
[6] Circle Mining District Recorder.
[7] Sawyer, Frank served as Warner's Attorney-in-Fact for this claim.

APPENDIX B

GOLD PLACERS, INCORPORATED
TABULATION OF ANNUAL REPORTS (1936-60)

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1936	1	07/29/36	$18,578.240	530.807	$26.28	59.740	$18,604.52	39,600	$0.470
	2	08/14/36	32,308.920	923.112	44.42	100.960	32,353.34	44,400	0.730
	3	08/29/36	25,174.870	719.282	34.53	78.474	25,209.40	34,000	0.742
	4	09/11/36	20,137.600	575.360	26.80	60.901	20,164.40	36,800	0.575
	5	09/26/36	18,328.620	523.675	25.83	58.708	18,354.45	37,000	0.570
	6	10/05/36	7,395.950	211.313	10.23	23.253	7,406.18	13,000	0.385
	Totals		$ 121,924.200	3483.549	$168.09	382.036	$122,092.29	204,800	$0.579
1937	7	06/28/37	$14,976.10	427.891	$21.09	47.943	$14,997.19	37,800	$0.400
	8	07/17/37	14,595.81	417.023	22.13	50.306	14,617.94	41,400	0.353
	9	08/02/37	14,437.80	412.505	21.42	48.681	14,459.22	44,000	0.328
	10	08/17/37	19,115.74	546.164	26.86	61.041	19,142.60	41,000	0.467
	11	08/31/37	22,966.16	656.176	32.00	72.745	22,998.16	41,400	0.550
	12	09/16/37	25,916.48	740.471	35.28	80.185	25,951.76	47,200	0.508
	13	10/03/37	24,038.59	686.817	32.67	74.250	24,071.26	39,900	0.600
	14	10/14/37	16,725.17	477.862	22.60	51.371	16,747.77	22,400	0.680
	Totals		$152,771.85	4364.909	$214.05	486.522	$152,985.90	315,100	$0.486
1938	15	06/18/38	$19,630.10	560.860	$25.54	60.819	$19,655.64	28,000	0.700
	16	07/06/39	27,905.81	797.309	37.60	89.535	27,943.41	44,500	0.629
	17	07/23/38	26,693.97	762.685	35.89	85.455	26,729.86	49,600	0.535
	18	08/10/38	26,748.96	764.256	36.68	87.343	26,785.64	47,400	0.565
	19	08/27/38	9,601.38	274.325	11.29	26.89	9,612.67	48,200	0.200
	2	09/12/38	21,357.56	610.216	24.29	57.843	21,381.85	50,000	0.427
	21	09/26/38	28,796.25	822.750	32.23	76.747	28,828.48	55,570	0.518
	22	10/13/38	47,318.11	1351.946	55.09	131.17	47,373.20	43,400	1.091
	23	11/01/38	53,528.34	1528.821	54.74	130.292	53,583.08	49,750	1.077
	Totals		$261,580.48	7473.168	$313.35	746.094	$261,893.83	416,420	0.638

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1939	24	06/15/39	$41,850.23	1195.721	48.32	130.690	$41,898.55	46,000	$0.910
	25	06/30/39	26,723.06	763.516	27.38	80.528	26,750.44		
			22,984.04	656.688	24.22	71.251	23,008.26	48,000	1.030
	26	07/17/39	41,640.20	1189.721	4.74	13.941	41,644.94		
	(Silver rises from $0.370 to $0.711 per ounce)				79.37	111.620	79.37	51,200	0.815
	27	07/31/39	35,340.41	1009.727	76.23	107.190	35,416.64	41,500	0.855
	28	08/15/39	39,996.85	1142.768	93.34	131.260	40,090.19	41,800	0.961
	29	09/05/39	50,480.67	1442.306	112.08	157.620	50,592.75	57,600	0.880
	30	09/16/39	21,173.39	604.955	48.68	68.450	21,222.07	26,600	0.799
	31	10/01/39	38,086.54	1088.188	88.18	124.010	38,174.72	48,200	0.793
	32	10/15/39	36,150.20	1032.855	83.11	116.880	36,233.31	35,400	1.025
	Totals		$354,425.59	10126.445	$685.65	1113.440	$355,111.24	396,300	$0.896
1940	33	06/14/40	$42,728.28	1220.808	$98.21	138.110	$42,826.49	28,700	$1.492
	34	06/24/40	31,712.45	906.070	73.05	102.750	31,785.50	25,000	1.271
	35	07/07/40	40,433.54	1155.244	93.96	132.130	40,527.50	35,400	1.145
	36	07/22/40	44,798.50	1279.957	101.72	143.050	44,900.22	44,300	1.013
	37	08/02/40	27,883.49	796.671	64.80	91.120	27,948.29	35,300	0.791
	38	08/18/40	32,547.23	929.921	73.68	103.610	32,620.91	51,000	0.640
	39	08/31/40	15,093.01	431.229	33.78	47.510	15,126.79	44,800	0.337
	40	09/16/40	23,867.90	681.940	55.34	77.820	23,923.24	31,500	0.760
	41	10/01/40	15,123.71	432.106	35.53	49.970	15,159.24	39,600	0.382
	42	10/14/40	16,646.77	475.622	37.52	52.770	16,684.29	21,000	0.794
	Totals		$290,834.88	8309.568	$667.59	938.840	$291,502.47	356,600	$0.863
1941	Summary (figures are rounded off)								
			$259,056.00	7710.000	$602.02	882.000	$266,865.85	312,000	$0.887
			$259,056.00	7710.000	$602.02	882.000	$266,865.85	312,000	$0.887

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1942	Summary (figures are rounded)								
			$186,410.00	5326.000	$442.95	623.000	$186,851.48	388,000	$0.481
			$186,410.00	5326.000	$442.95	623.000	$186,851.48	388,000	$0.481
1943	Gold Placers, Inc. did not operate during 1943.								
1944	Gold Placers, Inc. did not operate during 1944.								
1945	Summary (figures are rounded off)								
			$122,430.00	3498.000	$2,844.00	400.000	$122,704.00	221,500	$0.550
			$122,430.00	3498.000	$2,844.00	400.000	$122,704.00	221,500	$0.550
1946	70	06/22/46	$11,055.62	315.875	$25.36	35.670	$11,037.71	n/a	n/a
	71	07/07/46	21,271.88	607.768	47.34	66.580	21,237.19	n/a	n/a
	72	07/20/46	15,885.03	453.858	39.05	54.910	15,862.29	n/a	n/a
	73	08/05/46	14,172.55	404.930	43.11	47.900	14,160.98	n/a	n/a
	74	08/20/46	17,399.90	497.140	49.42	54.910	17,382.63	n/a	n/a
	75	09/04/46	17,657.11	504.489	50.25	55.830	17,639.66	n/a	n/a
	76	09/19/46	18,479.72	527.992	54.44	60.490	18,463.00	n/a	n/a
	77	10/06/46	13,456.24	384.464	42.31	47.010	13,446.17	n/a	n/a
	78	10/12/46	7,079.97	202.285	20.99	23.320	7,073.11	n/a	n/a
	Totals		$136,458.02	3898.801	$372.27	446.620	$136,302.74	318,286	$0.429
1947	Summary (figures are rounded off)								
			$158,704.80	4522.000	$348.39	490.000	$158,416.98	394,000	$0.400
	Totals		$158,704.80	4522.000	$348.39	490.000	$158,416.98	394,000	$0.400
1948	Summary (figures are rounded off)								
			$106,365.00	3039.000	$215.43	303.000	$106,154.12	325,000	$0.320
	Totals		$106,365.00	3039.000	$215.43	303.000	$106,154.12	325,000	$0.320

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1949	Gold Placers, Inc. did not operate during 1949.								
1950	Summary (figures are rounded off)								
			$127,566.50	3644.757	$257.28	361.857	$127,312.48	401,400	$0.318
	Totals		$127,566.50	3644.757	$257.28	361.857	$127,312.48	401,400	$0.318
1951	109	06/05/51	$6,817.37	194.782	$17.30	19.120	$6,834.67	n/a	n/a
	110	06/20/51	16,956.31	484.466	43.12	47.650	16,999.43	n/a	n/a
	111	07/05/51	28,934.33	826.695	62.31	68.850	28,996.64	n/a	n/a
	112	07/20/51	26,426.79	755.051	59.04	65.240	28,996.64	n/a	n/a
	113	08/07/51	19,135.55	546.730	45.82	50.630	19,181.37	n/a	n/a
	114	n/a	n/a	n/a	n/a	n/a	n/a	n/a	n/a
	115	08/20/51	26,996.03	771.315	55.55	61.380	27,051.58	n/a	n/a
	116	09/04/51	16,688.88	476.825	41.24	45.570	16,730.12	n/a	n/a
	117	09/17/51	14,781.10	422.317	36.65	40.500	14,817.75	n/a	n/a
	118	10/06/51	9,715.72	277.592	23.77	26.270	9,739.49	n/a	n/a
	Totals		$166,452.08	4755.773	$384.80	425.210	$169,347.69	n/a	n/a
1952	Gold Placers, Inc. did not operate during 1952.								
1953	Gold Placers, Inc. did not operate during 1953.								
1954	120	06/13/54	$23,584.09	673.831	$53.07	58.640	$23,637.16	45,000	$0.525
	121	06/28/54	33,734.23	963.835	68.62	75.820	33,802.85	34,000	0.994
	122	07/10/54	33,018.62	943.389	62.16	68.680	33,080.78	32,000	1.034
	123	07/25/54	35,868.25	1024.807	70.48	77.880	43,000.00	38,000	1.132
	124	08/08/54	28,589.89	816.854	61.27	67.700	28,651.16	40,000	0.716
	125	08/24/54	34,928.29	997.951	73.62	81.350	35,001.91	43,000	0.814
	126a	09/10/54	15,401.16	440.033	34.81	38.460	15,435.97	n/a	
	126b	n/a	10,969.18	313.405	25.11	27.740	10,994.29	50,000	0.617

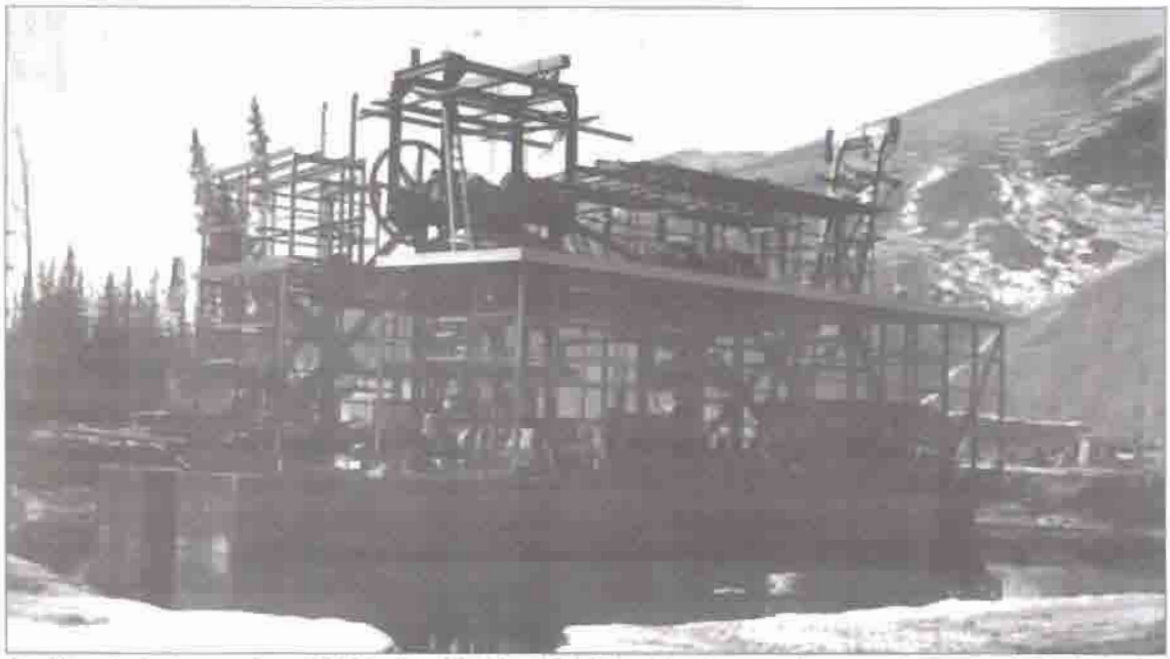
Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1954 (continued)									
	127	09/19/54	13,030.40	372.297	29.71	32.830	13,060.11	23,000	0.568
	Totals		$229,124.11	6546.402	$478.85	529.100	$236,664.23	305,000	$0.711
1955	1954 black sands		n/a	n/a	n/a	n/a	n/a	25,000	n/a
	128	06/05/55	$17,923.92	512.112	$40.71	44.980	$17,872.62	25,000	$0.719
	129	06/14/55	10,670.80	304.880	24.70	27.290	10,639.53	18,000	0.594
	130	07/02/55	18,063.81	516.109	42.61	47.080	18,013.65	48,500	0.373
	131	07/13/55	16,786.63	479.618	39.63	43.790	16,739.83	43,500	0.387
	132	08/00/55	25,238.85	721.110	58.36	64.480	25,168.70	37,300	0.678
	133	08/15/55	23,383.08	668.088	54.24	59.930	23,317.88	37,800	0.620
	134	09/03/55	31,015.32	886.152	73.23	80.910	30,930.05	51,600	0.602
	135	09/18/55	21,489.65	613.990	50.69	56.010	21,430.13	36,100	0.597
	136	10/06/55	25,985.36	742.439	62.39	68.900	25,915.03	46,500	0.560
	137	10/06/55	17,597.34	502.781	41.73	46.110	17,548.14	36,300	0.486
	Totals		$208,154.76	5947.279	$488.29	539.480	$207,575.56	380,600	$0.562
1956	1955 black sands		$6,858.11	195.946	$15.87	17.530	$6,836.80	n/a	n/a
	138	06/10/56	15,509.94	443.141	38.93	43.010	15,468.28	36,300	$0.428
	139	06/29/56	27,124.65	774.990	65.95	72.870	27,052.10	48,900	0.556
	140	07/17/56	23,822.86	680.653	54.89	60.650	23,756.15	44,100	0.541
	141	08/01/56	29,318.48	837.671	68.84	76.060	29,238.20	37,700	0.780
	142	08/16/56	22,427.33	640.781	52.31	57.800	22,365.01	38,600	0.582
	143	09/03/56	25,107.88	717.368	62.32	68.860	25,041.97	46,200	0.545
	144	09/21/56	20,845.62	595.589	53.50	59.110	20,791.96	48,000	0.435
	145	10/14/56	25,986.97	742.485	64.58	71.350	25,918.84	56,000	0.465
	Totals		$197,001.84	5628.624	$477.19	527.240	$196,469.31	355,800	$0.542

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1957	Summary (figures are based on Cummulative Report data)								
			$130,553.85	3730.110	$320.59	450.900	$130,874.44	305,200	$0.418
	Totals		$130,553.85	3730.110	$320.59	450.900	$130,874.44	305,200	$0.418

1958 Gold Placers, Inc. did not operate during 1958.

1959 Gold Placers, Inc. did not operate during 1959.

1960 Gold Placers, Inc. did not operate during 1960.



Coal Creek dredge, spring of 1936. Readily identifiable in this photograph are, on the upper deck, the bull gear, the two pulleys that power the lower bearing on the screen and the stern gantry which will support the stacker. On the lower deck (fore to aft – left to right) the Atlas diesel engine (without it's four cylinders), boiler and the small Atlas diesel engine used to power the pumps at the stern. The break in the hull at the left is intended to accommodate the digging ladder and bucket chain. (Bill Lemm Collection, NPS photo).

APPENDIX C

ALLUVIAL GOLDS, INCORPORATED
TABULATION OF ANNUAL REPORTS (1937-61)

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1937	1	07/20/37	$20,341.15	581.147	$17.54	39.864	$20,280.92	28,000	$0.715
	2	08/04/37	29,931.76	855.193	25.84	58.725	29,845.07	36,600	0.819
	3	08/21/37	40,143.77	1146.965	33.54	76.238	40,026.46	40,811	0.985
	4	09/02/37	34,260.38	978.868	28.59	64.995	34,160.29	38,400	0.890
	5	09/18/37	41,228.42	1177.955	35.53	80.759	41,109.11	53,200	0.775
	6	10/06/37	45,844.01	1309.829	39.53	89.848	45,711.27	53,800	0.850
	Totals		$211,749.49	6049.957	$180.57	410.429	$211,133.12	250,811	0.839
1938	7	06/24/38	$33,111.71	946.049	$26.37	62.783	$33,013.69	39,400	$0.830
	8	07/08/38	20,946.48	598.471	16.71	39.780	20,884.16	38,900	0.547
	9	07/25/38	45,786.05	1308.173	37.09	88.309	45,651.10	34,900	1.312
	10	08/12/38	38,395.73	1097.021	29.61	70.510	38,281.14	46,761	0.822
	11	08/29/38	41,544.02	1186.912	33.33	79.366	41,420.99	50,650	0.821
	12	09/14/38	24,210.52	691.729	19.57	46.599	24,138.00	44,607	0.543
	13	09/26/38	14,859.88	424.568	12.65	30.114	14,816.13	49,126	0.303
	14	10/15/38	29,333.68	838.105	23.28	55.664	29,246.82	51,777	0.567
	15	11/02/38	35421.93	1012.055	42.53	101.264	35329.2	57070	0.621
	Totals		$283,610.00	8103.083	$241.14	574.389	$282,781.23	413,191	$0.707
1939	16		$42,829.57	1223.702	$31.22	84.370	$42,699.59	45,500	$0.941
	17		26,224.31	749.266	17.31	50.921	26,142.73	44,600	0.588
	18		28,999.95	828.570	1.05	3.000	28,891.22		
	(Silver rises from $0.370 to $0.711 per ounce)				37.29	52.440	37.29	41,600	0.698
	19		28,546.32	815.609	38.47	54.100	28,476.91	33,600	0.851
	20		16,761.36	478.896	24.23	34.070	16,721.70	41,700	0.403
	21		12,229.87	349.425	21.11	29.690	12,203.27	61,800	0.205
	22		19,280.31	550.866	28.36	39.880	19,235.26	40,000	0.483
	23		31,384.81	896.709	45.87	64.500	31,311.48	39,600	0.794

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1939 (Continued)									
	24		25,418.54	726.244	36.71	51.620	25,358.89	35,600	0.716
	Totals		$231,675.04	6619.287	$281.62	464.591	$231,078.34	384,000	$0.631
1940	25	06/04/40	$22,872.34	653.495	$29.99	42.170	$22,902.33	45,000	$0.511
	26	06/18/40	11,931.59	340.903	17.69	24.870	11,949.28	44,000	0.272
	27	07/06/40	25,474.86	727.853	36.57	51.420	25,511.43	57,800	0.443
	28	07/21/40	34,910.49	997.443	49.23	69.230	34,959.72	30,000	1.170
	29	08/01/40	19,835.36	566.725	29.69	41.750	19,865.05	35,000	0.570
	30	08/17/40	20,318.36	580.525	28.64	40.280	20,347.00	51,000	0.400
	31	09/01/40	35,134.82	1,003.852	50.00	70.310	35,184.82	46,000	0.768
	32	09/15/40	15,939.83	455.424	22.40	31.500	15,962.23	22,000	0.728
	33	09/22/40	11,784.56	336.702	17.59	24.740	11,802.15	10,000	1.185
	34	10/13/40	59,169.81	1,690.566	81.38	114.440	59,251.19	32,000	1.859
	Totals		$257,372.02	7,353.488	$363.18	510.710	$257,735.20	372,800	$0.791
1941	Summary (figures are rounded off)								
			$268,380.00	7668.000	$378.32	532.000	$268,268.11	312,200	$0.887
	Totals		$268,380.00	7668.000	$378.32	532.000	$268,268.11	312,200	$0.887
1942	Summary (figures are rounded off)								
			$257,460.00	7356.000	$376.90	530.000	$257,475.04	231,000	$0.481
	Totals		$257,460.00	7356.000	$376.90	530.000	$257,475.04	231,000	$0.481
1943	54	n/a	$17,883.01	510.940	$26.72	37.580	$17,841.53	19,000	$0.942
	55	n/a	24,950.77	712.880	35.57	50.020	24,891.67	30,000	0.833
	56	n/a	20,999.69	599.990	31.16	43.820	20,950.75	28,000	0.751
	57	n/a	28,206.12	805.890	40.97	57.620	28,140.07	49,000	0.576
	58	n/a	18,765.71	536.160	28.58	40.190	18,722.68	26,000	0.723

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1943 (Continued)									
	59	n/a	15,333.82	438.110	22.53	31.690	15,297.78	30,000	0.512
	60	n/a	14,912.14	426.060	22.72	31.950	14,877.74	17,500	0.853
	Totals		$141,051.26	4,030.030	$208.25	292.870	$140,722.22	199,500	$0.741
1944	Alluvial Golds, Inc. did not operate during 1944.								
1945	Alluvial Golds, Inc. did not operate during 1945.								
1946	61	06/21/46	$23,347.24	667.064	$34.75	48.870	$23,293.38	n/a	n/a
	62	07/06/46	18,331.70	523.763	27.80	39.100	18,289.61	n/a	n/a
	63	07/19/46	24,770.76	707.736	37.54	52.790	24,714.24	n/a	n/a
	64	08/04/46	16,259.63	464.561	30.75	34.170	16,228.63	n/a	n/a
	65	08/19/46	21,579.35	616.553	40.65	45.170	21,538.47	n/a	n/a
	66	09/03/46	16,408.10	468.803	32.43	36.030	16,378.21	n/a	n/a
	67	09/16/46	12,396.30	354.180	25.83	28.700	12,374.62	n/a	n/a
	68	10/06/46	15,500.87	442.882	31.55	35.060	15,473.46	n/a	n/a
	69	10/13/46	11,958.59	341.674	23.01	25.570	11,935.88	n/a	n/a
	Totals		$160,552.54	4,587.216	$284.31	345.460	$160,226.50	273,240	$0.589
1947	Summary (figures are rounded off)								
			$164,563.68	4,701.819	$250.32	352.000	$164,154.74	314,485	$0.524
	Totals		$164,563.68	4,701.819	$250.32	352.000	$164,154.74	314,485	$0.524
1948	Summary (figures are rounded off)								
			$107,005.86	3,057.310	$162.14	228.000	$106,739.33	213,000	$0.500
			$107,005.86	3,057.310	$162.14	228.000	$106,739.33	213,000	$0.500
1949	88	06/18/49	$17,160.82	490.309	$31.84	35.180	$17,121.26	34,000	$0.503
	89	07/07/49	25,144.59	718.417	48.22	53.280	25,088.45	47,000	0.520
	90	07/24/49	19,671.82	562.052	38.29	42.310	19,628.35	41,000	0.479

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1949 (Continued)									
	91	08/12/49	20,791.47	594.042	39.89	44.080	20,745.26	49,700	0.420
	92	08/28/49	12,215.63	349.018	24.16	26.700	12,188.54	35,000	0.320
	93	09/17/49	7,047.39	201.354	13.89	15.350	7,031.04	58,500	0.340
	94	10/01/49	4,179.53	119.415	8.13	8.980	4,169.11	33,500	0.370
	95	10/11/49	5,310.38	151.725	10.28	11.360	5,297.53	17,200	0.300
	Totals		$111,521.63	3,186.332	$214.70	237.240	$111,269.54	315,900	$0.407

In 1949, Henry H. Wheeler offered to purchase gold nuggets at $38.00 per troy ounce. He planned to either save it as a hedge against future inflation or to package it in smaller quantities and sell it as "souvenirs" for others. (see 1949 Annual Operating Report)

	Sample shipments of free gold to US Assay Office (1949).								
	93	n/a	$89.64	2.561	$0.13	0.180	$87.91		
	93	n/a	93.56	2.673	0.14	0.190	91.82		
	94	n/a	125.16	3.576	0.18	0.250	123.33		
	Totals		$308.36	8.810	$0.45	0.620	$303.06		
	Shipments to Henry H. Wheeler. Purchased at $38.00 per troy ounce.								
	93	n/a		44.030					
	93	n/a	$12,779.40	292.320			$12,726.40		
	94	n/a	8,291.60	218.190			8,254.75		
	Totals		$21,071.00	554.540			$20,981.15		
1950	Alluvial Golds, Inc. did not operate during 1950.								
1951	Alluvial Golds, Inc. did not operate during 1951.								
1952	96	06/18/52	$6,021.86	172.053	$11.59	12.810	$6,003.55	21,000	$0.287
	97	07/05/52	14,339.50	409.700	26.83	29.640	14,297.62	28,000	0.513
	98	07/21/52	13,134.52	375.272	25.03	27.660	13,097.22	47,000	0.280

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1952 (Continued)									
	99	08/06/52	18,997.37	542.782	36.06	39.840	18,943.98	49,000	0.388
	100	08/24/52	23,178.40	662.240	44.24	48.880	23,113.68	51,000	0.455
	101	09/10/52	20,583.01	588.086	38.43	42.460	20,524.46	51,000	0.404
	102	09/25/52	20,191.85	576.910	37.79	41.760	20,134.66	36,000	0.562
	103	10/10/52	21,897.40	625.640	41.67	46.040	21,836.17	41,000	0.535
	104	10/22/52	11,717.47	335.785	21.94	24.240	11,683.45	26,000	0.452
	Totals		$150,061.38	4,288.468	$283.58	313.330	$149,634.79	350,000	$0.431
1953	105	06/06/53	$17,341.00	495.457	$33.12	36.600	$17,291.52	35,000	$0.496
	106	06/23/53	23,339.16	666.833	42.67	47.150	23,272.04	45,000	0.520
	107	07/10/53	19,799.96	565.713	36.74	40.600	19,743.26	48,000	0.413
	108	07/24/53	19,632.79	560.937	37.31	41.220	19,577.39	41,600	0.473
	109	08/17/53	26,230.64	749.447	49.29	54.460	26,156.94	70,700	0.372
	110	09/04/53	17,850.10	510.003	34.75	38.400	17,800.54	52,200	0.343
	111	09/20/53	24,816.22	709.035	48.00	53.040	24,747.76	35,100	0.708
	112	10/08/53	20,539.26	586.836	41.50	45.860	20,483.95	45,000	0.457
	113	10/24/1953	4,836.47	138.185	10.05	11.100	4,822.19	8,500	0.570
	Totals		$174,385.60	4,982.446	$333.43	368.430	$173,895.59	381,100	$0.484
1954	Alluvial Golds, Inc. did not operate during 1954. A single cleanup netted the following:								
			$16,044.11	458.000	$24.89	35.000	$16,004.72		
	Totals		$16,044.11	458.000	$24.89	35.000	$16,004.72		
1955	Alluvial Golds, Inc. did not operate during 1955.								
1956	Alluvial Golds, Inc. did not operate during 1956.								
1957	Alluvial Golds, Inc. did not operate during 1957.								

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1958	115	06/02/58	$6,036.36	172.476	$13.14	14.520	$6,017.02	12,000	$0.504
	116	06/12/58	12,937.29	369.637	26.29	29.050	12,896.68	27,400	0.473
	117	07/07/58	15,883.46	453.813	32.45	35.850	15,834.41	30,600	0.520
	118	07/21/58	17,387.61	496.789	35.48	39.200	17,334.15	34,000	0.512
	119	08/04/58	19,595.10	559.860	40.63	44.890	19,529.13	41,000	0.479
	120	08/13/58	21,012.00	600.343	41.70	46.080	20,939.76	46,800	0.450
	121	09/01/58	16,070.71	459.163	32.27	35.660	16,014.91	37,000	0.435
	122	09/14/58	17,581.90	502.340	33.77	37.310	17,519.70	42,500	0.414
	123	09/29/58	14,514.81	414.709	30.06	33.210	14,465.19	40,000	0.364
	124	10/13/58	n/a	n/a	n/a	n/a	13,605.34	39,700	n/a
	125	10/22/58	20,111.84	574.624	40.01	44.210	6,437.18	21,000	0.556
	Totals		$161,131.08	4,603.754	$325.80	359.980	$160,593.47	372,000	$0.471
1959	126	06/22/59	$7,943.67	226.962	$16.20	17.900	$7,914.79	22,300	$0.357
	127	07/05/59	16,368.10	467.660	33.22	36.710	16,311.82	32,000	0.513
	128	07/20/59	18,310.81	523.166	37.17	41.070	18,247.85	37,500	0.489
	129	08/03/59	12,283.04	350.944	26.57	29.360	12,241.17	31,000	0.397
	130	08/17/59	13,667.82	390.509	29.92	33.060	13,622.17	34,300	0.399
	131	08/30/59	12,874.61	367.846	29.23	32.300	12,832.53	39,000	0.331
	132	09/14/59	16,382.10	468.060	35.00	38.670	16,327.34	39,300	0.418
	133	09/28/59	14,207.10	405.917	29.06	32.110	14,158.05	38,600	0.369
	134	10/18/59	12,572.35	359.210	28.07	31.010	12,530.66	43,000	0.293
	Totals		$124,609.60	3,560.274	$264.44	292.190	$124,186.38	317,000	$0.396
1960	Summary (figures are rounded off)								
			$92,758.16	2,650.233	$162.84	229.000	$92,921.00	n/a	n/a
	Totals		$92,758.16	2,650.233	$162.84	229.000	$92,921.00	n/a	n/a

Year	Cleanup No.	Date	GOLD Value ($)	GOLD Fine Troy Ounces	SILVER Value ($)	SILVER Fine Troy Ounces	Net Value ($)	Cubic Yards Dredged	Value per Cubic Yard
1961	Alluvial Golds Inc. property was leased and operated by Ted A. Mathews of Fairbanks for the 1961-62 seasons								
			$66,810.00	1908.857	n/a	n/a	$66,810.00	128,871	$0.519
	Totals		$66,810.00	1908.857	n/a	n/a	$66,810.00	128,871	$0.519
1962	Alluvial Golds Inc. property was leased and operated by Ted A. Mathews of Fairbanks for the 1961-62 seasons								
			$130,417.00	3726.200	n/a	n/a	$130,417.00	340,000	$0.383
	Totals		$130,417.00	3726.200	n/a	n/a	$130,417.00	340,000	

APPENDIX D

CUMMULATIVE PRODUCTION (1936-62)

ALLUVIAL GOLDS INC. Fine Ounces				GOLD PLACERS INC. Fine Ounces		
Gold	Silver	Net Value	Year	Gold	Silver	Net Value
0.000	0.000	$0.00	1936	3,483.549	382.036	$122,092.29
6,049.957	410.429	$211,133.12	1937	4,396.909	486.522	152,985.90
8,103.083	574.389	282,781.23	1938	7,473.168	746.094	261,893.83
6,619.287	464.591	231,078.34	1939	10,126.445	1,113.440	355,111.24
7,353.488	510.710	257,735.20	1940	8,309.568	938.840	291,502.47
7,668.000	532.000	268,268.11	1941	7,710.000	882.000	266,865.85
7,356.000	530.000	257,475.04	1942	5,326.000	623.000	186,851.48
4,030.030	292.870	140,722.22	1943	0.000	0.000	0.00
0.000	0.000	0.00	1944	0.000	0.000	0.00
0.000	0.000	0.00	1945	3,498.000	400.000	122,704.00
4,587.000	345.000	160,226.50	1946	3,898.801	446.620	136,302.74
4,701.819	352.000	164,154.74	1947	4,522.000	490.000	158,416.98
3,057.310	228.000	106,739.33	1948	3,039.000	303.000	106,154.12
3,186.332	237.240	111,269.54	1949	0.000	0.000	0.00
0.000	0.000	0.00	1950	3,644.757	361.857	127,312.48
0.000	0.000	0.00	1951	4,755.773	425.210	169,347.69
4,288.468	313.330	149,634.79	1952	0.000	0.000	0.00
4,982.446	368.430	173,895.59	1953	0.000	0.000	0.00
458.000	35.000	16,004.72	1954	6,546.402	529.100	236,664.23
0.000	0.000	0.00	1955	5,947.279	539.480	207,575.56
0.000	0.000	0.00	1956	5,628.624	527.240	196,469.31
0.000	0.000	0.00	1957	3,730.110	450.900	130,874.44
4,603.754	359.980	160,593.47	1958	0.000	0.000	0.00
3,560.274	292.190	124,186.38	1959	0.000	0.000	0.00
2,650.233	229.000	92,921.00	1960	0.000	0.000	0.00
1,908.857	n/a	66,810.00	1961	0.000	0.000	0.00
3,726.200	n/a	130,417.00	1962	0.000	0.000	0.00
83,255.481	6,075.159	$3,106,046.32	Totals	92,036.385	9,645.339	$3,229,124.61

Net value is based on the total production (gross value) less a mint charge varying from 0.4% to 0.5%. In 1948, the charge rose to 0.5% of the gross value, returning to 0.4% the following year.

Shaded areas indicate years when the dredges did not operate. Other activity may have taken place such as muck stripping, thawing and repairs.

Ted A. Mathews of Fairbanks leased and operated the Gold Placers Inc. and Alluvial Golds Inc. properties in 1961 and 1962. Only the Alluvial Golds Inc. dredge was operated during this period.

APPENDIX E

EMPLOYEE ROSTER:
GOLD PLACERS INC. AND ALLUVIAL GOLDS INC.
(1936-1960)

A

Acheson, Wilma H.
Adam, Daniel
Adamik, Martin
Aho, Stanley W.
Aitchison, Hector
Alsabrook (Alsobrook), Leslie J.
Anderson, Albert
Anderson, Carlyn F.
Anderson, Chas. O.
Anderson, Laura
Andre, Andy
Andrew, David
Andrew, I.
Atnip, Ralph H.

B

Baker, Frank J.
Barnette, James
Bass, Lemour (Leymair)
Bassett, Jimmy W.
Bavington, W.D
Beck, George
Becker, Anne R.
Becker, Richard
Beirnes, Joseph C.
Belanger, Opal
Belanger, Walter J.
Bemis, Robert A.
Bender, Henry
Berail, Phil
Berg, Oscar
Bertinoia, Louis E.
Bezansen, C. Louis
Bickford, Donald J.
Biederman, Charlie R.
Black, Louis
Blodgett, Perry A.
Bohland, George
Bohland, George
Borgeson, John
Borgman, John C.
Botzong, Charles
Bowman, Robert "Bob"
Boyd, Robert "Bud"
Boyle, Frank F.
Boyle, Jack
Boyle, Joseph
Bradley, William
Bradshaw, Ernest Elliott
Braun, Harold
Brissette, Joseph M.
Brown, Kenneth E.
Brownlee, Russell
Brudeis, Gustav
Bruington, W.D.
Burke, Harold A.
Bursiel, Melvin H.
Bush, William

C

Campbell, Richard F. "Dick"
Cantarra, Ronald
Carlson, Axel
Carlson, Carl
Carlson, Fred R.
Carroll, Clifton
Carroll, F.
Carte, Earl
Carte, Roy
Carter, R.S.
Carver, William M.
Caslett, Alfred T.
Casper, James
Castle, Jack
Castren, Elmer
Cedermalm, Ben
Challman, Oscar
Chamlis, Josephine M.
Chamlis, Raymond A.
Chaplin, Vernon E.
Chapman, Mrs. Perry
Chapman, Perry
Charley, Dolphas
Chernosky, Frank E. Jr
Chester, Leslie K.
Clyburn, Woodrow W.
Cobb, Clyde A.
Coffin, Arthur
Colling, Robert E.
Colwell, Albert
Conta, Paul F.
Cook, Donald
Cook, Floyd
Craig, Francis
Cramford, Joe
Crawford, Alvin
Crawford, Hugh
Crawford, Jack C. (or T.)
Crawford, Ruby E.
Crooks, Harold L.
Cuddleback, Lloyd C.
Cummings, Edward

D

Dall, Hugo
Dalton, James
Darlaw, James
Daugherty, Elsie L.
Daughterty, James
David, Harry
Davies, A.W.
Dawson, John
Degan, Paul
DeGrade, Joe
Dellage, Richard
Demijohn, Paul J.
Dempster, Alex
DeTata, A.
DeWilde, Lloyd V.
Dickerson, Daniel
Dickey, George
Doherty, Charles
Doherty, Peter
Donohue, Thomas M.
Doogan, James
Doty, Jarvis Lewis

Dougherty, Charles (Charlie)
Dougherty, Eugene
Downing, Richard
Doyle, Jerry
Doyle, Thomas M.
Draper, Harry D.
Driscoll, Ray

E

Early, Ardith
Early, Ralph
Eberle, Martin W.
Edman, Mauritz
Edmunson, Lloyd Cyrle
Edmunson, Merle J.
Edmunson, Robert
Ehlers, Henry A.
Eisenmenger, William
Elledge, George H. Jr.
Elligott, Michael M.
Elliott, Daniel P.
Elliott, George
Ellis, Jack
Emerson, A.E.
Englehorn, Orville
Erwin, Ken
Erwin, Ken
Estrada, Frank
Evans, Charles H.

F

Fassio, Lester
Ferguson, Roy
Fieg, Lothar
Fielding, Ruby E.
Finke, Louis
Finnigan, Edna
Finnigan, Wilbur (Wm, Bill,Will)
Floe, Ole (Ollie)
Fontyn, John J.
Forsling, Carl A.
Foth, Peter E.
Franklin, Glen D.
Freg, Lothar (also: Frig, Rothar)
Friesen, Neil D.

G

Garrison, Woodrow
Gebhart, Elton
George, Steve
Ghezzi, O.R.
Gillan (Gillaw), Pat
Gingrich, Donald B.
Gingrich, Florence
Gingrich, Harry S.
Gingrich, Lester E.
Gingrich, Ruth C.
Goronoff, Mike
Graham, Allan
Grannude (Granrude), Julian
Gravdahl, John
Greenup, Bertha W.
Griegan (Grugan), Frances James
Grogan, Frank J.
Gunter, James

H

Haeglund, Ernest
Hagan, Junior Lloyd
Haines, Ivan
Hair, William L.
Hall, Harold
Hall, Monroe
Halvorsen, Thomas
Halvorsen, Tim
Hamilton, Andrew
Hansen, Erick
Hanson, Albert
Harding, Robert
Harlan, Jim
Harms, Herbert
Harness, John C.
Harpster, Dean A.
Harrop, Robert R.
Harry, Leroy
Hathaway, Ermel W.
Hatten, Thomas W.
Hawkins, William A.
Hawthorne, Jean W.
Hayes, Mike
Hazen, Frank A.
Hegg, Clarence E.
Hegg, Engvold
Heitman, William
Helgeson, Howard
Henderson, Carroll
Hendricks, Alvin
Hengen, L.W.
Herbert, Charles
Herbert, Mrs. Charles
Hering, Arthur
Hering, Donald
Hetleen, Oscar
Hetleen, Stanley V.
Hockett, Gail B.
Hoff, Melvin
Hogan, Ed. T.
Holden, Robert
Holpin, William
Hooker, Marion L.
Hopkins, Forrest
Hopkins, Jim (John ?)
Hosada, Masayoki
Howie, David M.
Huffman, Jester
Hunter, Vernon
Hurst, Ross
Husdale, Louis
Husted, Chester
Hyland, Bill

I

Ilg (Ilge), Leo

Irvin, Charles

J

Jackson, William A.
Jany, Joseph
Jarvis, Norval
Jensen, James
Jodsell, Ben
Johansen (Johnson), Knute
Johansen, J.K.
Johansen, K.A
Johansen, Knute A.
Johansen, Woodrow
John, Erwin
John, Solomon
John, Tony (Johns, Antonio)
Johnson, Stephen
Johnsten, Clifford
Johnston, Ethel M.
Jones, Richard
Joseph, Joe E.
Jugloff, Tom Earl
Juneby, Isaac A.
Juneby, Willie J.

K

Karns, Russell
Kasloski, Sylvester
Kausel (Krusel), Emil
Kearns, Edward
Kearns, Guy
Kebernick, Richard I.
Kellogg, Bert F.
Kelly, William
Kennedy, Jack
Kielley, D.L.
King, Al H.
Kinhella, Antone
Klesinger, Benny A.
Knutson, John A.
Koonts, Gerald S.
Koonts, Mrs. Gerald S.
Kosloski, Sylvester
Kroeplin, Wilbert
Krogstad, Arnold

L

Laird, Theodore
Lambert, R.B.
LaRaviere, Raymond
Larson, Carl W.
Larson, Fred M.
Laycock, Frank
Lemm, William "Bill"
Lenci, Frank
Lenhart, Paul
Lewis, Tom
Lindgren, Earl
Linehan (Linehorn), Jerry
Littell, William L.
Little, Harry D.
Littlefield, Harry
Liva, James
Lloyd, Philip
Loehlein, Nich
Loftis (Lofties), Carl (Carrol)
London, John H.
Loomis, John F.
Lorimer, Ted
Lucas, Alex
Lumsden, Harold L.
Lund, Lawrence
Lund, Odin
Lyman, Elisha
Lynch, Jim
Lysne, Harold R.

M

Maas, George
Magnusson, Herman
Malcolm, Edward
Malcolm, Jacob
Malcolm, Mathew
Malcolm, Peter N.
Malcolm, Timothy
Malde, Melvin
Malden, Leonard
Mann, E. Fred
Marion, Roy
Marr, William
Maselbas, Edwin
Masterman, Melvin F.
Mayo, Charles E. Jr.
McCann, H.
McCarron, James E.
McClure, Hershel Earl
McClure, Vivian
McCullough, Bob
McDonald, Alec D.
McDonald, Ananias
McDonald, James
McDonald, Norman
McDonald, William
McDowell, Charles
McElligot, Michael
McGinn, Raymond
McGinty, Dennis
McGregor, Harry
McKechnie, Donald
McLeod, Marvin
McLure, Earl
McManus, Frank
McMath, Wesley
McRae, Harry
McWhorter, Ben Arthur
Mehornay, Clarence L.
Meining, Einear T.
Melville, John W.
Merwin, E.J.
Merz, Hulda
Meybohm, Henry J.M.
Meyers, Clarence
Michens (Mickens), Walter
Miller, Frank
Miller, Vernon Frank
Mills, Mahlon

Mitamura, Tom
Mitchell, Andy
Mockler, Robert J.
Moe, Mike E.
Moe, Myron Elder
Mokler, Herbert E.
Monroe, George
Monsen, Albert
Montoya, Lois
Moore, E.G.
Morin, Roy
Morris, Thomas A.
Morrisson, Robert
Mozeak, Milton
Mulistak, Andy
Mullin, Vincent
Mullooly, Michael J.
Murray, Charles
Murray, Edward H.
Murray, Frank
Myers, Clarence

N

Nachik, Mike
Nancheff, Pete
Nathaniel, John
Nay, Roy
Nelson, Martin E.
Nichols, James
Nicholson, Marion
Nick, Louis
Niedernders, Richard A.
Nielsen, Fred Sven
Noel, William
Nolan, Pearl
Norberg, Algot
Nordstrom, Frank
Nunner, Martin

O

O'Reilly, Leonard J.
Oberg (Obert), Gilbert
Obermiller, Fred
O'Brien, Patrick R.
Ofstad, Fred (Ted? or R.T.)
O'Hagan, Pat
Ohlhausen, George L.
Olson, Ivar
Olson, Martin
O'Neill, Francis
O'Neill, William (Bill)
O'Shea, Albert
O'Sullivan, Standish

P

Pace, Peter
Paddock, Lofton R.
Parker, Fred
Parshall, Robert S.
Paselk, Jake
Paselk, Mrs. Jake
Patrawke (Patsawhe), Eric
Patterson, R.L.
Patty, Dale F.
Patty, Ernest N. Jr.
Patty, Ernest N. Sr.
Patty, Stanton
Paul, Albert
Paul, Harry T.
Paul, Mrs. Susie (Louise)
Paul, Susie
Peacock, Ethelind
Pease, Lowell M.
Pennington, John
Peppard, George M.
Perons, Rudy
Peterson, Bror
Peterson, Florence
Peterson, Jim
Peterson, Richard J.
Peterson, Valdemar "Val"
Pickett, John E.
Pitka, Harry W.
Plourd, Oliver
Pocesky, James (Jim)
Pomeroy, James
Ponta, Paul F.
Potter, Fred
Pourd, Oliver
Powell, Gordon
Prosise, Clarence

Q

Quigley, Robert
Quimby, John

R

Radovich, Mrs. Thomas
Radovich, Thomas
Rains, William
Randone, Larry
Ray, Harry
Ray, William B.
Read, Chester
Read, Milton Edwin
Rebstein, Frank
Reeves, Thomas
Remling, Earl M.
Rhode, Gene
Rice, D. Marie
Richardson, C.G.
Ricks, Dean
Riggs, Amos
Ringstad, Mark
Rishel, Merle
Risholt, Tom
Roach, Louis
Roberts, Curtis O.
Roberts, Joe C.
Roberts, Lee R.
Robertson, Robert H.
Robinette, Grady
Robson, Paul
Roch, Louis
Rodriquez, Gilbert
Roesberg, Darrell
Rogers, Robert J.
Rollands, James J.

Rosine, Edmund
Ross, Fred
Ross, W.C.
Roth, Martin
Runnells, Rex
Rydeng, Vahn
Ryschlew, Stephen

S

Sabaloff, Simon
Sager, John
Salo, John
Sandberg, Elizabeth
Sankovich, Mike
Sarvo (Sorvo), John
Sarvo, August
Sather, Ole
Saxland, Michael
Sayne (Sayre), Leroy
Schiefer, Fred T.
Schiefer, Glenn L
Schmidt, Harold
Schoentaup, Francis
Scott, Robert H.
Scott, William J.
Scully, John B.
Severin, Oscar
Sexton, Dorsey
Seymour, Roy
Shannon, Peter E.
Sharp, Ray
Shearer, Winifred C.
Sheffield, William M. Jr.
Shields, Arthur M.
Shields, Rolla M.
Shockley (Shoekey), Jack E.
Silas, Charles (Charlie)
Silas, Peter
Simple, Joe
Slane, R.D.
Sloan, James R.
Smith, Arnold R.
Smith, Roy
Smorada, August
Snelgrove, George
Snider, William
Snyder, Glenn
Solie, Clifford
Sonkovich, Mike
Speigle (Spiegle), Calvin
Spencer, W.W.
Stampe, Leonard J.
Steven, Arthur
Stevens, Andy P.
Stevens, Arthur
Stevens, Lonnie E.
Stevens, Silas A.
Stewart, Dale
Stoleis, Julio
Stout, Al
Stout, C.E.
Sullivan, John
Sunila, John A.
Svendsen, Sig
Swanson, Herman L.
Swanson, Pete
Swanson, Robert F.

T

Tahl, John Sr.
Tengelin, Harold E.
Thomas, Bruce
Thomas, Lijah
Thomas, Robert
Thompson, Franklin T.
Thomson, Walter
Thorsen, Arthur
Thrasher, Guy
Thrasher, Walter
Timm, Vincent R.
Torgerson, Alden
Townsley, Ed (Tounsley, Ed)
Tryck, Charles
Tweiten, Carl O.
Tyrrell, Russell C.

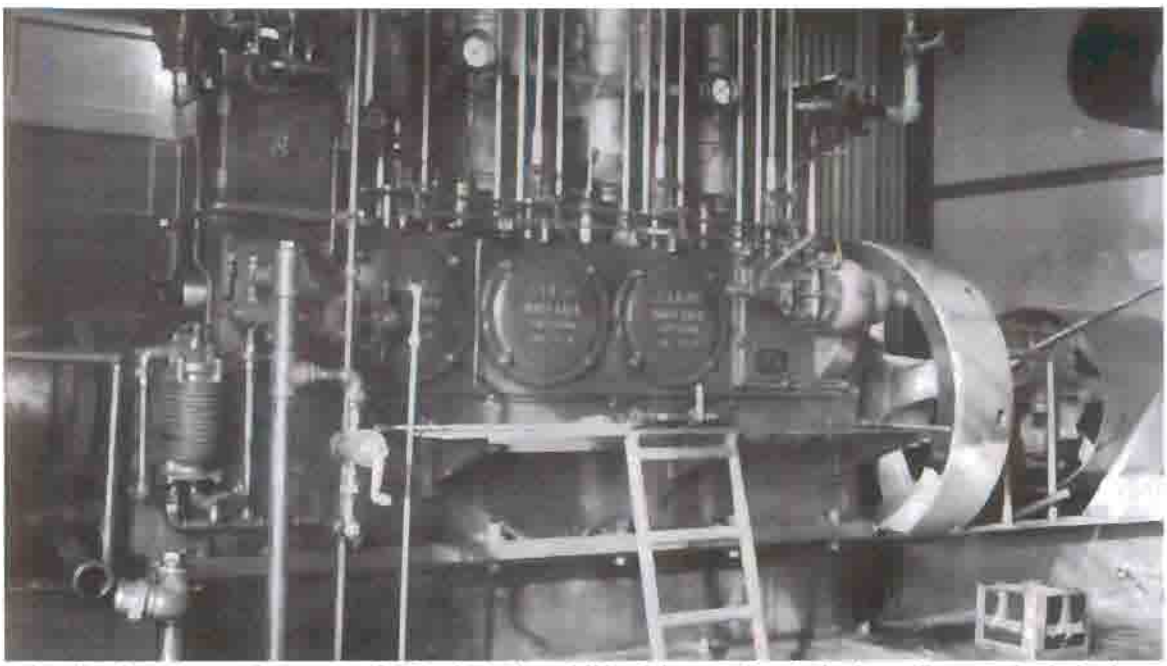
V

Vandamme, Arthur
Vannebo, Albert
VanSchoick, Elmer
VanSickle, Albert L
Veale, Art
Vojta (Voyta), Tom

W

Wahto, Douglas
Wahto, Ole
Walker, Richard
Wallen (Wallin), John
Wallis, Tim W.
Walsh, James
Walsh, John R.
Walter, Herman N.
Walters, John W.

Waltz, Sam
Wann, E. Fred
Warren, Jerome Otis
Wasser, Virgil E.
Watterson, H.H.
Weekes, Edward E.
Weideman, Art N.
Weidum, Catherin K.
Wells, John P.
Weston, Warren
Whitters, Raymond H.
Whitwer, Robert M.
Wick, Louis
Wickersham, Brandt
Wickstrom, Paul
Widick, Donald
Wiederanders, Richard A.
Wilburn, Jack
Wiley, Fred
Wilkes, Ray
Williams, Gerald
Williams, Kenneth G.
Wilson, Ben F.
Wilson, Gerald
Wilson, Joe
Winbauer, Robert J.
Winkelman, Aden
Winold, George
Wittenberg, Louis H.
Woll, Ray
Writner, Harold
Yenney, Fred
Young, Earl
Young, W.L.
Young, William
Yugar, Anna D.



Atlas diesel engine used to power the Coal Creek and Woodchopper Creek dredges. Because both dredges are identical, it is difficult to determine which of the two dredges this engine powered. It is interesting to note that this photo was taken when the engine was new before the dredge went into production (NPS photo, origin unknown).

APPENDIX F

WHO WORKED WHEN?

GOLD PLACERS INC. AND ALLUVIAL GOLDS INC.
ANNUAL EMPLOYEE TABULATION

Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Acheson, Wilma H.											C														
Adam, Daniel							C																		
Adamik, Martin	C																								
Aho, Stanley W.																C									
Aitchison, Hector		C																							
Alsabrook (Alsobrook), Leslie J.											B														
Anderson, Albert		W	W	W	W																				
Anderson, Carlyn F.											C														
Anderson, Chas. O.										C															
Anderson, Laura										C															
Andre, Andy																					C				
Andrew, David														C											
Andrew, L.															C										
Atnip, Ralph H.													C												
Baker, Frank J.												W	W	W											
Barnette, James		C																							
Bass, Lemour (Leymair)						W																			
Bassett, Jimmy W.																					C				
Bavington, W.D					C																				
Beck, George	C																								
Becker, Anne R.								W			W														
Becker, Richard					C	B	B	W			W	W	W	B	B		W								
Beirnes, Joseph C.												C	C												
Belanger, Opal																	W								
Belanger, Walter J.																	W								
Bemis, Robert A.													C												
Bender, Henry		W	W	W	W	W																			
Berail, Phil	C	B	C	C	C	C	C	B	B	C	C	C	C	C											
Berg, Oscar				W	W	B																			

Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Bertinoia, Louis E.																							W	W	
Bezansen, C. Louis				C	C																				
Bickford, Donald J.																		W							
Biederman, Charlie R.											C														
Black, Louis	C																								
Blodgett, Perry A.																	W		C						
Bohland, George		W																							
Bohland, George	C																								
Borgeson, John	C																								
Borgman, John C.		W	W	W	W	W																			
Botzong, Charles																		W	C						
Bowman, Robert "Bob"		B	W	B	W	B				C	B														
Boyd, Robert "Bud"	C																								
Boyle, Frank F.											C														
Boyle, Jack		B																							
Boyle, Joseph													W	W											
Bradley, William					W																				
Bradshaw, Ernest Elliott											W														
Braun, Harold																						C			
Brissette, Joseph M.		C										W	B	W											
Brown, Kenneth E.																		W							
Brownlee, Russell		B																							
Brudeis, Gustav																				C					
Bruington, W.D.					C	C																			
Burke, Harold A.												W													
Burziel, Melvin H.													W	W					C						
Bush, William			W	W																					
Campbell, Richard F. "Dick"											W	W	W	B	C										
Cantarra, Ronald																		W							

Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Carlson, Axel		W		W	W	W	W																		
Carlson, Carl				C	C	B																			
Carlson, Fred R.			W	W	W	W				C	C														
Carroll, Clifton													C												
Carroll, F.															C										
Carte, Earl				W																					
Carte, Roy			W	W	W																				
Carter, R.S.													C												
Carver, William M.												W													
Caslett, Alfred T.					C																				
Casper, James				B																					
Castle, Jack						W																			
Castren, Elmer												W													
Cedermalm, Ben					W	W	W	W		C	W	W													
Challman, Oscar						W																			
Chamlis, Josephine M.											B														
Chamlis, Raymond A.											B														
Chaplin, Vernon E.																	W								
Chapman, Mrs. Perry		W																							
Chapman, Perry	C	C																							
Charley, Dolphas	C																								
Chernosky, Frank E. Jr																		W							
Chester, Leslie K.												C													
Clyburn, Woodrow W.																			C		C	C			
Cobb, Clyde A.	C	C		C	C																				
Coffin, Arthur																									W
Colling, Robert E.																C									
Colwell, Albert							W																		
Conte, Paul F.											W	C													

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Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Cook, Donald							C																		
Cook, Floyd	C																								
Craig, Francis		W																							
Cramford, Jas										C															
Crawford, Alvin											W														
Crawford, Hugh			W																						
Crawford, Jack C. (or Jack T.)																									W
Crawford, Ruby E.																									W
Cranks, Harold L.													W	W											
Cuddlehack, Lloyd C.																							W	W	
Cummings, Edward			W																						
Dall, Hugo		C	C	C																					
Dalton, James					C																				
Darlaw, James				C																					
Daugherty, Elsie L.																C									
Daughterty, James																C									
David, Harry			C	C	C	C	C			C	C	C	C	C	C	C	W	W	C	C	C	C	W	W	W
Davies, A.W.															C										
Dawson, John						C																			
Degan, Paul						W																			
De Grade, Joe		W	W	W																					
Dellago, Richard						W																			
Demijahn, Paul J.													W	W											
Dempster, Alex		C	C	B	C	C																			
DeTata, A.												W													
DeWilde, Lloyd V.													W	W											
Dickerson, Daniel													C												
Dicksy, George	C																								
Doherty, Charles							W			C	W														

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Doherty, Peter								W		C	W	W													
Donohue, Thomas M.											W	W													
Doogan, James			W	W																					
Doty, Jarvis Lewis											W														
Dougherty, Charles (Charlie)	C	B																							
Dougherty, Eugene	C	B																							
Downing, Richard		C	B	C	C	B																			
Doyle, Jerry		W																							
Doyle, Thomas M.											W														
Draper, Harry D.																					C				
Driscoll, Ray	C	B	C	C	C	B		W																	
Early, Ardith														C	C										
Early, Ralph														C	C										
Eberle, Martin W.													W	W											
Edman, Mauritz		W	W																						
Edmunson, Lloyd Cyrle		W	W								W	B													
Edmunson, Merle J.	C	C	C	C	C	C	C				C	C													
Edmunson, Robert		W																							
Ehlers, Henry A.					C	C					C														
Eisenmenger, William					C																				
Elledge, George H. Jr.																							W	W	
Elliott, Michael M.																			C						
Elliott, Daniel P.																C									
Elliott, George	C	C	C																						
Ellis, Jack		B	C	B		B																			
Emerson, A.E.			C	C																					
Englehorn, Orville		W	B	C	C																				
Erwin, Ken				C																					
Erwin, Ken				W																					

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Estrada, Frank	C	B	C	C	C	C	W																		
Evans, Charles H.																					C				
Fassio, Lester		C		C	C																				
Ferguson, Roy							C																		
Fieg, Lothar						W																			
Fielding, Ruby E.																						C	W	W	
Finke, Louis		W																							
Finnigan, Edna														C	C				C	C	C				
Finnigan, Wilbur ("Wm," "Bill," "Will")					W	W							C					W	C	C	C				
Floe, Ole (Ollie)		W	B	W	W	W																			
Fontyn, John J.																		W							
Forsling, Carl A.													W	W											
Foth, Peter E.													W	W											
Franklin, Glen D.	C	B	B	B	B	B	B	B																	
Freg, Lothar (also: Frig, Rothar)						W																			
Friesen, Neil D.																				C					
Garrison, Woodrow	C																								
Gebhart, Elton				W																					
George, Steve	C		W																						
Ghezzi, O.R.							W																		
Gillan (Gillaw), Pat														C	C										
Gingrich, Donald B.												W	W	B	C	C									
Gingrich, Florence										B	C	C	C	C	C	C	W	W	C	C	C				
Gingrich, Harry S.		B	B	B	B	B				B	C	C	C	C	C	C	B	W	C	C					
Gingrich, Lester E.												W	B	B	C	B	W	C	C	C	B	W	W	W	
Gingrich, Ruth C.											W	W	W												
Goronoff, Mike				C																					
Graham, Allan										C															

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Granrude (Granrude), Julian			W	W	W																				
Gravdahl, John										C															
Greenup, Bertha W.												C													
Grisgan (Grugan), Frances James								W																	
Grogan, Frank J.											W														
Gunter, James							W																		
Haeglund, Ernest						C																			
Hagan, Junior Lloyd												W													
Haines, Ivan					C	C																			
Hair, William L.												B	C												
Hall, Harold	C		C	C																					
Hall, Monroe						C																			
Halvorsen, Thomas					C	C	C																		
Halvorsen, Tim					C																				
Hamilton, Andrew							W																		
Hansen, Erick												W													
Hanson, Albert		C																							
Harding, Robert					C	W																			
Harlen, Jim											W														
Harms, Herbert				W	W	W																			
Harness, John C.																						C			
Harpster, Dean A.																					C				
Harrop, Robert R.							W																		
Harry, Leroy						W																			
Hathaway, Ermel W.																				C					
Hatten, Thomas W.	C	C																							
Hawkins, William A.					C																				
Hawthorne, Jean W.					C																				
Hayes, Mike											W	W	W	W											

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Hazen, Frank A.																									
Hegg, Clarence E.																	W								
Hegg, Engvold																	W								
Heitman, William		W	W	W	W																				
Helgeson, Howard			W																						
Henderson, Carroll			W																						
Hendricks, Alvin		C	C	C	C	C																			
Hengen, L.W.	C																								
Herbert, Charles	C																								
Herbert, Mrs. Charles	C																								
Hering, Arthur	C																								
Hering, Donald	C	B																							
Hetleen, Oscar																						C	W	W	
Hetleen, Stanley V.																							W	W	W
Hockett, Gail B.																					C				
Hoff, Melvin											C														
Hogan, Ed. T.																						C			
Holden, Robert		C																							
Holpin, William			W																						
Hooker, Marion L.											C														
Hopkins, Forrest		W	W	W																					
Hopkins, Jim (John ?)	C	B	W																						
Hosada, Masayoki																									W
Howie, David M.																		W							
Huffman, Jester		C		C																					
Hunter, Vernon																									W
Hunt, Ross																				C					
Husdale, Louis				W																					
Husted, Chester		W																							

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Hyland, Bill	C																W								
Ilg (Ilgs), Leo		B	B	B																					
Irvin, Charles											C														
Jackson, William A.						B				C	C	C	C												
Jany, Joseph					C																				
Jarvis, Norval		W	W	W																					
Jensen, James					W																				
Jodsell, Ben			C																						
Johansen (Johnson), Knute										C															
Johansen, J.K.	C																								
Johansen, K.A	C																								
Johansen, Knute A.							W																		
Johansen, Woodrow		C	C	W																					
John, Erwin											C		W	W											
John, Solomon												C													
John, Tony (Johns, Antonio)												W	W	W											
Johnson, Stephen				B	B	W																			
Johnston, Clifford		W																							
Johnston, Ethel M.																						C			
Jones, Richard					C	B																			
Joseph, Joe E.													B	W											
Jugloff, Tom Earl											W														
Juneby, Isaac A.																									W
Juneby, Willie J.			C	C	C	C	C		W	C	C	C	C	C	C	C	W	W					W	W	W
Karns, Russell		C																							
Kazlnski, Sylvester			W																						
Kausel (Krusel), Emil			C																						
Kearns, Edward				W																					
Kearns, Guy	C																								

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Kehomick, Richard L.											W														
Kellogg, Bert F.	C	B	B	B	B	W																			
Kelly, William	C																								
Kennedy, Jack																		W							
Kielley, D.L.							W																		
King, Al H.				C																					
Kinhella, Antone				B																					
Kissinger, Benny A.										C				W											
Knutson, John A.																			C						
Koonts, Gerald S.							C																		
Koonts, Mrs. Gerald S.							C																		
Koskold, Sylvester			W																						
Kroeplin, Wilbert				W																					
Krogstad, Arnold					W	W	W																		
Laird, Theadore						W																			
Lambert, R.B.			C																						
LaReviere, Raymond	C																								
Larson, Carl W.				C																					
Larson, Fred M.											C														
Laycock, Frank							B																		
Lemm, William "Bill"	C	B	C	C																					
Lenci, Frank			C	C																					
Lenhart, Paul			C	C	C																				
Lewis, Tom			C		C																				
Lindgren, Earl		W																							
Linehan (Linehorn), Jerry			W	W	W	W	W																		
Littell, William L.																							C		
Little, Harry D.											C														
Littlefield, Harry			C	C																					

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Liva, James										C															
Lloyd, Philip						W																			
Loehlein, Nich					C																				
Loftis (Lofties), Carl (Carrol)	C	B	W	W	W																				
London, John H.													C												
Loomis, John F.							W																		
Lorimer, Ted			C																						
Lucas, Alex				W																					
Lumsden, Harold L.					W	W										C		W	C	C	C				
Lund, Lawrence						W																			
Lund, Odin			W																						
Lyman, Elisha							C	W	W	C	C	C	C		C										
Lynch, Jim		W																							
Lysne, Harold R.													W	W											
Maas, George						W																			
Magnusson, Herman	C																								
Malcolm, Edward							C		W	C															
Malcolm, Jacob													B	W			W	W	C	C	C	C	W	W	
Malcolm, Mathew														W											
Malcolm, Peter N.													C												
Malcolm, Timothy																					C	C			
Malde, Melvin						B																			
Malden, Leonard						C																			
Mann, E. Fred											C														
Marion, Roy											C														
Marr, William	C																								
Maselbas, Edwin																	W								
Masterman, Melvin F.											C	C													
Mayo, Charles E. Jr.												C													

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McCann, H.													C												
McCarson, James E.				C	C	C																			
McClure, Hershel Earl							B	W																	
McClure, Vivian								W																	
McCullough, Bob		W																							
McDonald, Alec D.												W													
McDonald, Ananias	C	B	B	C	C	C	C																		
McDonald, James	C	B	C																						
McDonald, Norman																					C	C	W	W	W
McDonald, William		W	W	B	B	C																			
McDowell, Charles										C						C									
McElligot, Michael																			C						
McGinn, Raymond		W	W	W	B																				
McGinty, Dennis								W																	
McGregor, Harry	C	B																							
McKechnie, Donald		C																							
McLeod, Marvin		C																							
McLure, Earl						B																			
McManus, Frank																			C						
McMath, Wesley																				C					
McRae, Harry				W																					
McWhorter, Ben Arthur											W	W													
Mehornay, Clarence L.												W	W	W											
Meining, Einear T.											C														
Melville, John W.																	W								
Merwin, E.J.													C												
Merz, Hulda									W	W															
Meyholm, Henry J.M.																		W							
Meyers, Clarence	C																								

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Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Michens (Michens), Walter	C	C	C																						
Miller, Frank					C																				
Miller, Vernon Frank																					C				
Mills, Mahlon												C													
Mitamura, Tom		W																							
Mitchell, Andy										C															
Mockler, Robert J.		W																							
Moe, Mike E.												C													
Moe, Myron Elder											W		W	W											
Molder, Herbert E.				C	C																				
Monroe, George					C	C	C																		
Monsen, Albert												W													
Montoya, Lois													W	W											
Moore, E.G.	C	B																							
Morin, Roy	C	B	C	C	C	C	B				C	C													
Morris, Thomas A.																							W	W	
Morrisson, Robert		W	W	W	B	W																			
Mozeak, Milton				C	C	C																			
Mulistak, Andy																						C			
Mullin, Vincent			W	C	B																				
Mullooly, Michael J.																C									
Murray, Charles	C																								
Murray, Edward H.											B	W	W	B	B	C	B	W	C	C	C	W	W	W	W
Murray, Frank						C	C		W																
Myers, Clarence	C																								
Nachik, Mike	C	C																							
Nancheff, Pete		W	W	W	W	W	W																		
Nathaniel, John						C						C													
Nay, Roy															C	C				C	C		W	W	

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Nelson, Martin E.												W													
Nichols, James										C															
Nicholson, Marion					C	C																			
Nick, Louis											W														
Niedenders, Richard A.											C														
Nielsen, Fred Sven										C	W														
Noel, William		C			C	B	C																		
Nolan, Pearl	C	C	C	C	B	C	C																		
Norberg, Algot		W																							
Nordstrom, Frank	C										B														
Nunner, Martin	C			C	C																				
O'Reilly, Leonard J.												C													
Oberg (Obert), Gilbert	C	B	B	B	C																				
Obermiller, Fred	C	B	C	C	C	B	B										C								
O'Brien, Patrick R.												W	W	W											
Ofstad, Fred (Ted? or R.T.)	C	C																							
O'Hagan, Pat		C	C	C	C																				
Ohlhausen, George L.							C				C	C	W	W											
Olson, Ivar	C	B	W	W	W	W	W				W	W													
Olson, Martin							C																		
O'Neill, Francis		B	W	W	W	W																			
O'Neill, William (Bill)	C	W	W		W	W																			
O'Shea, Albert		W	W																						
O'Sullivan, Standish	C																								
Pace, Peter																									W
Paddock, Lofton R.										C															
Parker, Fred	C																								
Parshall, Robert S.																	W								
Paselk, Jake						B																			

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Pasell, Mrs. Jake						W																			
Patrawke (Patcawke), Eric	C	B																							
Patterson, R.L.					C																				
Patty, Dale F.										C	C	W	W	W	C				C	C	C	B	W	W	W
Patty, Ernest N. Jr.	C	C	C	C	C	B				C	B	W													
Patty, Ernest N. Sr.	C	B	B	B	B	B	B	B	W	B	B	B	B	B	B	B	B	B	C	C	C	B	W	W	
Patty, Stanton						W																			
Paul, Albert							C			C	C														
Paul, Harry T.																					C		W	W	
Paul, Mrs. Susie (Louise)										C											C				
Paul, Susie									W	C	C	C	C		C	C	W	W	C	C	C	C	W	W	W
Peacock, Ethelind						W	W																		
Pease, Lowell M.																			C						
Pennington, John																						C			
Peppard, George M.												C	C												
Perms, Rudy			C																						
Peterson, Bror					W																				
Peterson, Florence					C																				
Peterson, Jim																				C	C				
Peterson, Richard J.							C				C	C													
Peterson, Valdemar "Val"													C												
Pickett, John E.																				C					
Pifin, Harry W.																							W	W	
Plourd, Oliver			W	W	W																				
Pocesky, James (Jim)											W	W													
Pomeroy, James						C	C																		
Ponta, Paul F.												C													
Potter, Fred												W	W	W											
Pourd, Oliver				C																					

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Powell, Cordon		C																							
Prosise, Clarence	C			W																					
Quigley, Robert			C	C	C	C																			
Quimby, John		W																							
Radovich, Mrs. Thomas	C																								
Radovich, Thomas	C																								
Raine, William		C	C	C	C	C	C																		
Randone, Larry												W													
Ray, Harry		C	C																						
Ray, William B.													C	C	C				C						
Read, Chester													W	W											
Read, Milton Edwin							C																		
Rebstein, Frank						W	C																		
Reeves, Thomas					C																				
Remling, Earl M.													W	W											
Rhode, Gene						W																			
Rice, D. Marie																					C				
Richardson, C.G.													W	W											
Ricks, Dean				C																					
Riggs, Amos							W																		
Ringstad, Mark				C	C																				
Rishel, Merle																							W	W	
Rishelt, Tom			W																						
Roach, Louis		W																							
Roberts, Curtis O.																			C	C					
Roberts, Joe C.													C												
Roberts, Lee R.																	W								
Robertson, Robert H.											C														
Robinette, Grady							C																		

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Robson, Paul																	W	W							
Roch, Louis			W	W	W	W	W																		
Rodriquez, Gilbert																				C					
Roesberg, Darnell													W	W											
Rogers, Robert J.	C						C																		
Rollands, James J.												C													
Rosine, Edmund												W													
Ross, Fred													C												
Ross, W.C.	C																								
Roth, Martin								W																	
Runnells, Rex			C	C																					
Rydeng, Vahn					B																				
Ryschkew, Stephan	C																								
Sabaloff, Simon						W																			
Sager, John		W																							
Salo, John			C	C																					
Sandberg, Elizabeth								W																	
Sankovich, Mike											C														
Sarvo (Servo), John			B																						
Sarvo, August				W	W																				
Sather, Ole						B																			
Saxland, Michael	C	C	C	C	C	C																			
Sayne (Sayre), Leroy					C	C																			
Schiefer, Fred T.													W	W											
Schiefer, Glenn L													W	W											
Schmidt, Harold	C																								
Schoentaup, Francis		W																							
Scott, Robert H.																					C				
Scott, William J.																						C			

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Scully, John B.											C	C													
Severin, Oscar																			C						
Sexton, Dorsey															C										
Seymour, Roy													W	W											
Shannon, Peter E.													W	W											
Sharp, Ray		C																							
Sheaman, Winifred C.												C													
Sheffield, William M. Jr.																				C					
Shields, Arthur M.					W	W	W		W	C	C	C	C	C	C	C	W	W	C		C				
Shields, Rolla M.													W	W											
Shockley (Shoeley), Jack E.											C														
Silas, Charles (Charlie)							C				C	C	C	C	C						C	C			
Silas, Peter										C															
Simple, Joe													W	W											
Slane, R.D.				C	C	C	C																		
Sloan, James R.									W																
Smith, Arnold R.													C												
Smith, Roy		W																							
Smonada, August					C	B																			
Snelgrove, George		W																							
Snider, William			B																						
Snyder, Glenn						W																			
Solie, Clifford		W																							
Sunkovich, Mike											C														
Speigle (Spiegle), Calvin		C	C	C																					
Spencer, W.W.	C																								
Stampe, Leonard J.	C																								
Steven, Arthur							C																		
Stevens, Andy P.												C	C												

Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Stevens, Arthur									W																
Stevens, Lonnie E.												C				C									
Stevens, Silas A.													C												
Stewart, Dale							W																		
Stolcis, Julio													W	W											
Stout, Al	C																								
Stout, C.E.	C																								
Sullivan, John	C	C																							
Sunila, John A.																						C	W	W	
Svendsen, Sig	C	B	B	W																					
Swanson, Herman L.													C												
Swanson, Pete					C	C																			
Swanson, Robert F.													C						C	C		C	W	W	
Tahl, John Sr.												C													
Tenglin, Harold E.														C	C	C									
Thomas, Bruce	C	B	B	B	C	C	B																		
Thomas, Lijah													W	W											
Thomas, Robert		C	C	C	C	B																			
Thompson, Franklin T.												B													
Thomson, Walter																									W
Thorsen, Arthur		C																							
Thrasher, Guy														C	C										
Thrasher, Walter																C									
Timm, Vincent R.				C	C														C	C	C				
Torgerson, Alden		B		W	W																				
Townsley, Ed (Tounsley, Ed)			W	W																					
Tryck, Charles				W	W																				
Tweiten, Carl O.					C		C																		
Tyrrell, Russell C.													W	W											

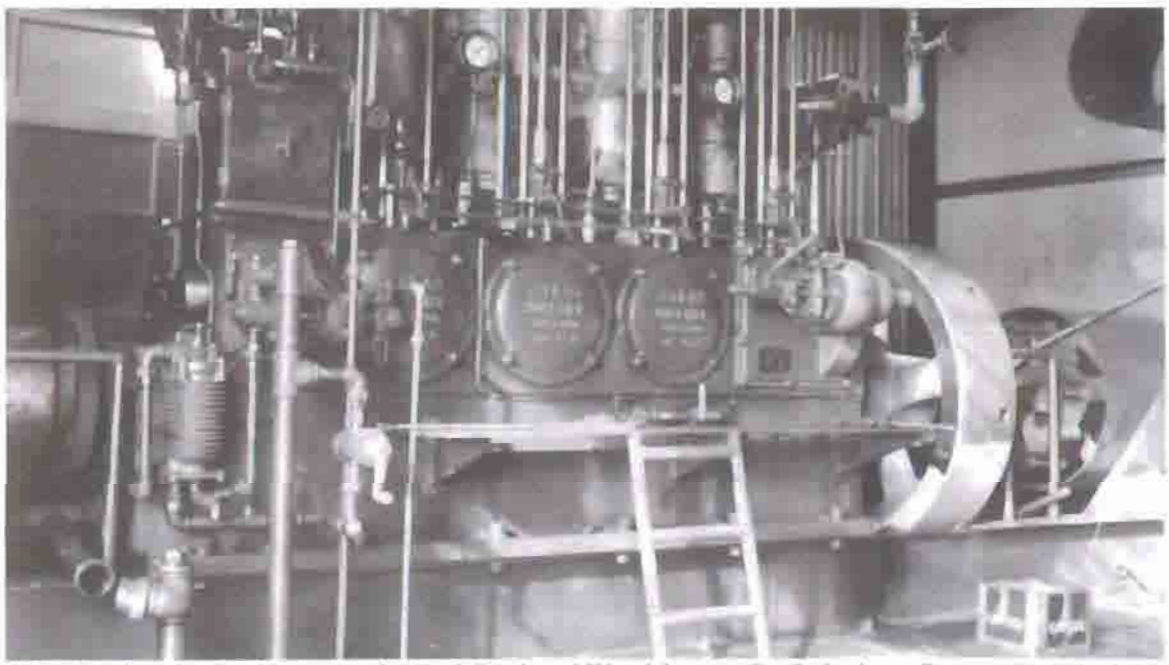
Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Vandamme, Arthur	C																								
Vannebo, Albert			C																						
VanSchoick, Elmer													W	W											
VanSickle, Albert L													W	W											
Veals, Art				W																					
Vojta (Voyta), Tom		B	W	W																					
Wahto, Douglas						W																			
Wahto, Ole						C																			
Walker, Richard												W													
Wallen (Wallin), John			C	C	C	C																			
Wallis, Tim W.												C													
Walsh, James								W																	
Walsh, John R.																		W							
Walter, Herman N.													W	W											
Walters, John W.													W	W											
Waltz, Sam		W																							
Wann, E. Fred											B														
Warren, Jerome Otis											W	W													
Wasser, Virgil E.																					C	C	W	W	
Watterson, H.H.												W													
Weekes, Edward E.												C													
Weideman, Art N.													W	W											
Weidum, Catherin K.										W															
Wells, John P.											W						W								
Weston, Warren												W													
Whitters, Raymond H.																							W	W	W
Whitwer, Robert M.							W			C	W							W							
Wick, Louis											W														
Wickersham, Brandt						W																			

Key:
C = Coal Creek
W = Woodchopper Creek
B = Both

Name	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960
Wickstrom, Paul	C		W		C	W																			
Widick, Donald																							W	W	
Wiederanders, Richard A.											C														
Wilburn, Jack																	W								
Wiley, Fred						W																			
Willms, Ray						W																			
Williams, Gerald							C																		
Williams, Kenneth G.																					C				
Wilson, Ben F.												W													
Wilson, Gerald							W																		
Wilson, Joe						W																			
Winbauer, Robert J.																	W								
Winhelman, Aden					C	C																			
Winold, George			W																						
Wittenberg, Louis H.																		W							
Woll, Ray													W	W											
Woitner, Harold																C									
Yenney, Fred					B																				
Young, Earl	C	B																							
Young, W.L.							C																		
Young, William							W																		
Yugar, Anna D.																						C			

Coal Creek Camp No. 1, Tractor and Athey Wagon, 1935. Frank Estrada (wearing the white apron), A.D. McRae (wearing the sweater and knickers) and Ernest Patty (wearing the dark sweater and light pants on the right). NPS Photo.



Atlas diesel engine used to power the Coal Creek and Woodchopper Creek dredges. Because both dredges are identical, it is difficult to determine which of the two dredges this engine powered. It is interesting to note that this photo was taken when the engine was new before the dredge went into production (NPS photo, origin unknown).

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VIII. INTERVIEWS

Beck, George. Resident of the Yukon-Charley area during the 1930s and 1940s. Beck hunted, fished, mined and trapped the area. September 19-20, 1976. Eagle Alaska.

Biederman, Charlie. The done of Ed Biederman, he grew up in the Yukon-Charley area and was the last person to carry mail from Eagle to Circle by dog team. June 30, 1976 and November 11, 1976, Tok, Alaska. February 12-13, 1977, Fairbanks, Alaska.

Biederman, Horace, Jr. Grandson of Ed Biederman and long-time resident of Eagle, Alaska. September 18, 1976, Eagle, Alaska.

Coben, Dan. At one time, early- to mid-1970s, he was a co-owner of the Coal Creek mining claims with Yukon-Charley. August 6, 1976, Coal Creek, Alaska.

Fritsch, Wyman. Long-time resident of Eagle, Alaska. September 19, 1976, Eagle, Alaska.

Hansen, Barney. A miner on the Seventymile River and Fourth of July Creek and also a resident of Eagle, Alaska. December 13, 1976, Fairbanks, Alaska.

Knight, Jess and Cathryne. Long-time residents of Eagle and Circle, Alaska. September 20, 1976, Eagle, Alaska.

Layman, Jim. Owner of the Ben Creek mining claims within Yukon-Charley. August 8-9, 1976.

Nelson, Elmer. Former trapper in the upper Charley River area. September 19-20, 1976, Eagle, Alaska.

Stevens, Charlie. Native of Eagle Village, July 22, 1964 and September 16, 1964. Interviewed by Mertie Baggen at Eagle Village, Alaska.

Vogler, Joe. Owner of the Woodchopper Creek patented mining claims within Yukon-Charley Rivers. August 6-7, 1976. Interviewed at his camp at the mouth of Mineral Creek, Alaska.

Wolff, Ernest. University of Alaska mining professor and co-owner of the Coal Creek mining claims within Yukon-Charley Rivers. August 3, 1976. Telephone conversation, Fairbanks, Alaska.

IX. MAPS

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