HISTORY OF THE CARO-COLDFOOT TRAIL (RST 262) AND THE COLDFOOT-CHANDALAR TRAIL (RST 9)

by

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January 2007

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OFFICE OF HISTORY AND ARCHAEOLOGY REPORT NUMBER 117

ACKNOWLEDGMENTS

The following individuals within the Alaska Department of Natural Resources provided assistance during this project. Within the Division of Mining, Land and Water (DML&W), assistance was provided by Dick Mylius (director), Scott Ogan and Amanda Tuttle (natural resource officers) of the Public Access Assertion and Defense Section, Mark Hall of the Survey Unit, and Johnthomas Williamson (appraiser) of the Realty Section, and Brent Martellaro and Jack Kerin (geologists) of the Mining Section in Fairbanks. Judith E. Bittner (chief), Alan DePew (archaeologist) and Christopher Chambers (Alaska Conservation Corps) of the Office of History and Archaeology, Division of Parks and Outdoor Recreation, also provided assistance. Anna Plager (park superintendent) and Lona Locher (clerk) of the State Parks Office in Fairbanks provided a vehicle for local travel in Fairbanks.

Employees of the Attorney General's Office of the Alaska Department of Law who provided assistance and guidance during the project, included Rob Nauheim, Elizabeth Barry and Colleen Moore (attorneys), and Mary Fitzgerald, Molly Benson and Angie White (paralegals).

Bruce Parham (acting director) and Judy Peterson (archivist) of the National Archives and Records Center, Pacific Alaska Region, helped locate records of the Alaska Road Commission (ARC).

. Individuals in the Right-of-Way Section of the Alaska Department of Transportation and Public Facilities in Fairbanks, including John F. Bennett (chief), Martin Shurr and Kathleen A. Kelley (land surveyors), and Rose Martell-Greenblat, Lisa Harbo and Paul Kirby (ROW agents), helped locate ARC records not found at the National Archives and Records Center in Anchorage.

Justine Bishop (archivist), of the State Archives in Juneau, assisted in locating and providing copies of historic ARC maps.

Other individuals who provided historic information about trails in the Coldfoot, Caro and Chandalar areas included: Del Ackels (Fairbanks), Ellamae Anderson (Spokane, Washington), Hollis Barnett (Puyallup, Washington), Chris Birch (Anchorage), Jerry Coghill (Fairbanks), Douglas Colp (Fairbanks), Halver Englestad (Wasilla), Mike Garverich (Butte, Montana), Paul Gavinavitch (Anchorage), Mervin Gilbertson (Fairbanks), Larry Hoffman (Butte, Montana), Richard Hughes (Fairbanks), Walter Johnson (Homer), Erik Hansen (Fairbanks), Tim Kiehl (Fairbanks), Walt Lanigan (Fairbanks), George Lounsbury (Fairbanks), Paul Manuel (Fairbanks), Hugh Matheson (Boulder, Colorado), Jack McManus (Oregon, Wisconsin), Jerry Parker (Fairbanks), Jack Reakoff (Wiseman), Rita Shoulton (Anchorage), Lloyd Swenson (Fairbanks), Donald Toussaint (Princeton, Oregon), and Richard Walters (Spokane, Washington).

Individuals who provided historic photographs and permission to use them in this report included: Chris Birch (Anchorage), Hugh Matheson (Boulder, Colorado), Donald Toussaint (Princeteon, Oregon), and Richard Walters (Spokane, Washington).

ABSTRACT

The Caro-Coldfoot (RST 262) and Coldfoot-Chandalar (RST 9) trails were part of a system of roads and trails that were constructed by miners, improved and maintained by the ARC using federal and territorial money, and later maintained by the miners who continue to use them. The trails to the Koyukuk and Chandalar mining districts were the most important trail connections north of the Arctic Circle, but were modest in terms of numbers of stampeders, miners, freight carriers and production gold in comparison to other districts in Alaska. The remoteness, severe environment and long overland distances involved contributed to the high cost of transporting equipment and supplies to the Koyukuk and Chandalar districts. These two districts were among the highest in Alaska in terms of operating costs, which reduced profits from gold mining by 50 percent. The high costs of road building was an obstacle to the development of overland routes to the remote Koyukuk and Chandalar districts, delaying the introduction of mechanical and large-scale technologies. Miners, freighters, mail carriers and others have used historic trails in the Slate Creek drainage and Chandalar area for a century after the gold rush era, hiking and using pack horses, dog teams, horse-drawn wagons and sleds, tractors, all-terrain vehicles (ATVs), snow machines and semi-trucks.

Even though most of the historic travel was during the winter, many sections of the Caro-Coldfoot and Coldfoot-Chandalar trails are visible as cleared stretches of trees and brush. Low-lying brush and tundra vegetation form the bed of most of the trail segments, which stand out against the surrounding landscape. The Coldfoot-Chandalar and Caro-Coldfoot trails are visible on the landscape in aerial photos from 1955 and the 1970s. In some places, there are multiple trail segments, which were summer and winter routes or diversions due to changing conditions. The use of tracked vehicles and all-terrain vehicles has, in some cases, enlarged trail width by the cutting, knocking down, or scraping of vegetation, during the last 50 years.

Several hundred people used the Caro-Coldfoot Trail from 1899 through 1906 to access the upper Koyukuk from Fort Yukon by way of the Chandalar River and over the pass to Coldfoot. The Caro-Coldfoot Trail served as the mail route between Fort Yukon and the upper Koyukuk. Miners from Coldfoot and Fort Yukon also used the trail during 1906-1908 to stake claims on the south side of the Chandalar River. The U.S. Army surveyed the trail in 1904 and the Alaska Road Commission (ARC) surveyed the route in 1909-1910. The ARC made improvements to the trail in 1924-1926, bringing it up to winter sled trail standards and constructing shelter cabins and aerial tram crossings of rivers with funds provided by the Territory. The route was a summer pack trail and winter dog sled trail during the 1910s and 1920s, but was lightly used after 1926. Prospectors and miners used the western end of the trail from the Middle Fork of the Koyukuk River to mine in the Slate Creek drainage from 1898 to1968. Coldfoot was the supply center and staging area for miners traveling the trail to Slate, Myrtle and Boulder creeks. The east end of the Caro-Coldfoot Trail was improved from 1906 to the 1930s to provide access to the Caro-Big Creek Trail. Miners accessing the area from the Yukon River took the Beaver-Caro wagon road north, traveled the eastern portion of the Caro-Coldfoot Trail to the mouth of Big Creek, then took the Big Creek Trail north. Several miners driving tractors used this eastern-most section of the Caro-Coldfoot Trail in the 1940s and 1950s.

Several hundred people used the Coldfoot-Chandalar Trail during the rush from the Koyukuk to the Chandalar in 1906-1908. After that, use of the trail declined. The primary route to the Chandalar during 1908-1909 was up the Chandalar River from Fort Yukon. Miners used poling boats

to carry their equipment and supplies up the Chandalar River as far as it was navigable, then packed or sledded supplies up river to their claims. In 1909, the ARC began building a trail from Beaver on the Yukon to Caro. Miners and freighters used this trail, then used summer pack and winter sled trails up Big and Flat creeks to get to their claims. The ARC made significant improvements to the Beaver-Caro route between 1909 to 1933, and continued to perform maintenance on the route through 1939. The route served as the primary overland route to the Chandalar from1910 to 1940, and the first tractor reached the Chandalar by that route in 1923. The ARC maintained the western portion of the Coldfoot-Chandalar Trail, which overlaps the western portion of the Caro-Coldfoot Trail, through 1925. Miners used the Coldfoot-Chandalar Trail infrequently after 1910.

The introduction of aircraft changed how miners and their supplies traveled to the Slate Creek drainage and the Chandalar. The ARC suspended maintenance of remote trails with the onset of World War II and changed its priority from linking communities and mining camps to rail and river landings, to building and improving highways and feeder roads that linked population centers with military installations. The ARC listed remote trails on its inventories, but stopped maintaining them. Miners continued to use the far western end of the Coldfoot-Chandalar Trail during the postwar years to access the Slate Creek drainage. Most miners and geologists traveled and transported their light-weight supplies by aircraft. After 1959, the State of Alaska selected lands, many with mineral potential in remote areas, based on the assumption that those lands would be accessible by historic trails. The Legislature started a pioneer roads program in the 1960s and the Department of Highways created an inventory of trails in the early 1970s, which included the Coldfoot-Chandalar and Caro-Coldfoot routes. It was not until the mid-1970s, when the Haul Road was completed, that it became economically viable for miners to use the Coldfoot-Chandalar and Caro-Chandalar trails again.

The Coldfoot-Chandalar and Caro-Coldfoot trails are typical of remote mining trails in Alaska located in rough terrain and used primarily in the winter. The routes changed periodically, depending on the time of year and impacts from glaciation, floods, and mining activity in flood plains. The miners created the trails as foot paths and dog sled trails. The federal government improved the trails and did periodic maintenance starting in 1909 and ending in the 1930s. After that, miners maintained the trails that were their overland supply lines. Physical evidence of the trails, including ruts, cat tracks and distinctive changes in vegetation, remain along portions of the trails that were not completely covered with snow when used.

While the character, quality, and location of the routes have changed over time, there has been a pattern of intermittent use of the Caro-Coldfoot Trail from 1898 and the Coldfoot-Chandalar Trail from 1904 through the 1930s. Intensive use occurred during the gold rush, but traffic diminished through the 1930s as mining declined and other routes, including air transport, were developed. About 400-500 people used the western portion of the Coldfoot-Chandalar and Caro-Coldfoot trails to access the Slate Creek drainage from Coldfoot. About 300 people used the Coldfoot-Chandalar Trail from 1904 to 1939 to get to the Chandalar. The trails were seldom used in the post-war era until completion of the Haul Road provided a direct link to Alaska's road system. After 1974, miners, freight carriers and cabin owners have used the Coldfoot-Chandalar Trail to transport equipment and supplies. The Caro-Coldfoot Trail was also used to haul equipment between Coldfoot, Arctic Village and Venetie.

TABLE OF CONTENTS

TABLE OF FIGURES

TABLE OF TABLES

I. INTRODUCTION

[Project location] The Caro-Coldfoot (RST-262) and Coldfoot-Chandalar (RST-9) trails are located in the highlands on the south side of the Brooks Range, in the northeast corner of the Koyukuk Mining District and the southwest corner of the Chandalar Mining District. Historically, these trails have been two of the four primary access routes to the Koyukuk and Chandalar mining districts.[1] The trails are situated in the Kokrine-Hodzana Highlands of the Yukon Region, straddling the east end of the Koyukuk Subregion and the far western end of the Upper Yukon Subregion. The area traversed by the trails (Figure 1) is shown on U.S. Geological Survey quad maps Chandalar A-3, A-6, B-3, B-5, B-6, and Wiseman A-1 and B-1. The trails are located in a remote area about 170 air miles north-northwest of Fairbanks. The Caro-Coldfoot and Coldfoot-Chandalar trails are bounded on the west by the Dalton Highway, on the north by the higher reaches of the Brooks Range, and on south and east by foothills descending to the Yukon River. Both trails span the divide separating the upper Koyukuk and Chandalar drainages. The Coldfoot-Chandalar and Caro-Coldfoot trails start at the old mining camp of Coldfoot, located at Mile 175 of the Dalton Highway, and extend east along the same route until Horse Creek. At that point, the Coldfoot-Chandalar Trail turns north and follows the North Fork of the Chandalar River to the airstrip at the eastern shore of Chandalar Lake. The Caro-Coldfoot Trail extends southeast from Horse Creek along the north side of the North Fork of the Chandalar River to the old mining camp of Caro at the confluence of the Chandalar River and Flat Creek. The area where the two trails are located is characterized by highlands and moderately wide valleys.

[Defining trails] Historic trails are pathways and roads used over time and verified by historic research and field investigation. A historic trail is a well-defined route, combining a variety of uses, by different means of conveyance, for different purposes through historic time.[2] The term trail, as used in this study, refers to trails and roads that have included foot travel, mule, horse and dog drawn transport, and motorized traffic. During the last century, Alaskan miners have been dependent on trails to get their supplies and equipment to remote mining sites and camps. Mining was not possible if they could not get equipment and supplies to their mining claims and camps.

[Miners built the first trails] Prospectors and miners built the first trails in Alaskan mining districts, and they had to maintain and improve them over the years as changes in mining methods

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[1] The name "Chandalar" references many different geographical locations in this area. The name references the Chandalar River, Chandalar Lake, the Chandalar Mining District. In addition, three separate settlement sites have been referenced by the name "Chandalar:" The existing settlement on the eastern shore of the lake is called Chandalar, but the mining camp near the Little Squaw Creek (northeast of the lake) was referred to as "Chandalar" as late as 1927 when the Territorial Board of Road Commissioners cooperated with local miners in establishing a landing field near the mining camp. The airfield at Chandalar Lake, which is the terminus of the Coldfoot-Chandalar Trail, was built at a later date. The third settlement to bear the name Chandalar was a short lived community twenty miles down river from Caro, where the Northern Commercial Company established a store soon after the gold rush to the Little Squaw and Tobin creek area.

[2] Hugh Davidson,"Historic Resources of the Bozeman Trail in Wyoming," National Register Multiple Property Nomination, (Cheyenne: Wyoming State Historic Preservation Office, 1989), p. F-1.

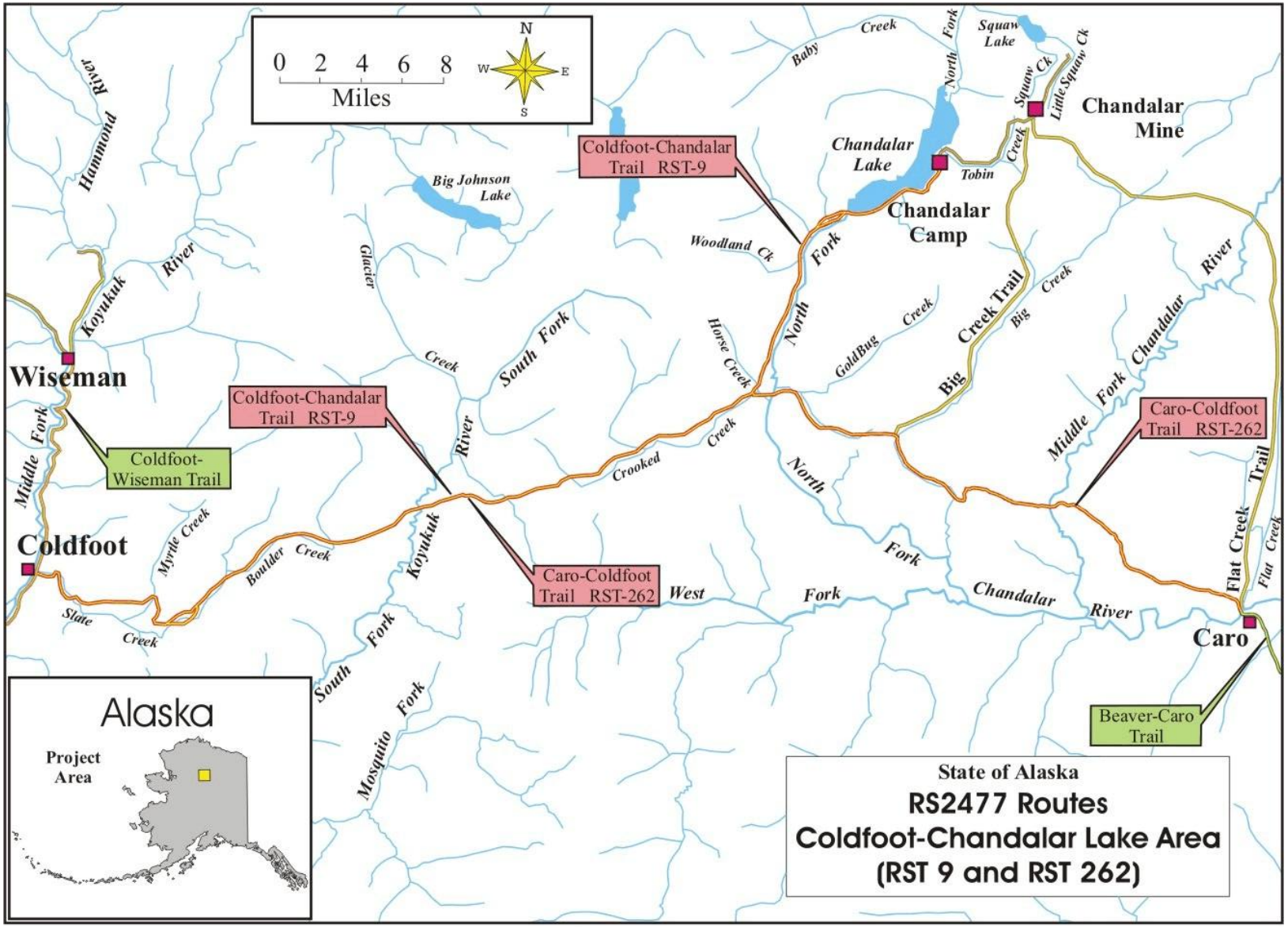

Figure 1. Map showing the location of the Coldfoot-Chandalar (RST 9) and Caro-Coldfoot (RST 262) trails in the upper Koyukuk-Chandalar Lake area.

and technology required the use of heavier equipment to extract minerals. Prospectors and miners usually built trails and roads along benches, the bottom lands of creeks, on gravel bars, and on tailing piles, because those features provided the best footing and the fewest obstacles to travel on foot, pack horses, sleds, wagons and, later, motorized vehicles. The better the trail, the lower the cost of supply, which was extremely high in remote areas such as the Koyukuk and Chandalar mining districts. Miners often worked together to build, improve and maintain trails. They pooled resources to minimize the expense of transportation, which could double or triple the cost of supplies and equipment to remote areas. In a few districts, such as Rampart, mining district rules required miners to build and maintain trails across their claims for the benefit of all miners.[3] After 1905, federal and territorial agencies in Alaska began to improve trails and roads that linked supply centers along navigable rivers and rail lines with gold fields on remote creeks. Government assistance was limited for many years, however, to improving main or trunk roads. In the 1930s, the Alaska Road Commission (ARC) took over maintenance of some local mining trails and roads. But when government agencies ran short of funds, miners often chipped in to keep the roads open.[4] Historically, responsibility for construction and maintenance of trails from the trunk roads to remote mining operations on the creeks rested primarily with the miners.

[Dynamic nature of mining trails] Mining trails in Alaska often underwent periodic change due to environmental conditions. Alaska's rugged terrain imposed severe limitations on where trails could be built. Benches and creek bottoms provided the best access for miners who often were confronted with crossing boggy tundra and mountains with steep side slopes. Creek bottoms provided the easiest access, but were fraught with obstacles and changing conditions. Trails located in creek bottoms were subject to seasonal flooding, glaciation (build up of ice during winter periods of thaw and freeze), and avalanches. These natural changes could wreak havoc on routes that crossed or ran through narrow river and creek bottom lands. Mining activity in the alluvial gravel deposits also destroyed road beds or caused changes in creek flows that undercut or destroyed trails and road beds down stream, forcing miners to relocate access routes. For Alaskan miners, including those with claims accessed by the Caro-Coldfoot and Coldfoot-Chandalar trails, maintaining trails was an annual task, given the changes caused by flooding and glaciation.

[Summer versus winter trails] Miners often followed different routes along a trail, depending on the seasons and whether a given season was wet or dry. These routes could be several yards to hundreds of yards apart. Seasonal high water, flood episodes, glaciation and avalanches forced miners to find alternatives to difficult stream crossings. As a result, branches of a trail developed at different times on the same benches or valley floors. Miners would use a branch for a

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[3] Rosalie E. L'Ecuyer, *Prospecting and Mining Activity in the Rampart, Manley Hot Springs and Fort Gibbon Mining Districts of Alaska, 1894 to the Present*. BLM-Alaska Open File Report 61 (Anchorage: U.S. Department of the Interior, Bureau of Land Management, Alaska State Office, 1997), pp. 11, 29. There was no such rule in the Koyukuk and Chandalar districts.

[4] For an example of miners helping out when government funds ran out on the Seward Peninsula, see Alaska Road Commission (ARC), *Report of Operations for the Season of 1913 (of the Board of Road Commissioners for Alaska)*. (Washington, D.C.: U.S. Government Printing Office,1914), pp. 28-29.

period of time, then use an alternative branch as conditions on the creek changed.[5] Overflow from glaciation and flash floods in narrow creek bottoms posed serious threats to the freighting of supplies and heavy equipment during the spring and summer months in narrow creek bottoms. Winter routes often differed from summer trails, which had to go around soft tundra and fast flowing creeks. Transporting supplies was easier in the winter, when frozen ground and relatively flat frozen creek beds made it possible to sled heavy loads to mining camps on the creeks (Figure 2). Rivers and creeks served well as freight trails during the winter and were used extensively by miners.[6]

[Mining operations and trails] Miners often built roads in the creek and stream bottoms because that was the most convenient place to put them. Trails through stream beds, gravel bars and tailing piles were unsatisfactory for heavy loads in the summer, but gravel bars afforded fairly good footing compared to the soggy tundra next to the creek bed. Portions of trails were periodically

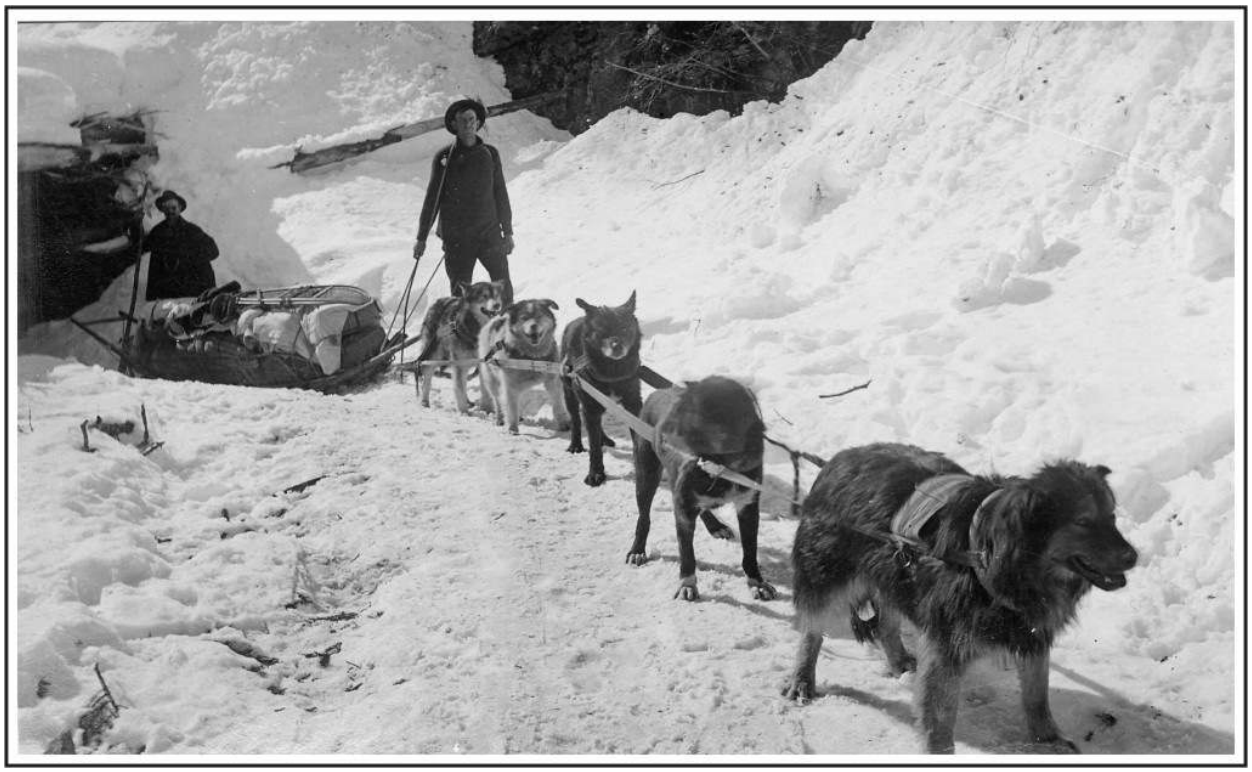

Figure 2. Two men and a dog sled team hauling freight to their mining camp, 1900s. Photo courtesy of the Bridge Design Section, Alaska Department of Transportation and Public Facilities (ADOT&PF), Juneau.

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[5] U.S. Department of the Interior, National Park Service, *Sante Fe National Historic Trail: Comprehensive Management and Use Plan*. (Denver Service Center, May 1990), p. 14.

[6] Jon M. Nielson, "The Fortymile Country and Upper Yukon Valley: An Assessment of Known Historic and Cultural Resource Values," (Fort Wainwright, Alaska: U.S. Department of the Interior, Bureau of Land Management, Fairbanks District Office, 1978), p. 63.

destroyed by mining operations or flooding.[7] Miners often had to relocate sections of trails and roads because the routes interfered with mining operations. Wherever convenient, they rebuilt trails and roads along hillsides and out of the creek bottoms to avoid mining activities and periodic flooding (Figure 3). The preponderance of trails through creeks prompted one mining engineer in Alaska to note during 1908 that "the road is in the river, and the river is in the road, making it immaterial whether it be labeled a water-way or a trail."[8] Early trail and road building in remote mining districts was time consuming and backbreaking work, because most of the improvements were done with hand tools. Later advances in technology, including the introduction of horse-drawn scrapers, gas and diesel powered tractors and other improved road building equipment, facilitated the relocation of trails to higher ground and away from mining sites. For all of these reasons, it is not uncommon today to find multiple trail segments in a remote area associated with the same trail.

[Caro-Coldfoot and Coldfoot-Chandalar trails are typical mining trails] All of the elements characteristic of building and maintaining Alaskan mining trails are associated with the

Figure 3. A horse-drawn freight wagon climbing a hill on an unidentified rough trail, 1910s. ARC Photo Collection, PCA-61-6-61, Alaska Historical Library, Juneau.

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[7] For an example of a mining trail on the Seward Peninsula, see Rolfe G. Buzzell and Douglas Gibson, *Nome-Council Road: Cultural Resources Survey Along Mile 32 to Mile 42, Seward Peninsula, Alaska*, Public Data File 86-4, (Anchorage: Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, 1986), p. 38.

[8] Thomas A. Rickard, *Through the Yukon and Alaska*. (San Francisco: Mining and Scientific Press, 1909), pp. 363-366.

Caro-Coldfoot and Coldfoot Chandalar trails. Both routes cross tundra on benches or uplands, but some sections of the trails lie in narrow flood plains. The bottom land sections of the routes have been heavily impacted by glaciation from winter thaws, seasonal floods, and mining activity in a few areas. Miners frequently had to reconstruct and realign trail segments in order to restore the route after spring flooding. Miners used the routes in both summer and winter to haul equipment and supplies to their prospecting and mining sites. Hunters and trappers have also used the routes. Travelers used the routes to reach destinations located along the trails. Some traveled the full length of the routes to get to mining sites beyond the end of these two trails, such as the Little Squaw mining claims north of Chandalar Lake.

[Short Historic Summary] The Caro-Coldfoot and Coldfoot Chandalar trails are long-established and well-used trails. The two trails developed as part of a network of trails that miners used to access mining claims on creeks tributary to the Middle and North Forks of the Koyukuk River and the North Fork of the Chandalar River. The trail network was tied to river transport, connecting supply centers in Seattle, Juneau, and Fairbanks with remote mining camps. Steamboats and shallow draft boats poled up shallow rivers carried miners and their supplies to the trail heads. The overland trails served as access and freight routes that supported mining in the upper Koyukuk and Chandalar districts. In 1898, miners rushing from the upper Koyukuk created a trail (the western portion of the Coldfoot-Chandalar Trail) extending east from Coldfoot along Slate Creek to the new diggings on Myrtle, Slate and Boulder creeks. Within a year, Coldfoot became the primary mining camp of the upper Koyukuk. In 1905, Thomas Carter, and Frank and Nevelo Yasuda discovered gold along Little Squaw Creek northeast of Chandalar Lake. Prospectors and miners from the upper Koyukuk rushed to Little Squaw, Tobin and Big creeks, which initially comprised the core of the Chandalar mining district. This rush of miners followed the Coldfoot-Chandalar Trail in 1905 to reach the diggings discovered along northeast of Chandalar Lake. Frank Yasuda established a supply depot at Beaver on the Yukon River and developed an overland trail up the Chandalar River and its North Fork to Chandalar Lake. Prospectors discovered gold on other creeks in the Kokrine-Hodzana highlands, but the mining in the Slate Creek and Myrtle Creek areas and in the hills northeast of Lake Chandalar had the greatest influence on the development of the Caro-Coldfoot and Coldfoot-Chandalar trails.[9]

[Historic Summary Continued] Miners established a camp at Caro in 1906. Located at the confluence of Flat Creek and the Chandalar River, Caro became a way station between Beaver and the placer and lode mines to the north.[10] The ARC improved the trail from Beaver north to Caro between 1910 and 1924. Three trails extended from Caro: The Flat Creek Trail and another trail that paralleled the Middle Fork of the Chandalar River led to the mines near Little Squaw, while the Big Creek Trail roughly paralleled the West Fork of the Chandalar River before turning north and extending up Big Creek. Of the three trails, the Flat Creek Trail was the most traveled in the early

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[9] J.B. Mertie, "Geology and Gold Placers of the Chandalar District," in *Mineral Resources of Alaska; Report on Progress of Investigations in 1923*, by A.H. Brooks and others." USGS Bulletin 773 (Washington, D.C.: U.S. Government Printing Office: 1923), p.220, 253-262.

[10] Donald Orth, *Dictionary of Alaska Place Names.* U.S. Geological Survey Professional Paper 567. (Washing-ton, D.C.: U.S. Government Printing Office, 1967), p.188.

period. The ARC improved the Flat Creek Trail from a mining trail to a sled road in the 1920s. Miners moved over a 100 tons of freight over this route in a single season. The Big Creek Trail led to mines along Big Creek. The first 23 miles of the Big Creek Trail eventually became the eastern portion of the Caro-Coldfoot Trail. The ARC improved the route from Caro to the diggings along Big Creek, and eventually from Big Creek to Horse Creek and on to Coldfoot. These trails served as access routes and developed to support mining activities in the upper Koyukuk and Chandalar mining districts.

[Focus of the Report] The following study describes the establishment, construction, maintenance, and use of the Caro-Coldfoot and Coldfoot-Chandalar trails from 1898 to the present. The trails were typical of mining roads in Alaska, initially built and maintained by miners and improved and maintained during various time periods by the ARC. The trails changed over time due to seasonal use patterns, glaciation, flooding and mining activities. Changes in mining technology from hand-mining to heavier, mechanized equipment, the introduction of motorized vehicles, changes in road building technology, and the development of a road system after discovery of oil on the North Slope contributed to the development and changing usage of the Caro-Coldfoot and Coldfoot-Chandalar trails during the twentieth century.

II. MINERS DISCOVER GOLD AND BUILD THE FIRST TRAILS, 1898-1906

[Location of Mining Areas] The creation and development of the Caro-Coldfoot and Coldfoot-Chandalar trails arose out of mining in two areas in the Koyukuk and Upper Yukon subregions of the Yukon River drainage. The first encompasses the western section of the trail between Coldfoot and the gold-bearing streams to the east in the Slate Creek drainage. This section of the trail was the first to be heavily used by miners and prospectors following gold discoveries along the Middle Fork of the Koyukuk. The second mining area lies northeast of Chandalar Lake. In the early 1900s, the Little Squaw, Tobin and Big Creek mines comprised the core of the Chandalar Mining District. Subsequent localized mining areas developed after these two core locations, but the two mining centers along the creeks just east of Coldfoot and the hills northeast of Chandalar Lake had the greatest influence on the location and development of these two trails.[11]

[Early Exploration] The Koyukuk and Chandalar river drainages are among the most remote in interior Alaska, and the first explorations occurred relatively late compared to other parts of Alaska. During the summer of 1885, Lieutenant Henry T. Allen and another U.S. Army soldier traversed up the Koyukuk River and produced the first map of the area.[12] During the winter of 1885-1886, another party commanded by Lieutenant George M. Stoney of the U.S. Navy crossed the headwaters of the Kobuk River to the Alatna River in the northwest corner of what would later become the Koyukuk mining district. Stoney's party ascended the Alatna River and crossed the Brooks Range to Chandler [Chandalar] Lake.[13] Little documented exploration followed until the Klondike gold discovery in 1896 brought a rush of prospectors into the interior of Alaska, including the Koyukuk drainage.[14]

[Initial Rush] A series of gold rushes in the late 1890s in the interior of Alaska brought the first miners and freighters in large numbers to some of the most remote regions of the territory. The first gold discoveries on the Koyukuk River occurred between 1885 and 1890 when half a dozen prospectors made minor discoveries on the gravel bars at Hughes, Florence and Tramway Bars. Prospectors, including John Bremner, mined about $4,000 in gold from these bars.[15] Miners did not

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[11] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 220, 253, 262.

[12] Henry T. Allen, *An Expedition to the Copper, Tanana, and Koyukuk Rivers in 1885*. (Anchorage: Alaska North-west Publishing Company, 1985), pp. 77-86.

[13] G. M. Stoney, *Naval Exploration in Alaska*. (Annapolis: U.S. Naval Institute, 1900), pp. 572 -576.

[14] Joseph M. Kurtak, Robert F. Klienforth, John M. Clark and Earle M. Williams, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*. BLM-Alaska Open File Report 74, (Anchorage: U.S. Department of the Interior, Bureau of Land Management, 1999), p. 8.

[15] Frank C. Schrader, *A Reconnaissance in Northern Alaska Across the Rocky Mountains, Along Koyukuk, John, Anaktuvuk, and Colville Rivers, and the Arctic Coast to Cape Lisburne, in 1901*, USGS Professional Report 20 (Washington, D.C.: Government Printing Office, 1904), p. 98; A.G. Madden, "The Koyukuk-Chandalar Gold Region," in Alfred H. Brooks, *Mineral Resources of Alaska: Report on Progress of Investigations in 1909.* USGS

pay much attention to this area until the Klondike Gold Rush of 1897 brought thousands of stampeders to the interior of Alaska. Beginning in 1898, stampeders disenchanted with the Klondike in Canada worked their way down the Yukon River and began prospecting its tributaries, including the Koyukuk River.[16] About 1,200 miners followed a series of discoveries up the Koyukuk River north of Tramway Bar and wintered along the Middle Fork.[17] The majority of these would-be miners became discouraged and fled the area once the spring break-up in 1899 freed their boats. The harsh winter combined with minimal returns drove out ninety percent of the gold rushers. About 100 of the hardier fortune seekers remained, prospecting the tributaries of the Middle Fork.

[Discoveries on Myrtle Creek] The 1898 rush up the Koyukuk led to the first major discovery in the district when members of the "Dorothy Party" (also known as the "Dorothy Boys") from Boston, Massachusetts, discovered coarse gold in paying quantities during March 1899 at the confluence of Slate and Myrtle creeks and about two and a half miles up Myrtle Creek.[18] Slate Creek is an east side tributary of the Middle Fork of the Koyukuk, about 16 miles above Tramway Bar. Their discovery initiated 100 years of nearly continuous prospecting and mining on Slate Creek.[19] The Dorothy boys reportedly sunk 24 holes to bedrock with an average depth of 6-7 feet before making their big strike.[20] In the meantime, Knute Ellingson prospected in 1899 on Myrtle Creek, a small tributary of Slate Creek. Ellingson and several partners on Myrtle Creek made the first "real money" on the Koyukuk.[21] The early miners on Slate and Myrtle creeks used hand-mining methods such as picks, shovels and sluice boxes (Figure 4). By 1900, Myrtle Creek had become the chief gold producing creek in the Koyukuk.[22] After the Myrtle Creek miners produced 1,900 ounces of gold in 1900, news of their find and other discoveries on nearby Emma and Slate creeks sparked

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Bulletin 442 (Washington, D.C.: Government Printing Office, 1910), p. 297.

[16] Ibid., p. 8.

[17] F. C. Schrader, *A Reconnaissance in Northern Alaska* (1904), p. 30.

[18] F.C. Schrader, "Preliminary Report on a Reconnaissance along the Chandlar and Koyukuk Rivers, Alaska, in 1899," in Twenty-First Annual Report of the United States Geological Survey to the Secretary of the Interior, 1899-1900, Part II (Washington, D.C.: Government Printing Office, 1900), pp. 483-485.

[19] Joseph M. Kurtak, Robert F. Klieforth, John M. Clark and Elizabeth A. Maclean, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, Volume I, BLM-Alaska Technical Report 50 (Anchorage: U.S. Department of the Interior, Bureau of Land Management, 2002), C-190.

[20] Gary Ingman, *Journey to the Koyukuk: The Photos of J.N. Wyman, 1898-1899* (Missoula, Montana: Pictorial Histories Publishing Company, 1988), p.66.

[21] Robert Marshall, *Arctic Village* (New York: Harrison Smith and Robert Haas, 1933), p. 31.

[22] Hudson Stuck, *Ten Thousand Miles with a Dog Sled: A Narrative of Winter Travel in Interior Alaska* (originally published in 1914; reprinted by Prescott, Arizona: Wolf Publishing Company, 1988), p. 47.

Figure 4. Two prospectors panning for gold on Myrtle Creek in 1899.
F.C. Schrader photo 402, U.S. Geological Survey, Denver, Colorado.

another rush of about 1,000 fortune seekers up the Koyukuk River and its tributaries. [23]

[Native trails in the area] The interior Athabaskans that lived in the middle and upper Yukon Region in the nineteenth century utilized a series of trails that they had developed long before the gold rush era. About 100 Natives were scattered in small villages in the Koyukuk drainage, and about half that number lived in villages along the Chandalar River.[24] The Athabaskans used trails primarily for their seasonal subsistence rounds and to travel to neighboring areas for trade. The trails were often linked to river travel and included portages where possible.[25]

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[23] A.G. Maddren, *The Koyukuk-Chandalar Region, Alaska*, USGS Bulletin 532 (Washington, D.C.: Government Printing Office, 1913), 29.

[24] Schrader, *A Reconnaissance in Northern Alaska* (1904), p. 33.

[25] Schrader, "Preliminary Report on a Reconnaissance along the Chandalar and Koyukuk Rivers," pp. 453-455.

[Early Routes to Koyukuk Mines] The stampeders who rushed up the Koyukuk River in 1898 and 1899 traveled on 50 shallow draft steam boats that hauled their equipment and supplies up the Yukon and Koyukuk rivers to Bergman, located about 450 miles above the mouth of the Koyukuk River and near the Arctic Circle. Beyond Bergman, the extent of steamboat navigation, the Koyukuk was often too shallow for steam powered vessels. At high water in spring and fall steamboats could sometimes get as far as Bettles.[26] Wherever the steamboats landed, the miners, who were often organized into mining companies, founded their own "towns" where they spent the winter. The stampeders named their camps Beaver City, Arctic City, New Arctic City, Bergman, Peavey, Union city, Seaforth, Soo City and Jimtown. These "cities" were mostly clearings along the river bank with a few crude log cabins and tents. Almost all were abandoned in less than a year.[27] The prospectors continued up the Middle Fork of the Koyukuk River, hauling supplies upstream in horse-drawn scows and shallow draft, man-powered poling boats into the foothills south of the Brooks Range. Some prospectors walked along the river carrying their supplies on their backs or hauled them during winter in sleds.[28] At the point where river travel was no longer feasible, the gold rushers set up supply camps at places such as Coldfoot and Wiseman. The price of hauling freight the 65 miles from Bettles to Coldfoot almost matched the price of freight from Seattle to Bettles. From the river supply camps, the prospectors and miners created trails in 1898 to their mining claims. These routes served as extensions of the river-based transportation system. The early trails ran parallel to and forded creeks, and crossed mountain passes and portages between drainages. The first prospectors carried their supplies on their backs. After they located mining claims, miners and freighters used pack horses in summer and dog sleds and horse drawn double-ender sleighs in winter to haul supplies overland to the mining areas. Horses were used during summers both for packing and working in the mines, but the heavy snowfall often rendered the horse unfit for winter use.[29]

[Trail up Slate Creek] Slate Creek is the largest eastern tributary of the Middle Fork. The first prospectors in the Slate Creek drainage created a trail from the supply camp initially known as the town of Slate Creek (later renamed Coldfoot), at the confluence of Slate Creek and the Koyukuk River, that extended up Slate Creek to a tributary called Myrtle Creek. After gold was discovered, hundreds of stampeders who rushed from the upper Koyukuk to the Slate Creek drainage used this trail to access the new diggings on Slate, Myrtle and Boulder creeks. This route, which extended 10-12 miles east from Coldfoot, is the western portion of what later became known as the Coldfoot-Chandalar Trail. Within a year, the camp at Coldfoot became the local supply center for mining operations in the upper Koyukuk drainage. The camp got its name when some gold seekers

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[26] Ingman, *Journey to the Koyukuk*, pp. 28-29; Schrader, *A Reconnaissance in Northern Alaska*, p. 34.

[27] Terrence Cole, "Early Explorers and Prospectors on the Koyukuk," in *Koyukuk*, Alaska Geographics, Volume 10, No. 4 (Anchorage: The Alaska Geographic Society, 1983), p. 31.

[28] Maddren, "The Koyukuk-Chandalar Gold Region," p. 298; *Seattle Post Intelligence*, March 1, 1907.

[29] Schrader, *A Reconnaissance in Northern Alaska*, p. 34.

reportedly got "cold feet" and turned around at that point on the Koyukuk River.[30] Gold discoveries further up the Koyukuk River, on the Hammond River in 1900 and on Nolan Creek in 1901, led to the establishment of Wiseman, 11 miles north of Coldfoot. Since the 1899-1900 rush to Slate Creek, the Coldfoot-Chandalar Lake Trail has been used by prospectors, miners, postmasters, freight runners, missionaries and others to access the upper Koyukuk and Chandalar drainage.

[Early Access To Slate Creek from the Chandalar] The Caro-Coldfoot Trail began as one of several routes to the upper Koyukuk during the 1899 rush to the Slate Creek area.[31] The majority of the early miners traveled to Slate and Myrtle creeks by way of the Koyukuk River to Coldfoot. Other miners, as early as 1899, traveled from Fort Yukon up the Chandalar drainage, west over a low divide, across the South Fork of the Koyukuk to Myrtle and Slate creeks.[32] The western end of this route, from about 50 miles above the mouth of the Chandalar River, later became known as the Caro-Coldfoot Trail. Geologist Frank Schrader, who visited the area in 1899, mis-identified the West Fork of the Chandalar as Granite Creek and Crooked Creek as the West Fork of the Chandalar. The Crooked Creek portage is part of the Caro-Coldfoot Trail. In his report, Schrader described several routes that connected the Chandalar and Koyukuk drainages, but noted that only a "few prospectors" coming from Fort Yukon utilized what would later be known as the Caro-Coldfoot Trail to reach the Upper Koyukuk.[33] Schrader also described another early route that followed the Dall River upstream from the Yukon River near Fort Hamlin, crossed the divide to the South Fork of the Koyukuk, and then traversed the South Fork headwaters to Slate Creek and Coldfoot.[34] The end of this trail coincides with the western portion of the Caro-Coldfoot Trail. A.E. Carr, who owned a store in Fort Yukon, began twice monthly mail service in 1902 over the Chandalar route between Fort Yukon and Coldfoot. After making 24 trips, he characterized this route in 1904 as difficult in the winter and impractical in the summer as it was unsuitable as a pack trail.[35] The Caro-Coldfoot part of this route underwent improvements following the discovery of gold in the Chandalar area in 1906. A short-lived settlement named "Chand[a]lar" was located at the head of navigation on the Chandalar River,

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[30] Marshall, *Arctic Village*, p. 39; Bureau of Outdoor Recreation, *The Iditarod Trail (Seward – Nome Route) and other Alaskan Gold Rush Trails.* (Department of the Interior, September 1977), pp. 141.

[31] Robin Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements: Evaluating process - Pattern Relationships*. (Ph.D. dissertation, University of Alaska Fairbanks, 1998), p. 18.

[32] Schrader, "Preliminary Report on a Reconnaissance along the Chandalar and Koyukuk Rivers," p. 455; Schrader, *A Reconnaissance in Northern Alaska*, p. 19.

[33] Schrader, "Preliminary Report on a Reconnaissance along the Chandlar and Koyukuk Rivers," pp. 455-456; and "Topographic Reconnaissance Map of Northern Alaska," USGS Professional Paper 20 (Washington, D.C.: Government Printing Office, 1901), Plate II.

[34] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 142.

[35] "Wagon Road from Valdez to Fort Egbert, Alaska and Military Trail between Yukon River and Coldfoot, Alaska," House of Representatives, Document No. 192, 58th Congress, 3d Session, referred to the Committee on Appropriations, January 5, 1905, p. 26.

40 miles below the site where the settlement of Caro was eventually started.[36]

[Early Mining on Slate Creek drainage] Initial mining on Myrtle and Slate creeks, as in the rest of the Koyukuk, was done in shallow gravels only a few feet thick. Miners in the early days worked the gravels mostly in the summer shoveling the pay dirt by hand into sluice boxes (Figure 5). They also tried burning holes in the frozen ground, sinking shafts down to bedrock (Figure 6) and digging drift tunnels to recover gold bearing gravels (drift mining) during the winter, but had only moderate success.[37] Placer tailings, campsites and mining equipment are still present along the lower 6 miles of the creek. By 1904, mining on the Slate Creek drainage was concentrated mostly on Myrtle Creek.[38] The diggings began about 9 miles above the mouth of Slate Creek, where Myrtle Creek enters Slate Creek from the north. Mining claims extended 5 to 6 miles up Myrtle Creek and considerably farther up Slate Creek. The miners established separate mining districts known as the Slate Creek and Myrtle Creek districts. Gold production in the shallow gravels on the two creeks

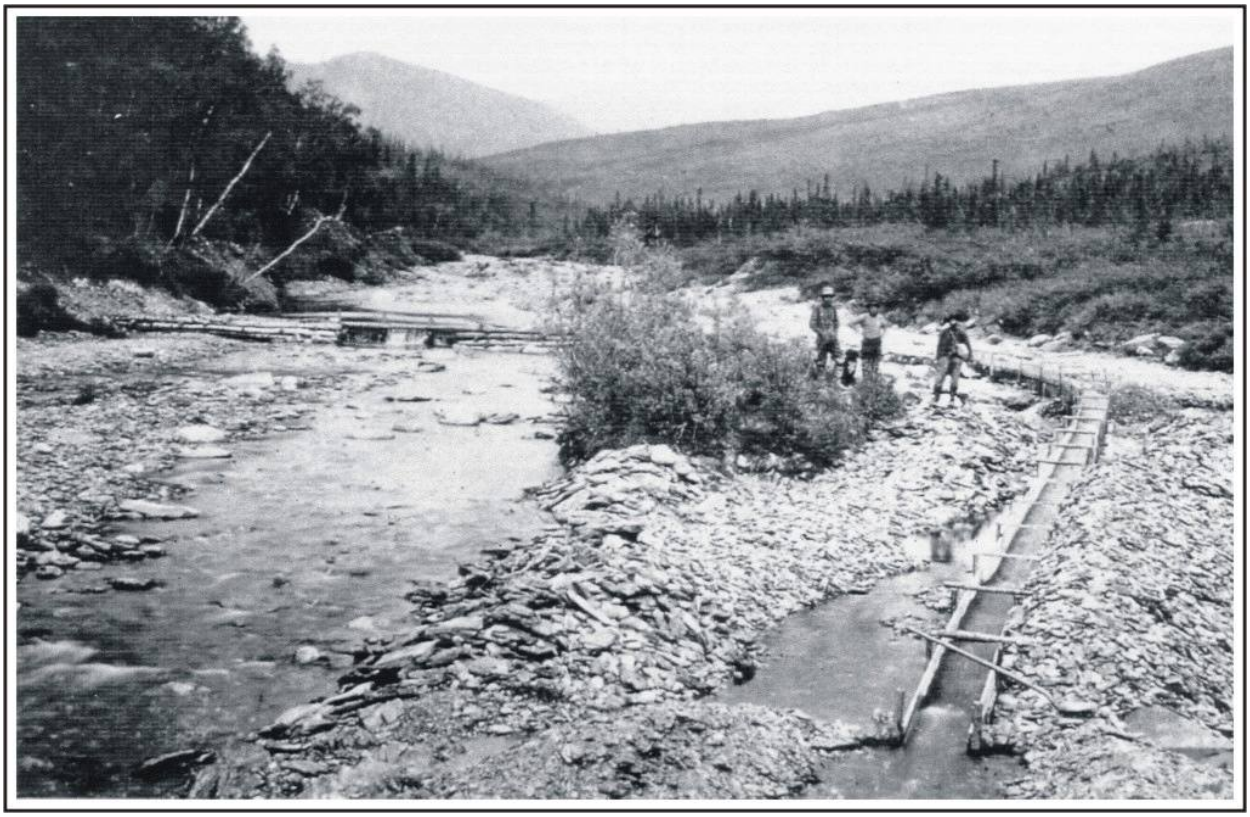

Figure 5. Placer mining on Myrtle Creek in 1899, the first major gold discovery in the Koyukuk Mining District. Photo by F.C. Schrader, U.S. Geological Survey, Denver, Colorado.

[36] Robin Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements,* p. 20.

[37] Schrader, *A Reconnaissance in Northern Alaska*, p. 101.

[38] Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, Volume I, C196; Schrader, *A Reconnaissance in Northern Alaska*, pp. 99-100.

yielded well in 1899 and 1900, but dropped in the following two years as those placers were worked out. Much richer discoveries were made on tributaries of the Hammond River farther to the north on the Middle Fork and on creeks tributary to the North Fork after 1900.[39] The center of mining in the Koyukuk area shifted from the Slate Creek drainage to the shallow placer deposits in the area north of Wiseman.

Figure 6. A drift mine windlass. Drawing from the University of Alaska Archives, Consortium Library, Anchorage.

[Most northern gold fields] The Koyukuk gold fields were the most northern mining camps in the world. About 200 non-Natives, mostly miners and prospectors, wintered in the upper Koyukuk during 1901-1902. In 1903-1904, there were about 350, most of whom were prospecting or doing development work on their claims. The U.S. Commissioner for the Koyukuk district was stationed at Slate Creek, near the center of the mining region. Judge D.A. Mackenzie, formerly of Seattle and one of the early prospectors in the Koyukuk, began serving as U.S. Commissioner in early 1901. Myrtle Creek produced $40,000 in gold in 1900, and $7,000 in gold in 1901. Slate Creek produced $1,000 in gold during 1900 and an unknown quantity the following year. Only $100,000 in gold was produced in the entire district, due largely to a dry summer. The combined yield of gold produced in the district through 1904 was $717,000.[40] Starting in 1905, Archbishop Hudson Stuck made annual treks by dog sled during the winter to minister to the miners in the Koyukuk district. He traveled by dog sled from creek to creek, gathering the men and occasional woman in whatever cabin was convenient to conduct religious services. Stuck visited the Koyukuk mining camps during the winter of 1905-1906 by dog sled and traveled over the Caro-Coldfoot Trail. "The remoteness and difficulty of the Koyukuk camp," he wrote, "engendered a feeling of comradeship amongst the miners not found, I think, in any other camp." He also noted that more whiskey was consumed per capita in the Koyukuk than anywhere in the world.[41]

[Discoveries in the Chandalar Lake area] In 1905, prospectors Thomas Carter and Frank Yasuda discovered gold on Little Squaw Creek, located northeast of Chandalar Lake. Carter had been directed to the area during a reconnaissance trip a year before by a Kobuk Eskimo who showed

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[39] Schrader, *A Reconnaissance in Northern Alaska*, pp. 99-100.

[40] Schrader, *A Reconnaissance in Northern Alaska*, pp. 34-35, 98, 102.

[41] Stuck, *Ten Thousand Miles with a Dog Sled*, pp. 48-49; Cole, "Early Explorers and Prospectors on the Koyukuk," p. 34.

Carter a small gold nugget found in the hills northeast of Chandalar Lake. While Carter and Yasuda were mining on Little Squaw Creek, Yasuda's Eskimo wife, Nevelo, and her daughter discovered lode deposits while picking berries nearby.[42] A year later, a larger gold discovery was made on Big Creek. Reports in 1906 of their discovery set off a rush of prospectors and miners from the upper Koyukuk to the creeks northeast of Chandalar Lake. Arthur Mitten, August L. Tobin and a fellow named Newton panned over three ounces of gold each in only two hours. News spread and as many as 300 people left from Fairbanks to the new strike. Two hundred men stampeded to the Chandalar in the early spring of 1906 from the Koyukuk. One of the first of the stampeders. Samuel J. Marsh, took out $27,000 in gold from three claims he had located. Judge James Wickersham created the Chandalar Mining District on August 15, 1906, and appointed Samuel J. March as the Commissioner and Recorder.[43] During the early years after the first discovery, placer mining on Little Squaw, Tobin and Big creeks comprised the core of the Chandalar mining district.[44] The influx of new miners, many of them from Nolan Creek,[45] created another focus of mining activity and a new series of trails.

[Coldfoot to Chandalar Trail] At the time of the first gold discoveries in the Chandalar, the area was unmarked by roads, trails or navigable rivers. Historian William Hunt characterized the Chandalar as "a tough country" that "needed tough men to exploit it." To reach Fairbanks, Nome, Iditarod and other Alaskan camps, even in the early days, was "a cakewalk compared to the travails of journeying to the Chandalar country."[46] Shortly after Carter discovered gold in the hills northeast of Chandalar Lake, a small group of prospectors from the Koyukuk District arrived in the Chandalar and discovered gold on Big Creek. The Koyukuk prospectors ran out of supplies, so they returned to Coldfoot over the Coldfoot-Chandalar Trail for supplies and to announce the gold strike in the Chandalar. According to Samuel J. Marsh, a small stampede of miners occurred over the Coldfoot-Chandalar Trail in 1906 to reach the new diggings. Stampeders also rushed to the new gold camp from Fort Yukon and Rampart and by December the five main creeks were staked from end to end.[47] One miner reported "a good trail" extended from Coldfoot to the Chandalar, with cabins all along the line. Some of the prospectors hauled small boilers from the Middle Fork of the Koyukuk up the trail

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[42] Irving McKay Reed, "Frank Yasuda, Pioneer in the Chandalar," *Alaska Sportsman*, June 1963, pp. 43-45.

[43] "This Month in Northern History," *Alaska Sportsman*, September 1969, pp. 18; "The New Strike on the Chandlar," *Alaska-Yukon Magazine,* Vol. 3, No. 1, March 1907, p. 63; *Seattle Post-Intelligencer* March 1, 1907. Eskil Anderson Collection, Box 10, Album – Letters and Clippings to Alaska Chandalar Mining Company, University of Alaska Fairbanks; William R. Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier 1870-1914* (New York: MacMillan Publishing Company, 1974), p. 237.

[44] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 220, 253-262.

[45] Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*, p. 9.

[46] Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier*, p. 233.

[47] Samuel J. Marsh, "Reports of Travel," undated reports, in Eskil Anderson Collection, Box 6, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska Fairbanks.

to prospect the creeks northeast of Chandalar Lake. Freight from Coldfoot to the new strike was shipped via dogsled on the trail to the new diggings, about sixty-five to seventy-five miles away.[48]

[Another Trail to Chandalar Lake] While Thomas Carter continued to mine on Little Squaw Creek, his partner Frank Yasuda established Beaver on the north bank of the Yukon River about 100 miles below Fort Yukon in 1905 as a trail head and staging point for freighting supplies from the Yukon River to the placer mines near Chandalar Lake. Yasuda established Caro as a camp and way station on the trail between Beaver and the placer mines farther north.[49] The main trail extended north from Beaver to Caro, located at the confluence of Flat Creek and the Chandalar River. From Caro, the trail extended north by several routes to the mines northeast of Chandalar Lake.

[Postal Routes and Trails, 1902-1906] The principal post office for the Koyukuk drainage was at Bettles, but mail was also distributed from Bergman and from Coldfoot, at the mouth of Slate Creek. A post office was established in Coldfoot in 1902, and by 1906 Mrs. Jessie M. Howard was responsible for sending prospectors correspondence back home.[50] One prospector, who sent a letter from Coldfoot over the trail to his cousin in Rampart, described the 1906 stampede to the Chandalar. "There is quite a number of newcomers in the section already and many more they report on the way," he wrote.

> But I think, myself, that the best trail would be from Tanana, as there is a trail which the mail carrier has to Bettles; also one to Coldfoot, and a good trail cut to the diggings from this point. The distance is about the same from Fairbanks via Tanana, Bettles and Coldfoot, the later route being the better one owing to the grub supplies, as a man can travel from Fairbanks to Tanana light and from there to Bettles light, and through to Coldfoot, where he can get his supplies, have them freighted or haul them himself the balance of the trip, about sixty or sixty-five miles, there being cabins up all along the line. Coming the other way they will have to take sufficient supplies to carry them to Circle, then to Fort Yukon; from there they have a haul of about 170 miles to take their provisions.[51]

The Caro-Coldfoot route was favored for mail delivery into Coldfoot from 1902 until 1906, when the Tozitna drainage route became the mail route.[52] Archdeacon Hudson Stuck traveled the "mail trail" in the winter of 1905-1906 from Fort Yukon overland to the Chandalar River, up the North Fork of that river and over several passes into the South Fork of the Koyukuk (Figure 7), and finally

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[48] "The New Strike in the Chand[a]lar," *Alaska -Yukon Magazine*, Volume 3, No. 1, March 1907, p. 63; *Seattle Post-Intelligencer*, March 1, 1907.

[49] The camp at Caro was named for Caro Kingsland Clum, daughter of the postmaster of Fairbanks in 1907. Orth, "Dictionary of Alaska Place Names," p. 188.

[50] Ora B. Dickerson, *120 Years of Alaska Postmasters: 1867-1987* (Scotts, Mich.: C.J. Cammarata, 1989), p. 27.

[51] "The New Strike on the Chandalar," *Alaska-Yukon Magazine*, Volume 3., No.1, March 1907, p. 63.

[52] Robin Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements*, p. 19.

Figure 7. Sunrise on the Chandalar-Koyukuk Portage, about 1906. The area shown is part of the winter trail that later became known as the Caro-Chandalar Trail. Photo from Hudson Stuck, *Ten Thousand Miles by Dog Sled* (1914), p. 36a.

down Slate Creek to Coldfoot. At the time, mail was delivered by dog sled from Fort Yukon on what is now the Caro-Coldfoot route to Coldfoot once a month.[53]

[Condition of Early Trails] By the end of the period of initial discovery and early mining development, miners had created and made some modest improvements to portions of what would later become known as the Caro-Coldfoot and Coldfoot-Chandalar trails. The trails were crude and used primarily in the winter to haul supplies. "The term 'trail' as used in Alaska," one U.S. Geological Survey geologist wrote in 1899, "refers more particularly to the passable condition of the country than to any foot-beaten path or well-worn line of travel. This is especially true of the Chandalar and Koyukuk region."[54] Between 1899 and 1906, the portion of the Caro-Coldfoot and Coldfoot-Chandalar routes that was most heavily used was the western portion along the active mining claims in the Slate Creek drainage east of Coldfoot encompassing claims on Slate, Myrtle and Boulder creeks. Stampeders developed the trail between Coldfoot and Chandalar during the rush to the new diggings at Little Squaw, Tobin and Big creeks. The high costs of hauling freight overland largely offset profits of early placer miners within the Chandalar region. Those high costs prevented

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[53] Stuck, *Ten Thousand Miles with a Dog Sled*, pp. 25-47.

[54] Schradar, "Preliminary Report on a Reconnaissance along the Chandalar and Koyukuk Rivers, " p. 453.

the introduction of large-scale placer mining in the remote Chandalar district during the early mining period.

[Traffic on the Caro-Coldfoot Trail] The earliest historic "mail route" to the upper Koyukuk mining camp extended from Fort Yukon, up the Chandalar River and over the Caro-Coldfoot Trail to Coldfoot.[55] The amount of traffic on early trails corresponded to the level of activity in a mining district during a given year and the physical development of the route as a trail or sled road. The first rush to the Koyukuk was over winter trails and occurred in February and March of 1900, following the reports of discoveries on Myrtle and Slate creeks. There are few direct references to these trails in the early historic records, so evidence of use and early development is derived primarily from first person published accounts and mining records, which document the location of claims and annual assessment work. The mining records indicate the minimum number of people each year who used the trails to access, stake and work their claims. Mining district rules at the time restricted miners to one claim per creek. The rules required miners to physically locate claims on the ground and file a written affidavit of assessment work done on the claims. The years 1898 to 1906 were the most intense in terms of filing mining claims on Slate Creek and its tributaries of Myrtle and Boulder creeks. Two hundred eighty-six new claims were filed during this period, with the heaviest concentration of activity occurring in 1904 and 1905 (Table 1). Miners filed the vast majority, 219 claims, on Slate Creek. They filed 63 claims on Myrtle Creek and four on Boulder Creek. Several hundred stampeders hiked up the frozen Middle Fork of the Koyukuk and then up the trail along Slate Creek to the new diggings. About 200 people used the two overland trails, one from Fort Yukon that followed the Chandalar River including the Caro-Coldfoot route and the other that struck north from Fort Hamlin, that came out on upper Slate Creek.

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1898	31	0	0	31
1899	44	0	0	44
1900	0	0	0	0
1901	13	22	0	35
1902	31	30	0	61
1903	1	19	0	20
1904	98	8	0	106
1905	55	12	0	67
1906	13	2	0	15
Total	286	93	0	379

Table 1. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1898-1906 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[55] Eskil Anderson, President of Little Squaw Gold Mining Company, Spokane, to Steve Trickett (Chief of Branch of Easement Identification, Bureau of Land Management, May 19, 1985, Eskil Anderson Collection, Box 6, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska, Fairbanks.

[Traffic on the Coldfoot-Chandalar Trail] Several hundred people rushed to the Chandalar after gold was discovered there in 1904. Claim filing activity peaked in the Chandalar Mining District during 1904-1906, when 506 new claims were filed, most of them during the 1906 rush (Table 2). New filings included 208 claims on Big Creek, 35 claims on the Big and Little Squaw creeks, 37 claims on Tobin Creek, 155 claims on the creeks of the Middle Fork of the Chandalar River, and 71 claims on the south side of the West Fork of the Chandalar. The majority of the stampeders, estimated at 200 or more, traveled to the Chandalar from the Koyukuk district by way of the Coldfoot-Chandalar Trail. A number of gold seekers used the Caro-Chandalar Trail to stake claims on the south side of the West Fork of the Chandalar River and claims on the Middle Fork of the Chandalar. Others followed the old summer and winter trail from Fort Yukon up the Chandalar River.[56] By 1906, a network of trails, including the Caro-Coldfoot and Coldfoot-Chandalar trails, had been established and were being used to provide access and supplies for the mines in the foothills on the south side of the Brooks Range (Figure 8).

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1904	63	0	0	63
1905	35	9	0	44
1906	408	9	0	417
Total	506	18	0	524

Table 2. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, and creeks on the Middle Fork and South Fork of the Chandalar River, 1904-1906 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[56] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 152.

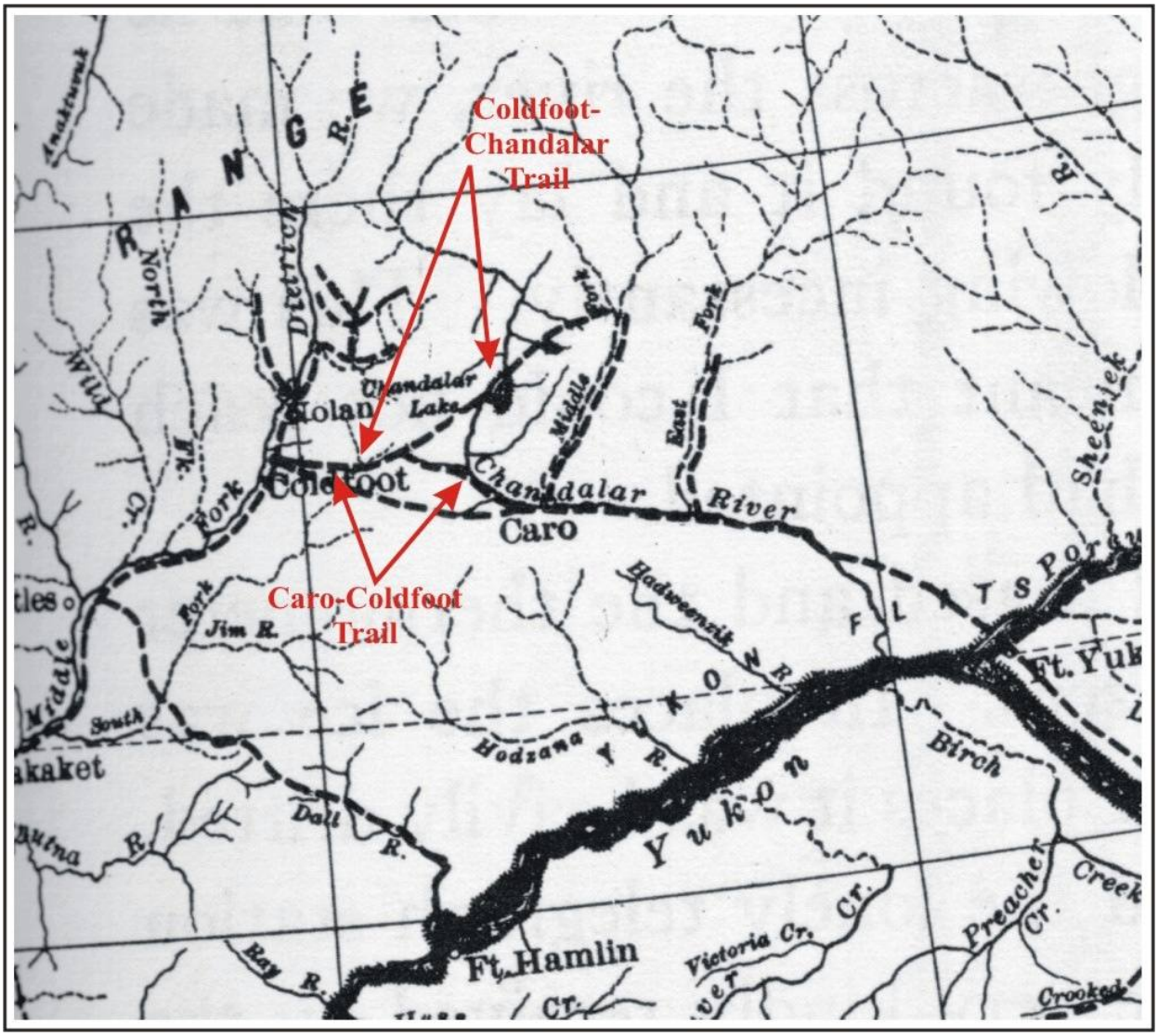

Figure 8. Map of middle portion of the Yukon River about 1906, showing journeys described by Hudson Stuck. Photo reproduced from Hudson Stuck, *Ten Thousand Miles by Dog Sled* (1914), p. 219a.

III. THE ALASKA ROAD COMMISSION ASSISTS WITH TRAILS, 1904-1914

[Introduction] While miners created the Coldfoot-Chandalar Trail and portions of the Caro-Coldfoot Trail, a federal road building agency was primarily responsible for improving these routes in the following decades. Miners, already encumbered by a short mining season and limited financial resources, lacked the means to make substantial trail improvements that could lower the cost of freighting supplies and equipment to their remote mines. The federal government stepped in and helped improve these trails, making it economically feasible to introduce larger-scale mining technology in some of the most remote areas of the Koyukuk and Chandalar mining districts.

[Mining Trends] By 1906, gold production from mines on the upper Middle Fork of the Koyukuk River, such as Hammond River and Nolan Creek, surpassed production on Slate Creek and its tributaries. Coldfoot, located 586 miles up the Middle Fork of the Koyukuk from the Yukon River, was the principal settlement in the Koyukuk from 1900 to 1907 and had a post office and the recording office for the district. As the center of mining activity shifted north, miners established a new settlement in 1908 at the mouth of Wiseman Creek, 16 miles up the Middle Fork from Coldfoot. Wiseman grew rapidly and by 1909 was the largest town in the district.[57] As Wiseman became the center of mining activities in the district and mining decreased on Slate Creek, Coldfoot was eventually abandoned.[58] The non-Native population in the Koyukuk was about 200 in 1901-1902, rose to 350 in 1903-1904, and averaged about 200 from then through 1913. Most of the mining was done with hand-methods, using picks and shovels where the gravels were less than 6 feet deep. A few miners used ground sluicing (releasing water from dams to wash off the overburden) in the Koyukuk. Some drift mining was done, but there were not enough boilers in the district due to the difficulty and expense of supply. That meant that miners did not use steam boilers and hoists to systematically test deep gravel deposits. It was not until 1909 that hydraulic technology was introduced in the district, which was late compared to the development of other mining districts.[59]

[Transportation by Water and Overland] The means of getting equipment and supplies into the upper Koyukuk developed early and remained essentially unchanged until 1929. Goods were freighted up the rivers, then overland on foot or by pack horse or wagon in summer, and by foot, dog sled or horse drawn sled in the winter.[60] Throughout the period 1905-1915, medium size stern-wheelers with a draft of two feet carried miners and supplies up the Middle Fork of the Koyukuk River to Bettles. Supplies were then hauled the 65 miles upstream from Bettles to Coldfoot during the summer by shallow-draft scows that carried 8-12 tons and were towed by horses , or by poling

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[57] Maddren, "The Koyukuk-Chandalar Gold Region," p. 288; A.G. Maddren, *The Koyukuk-Chandalar Region, Alaska*, pp. 29-30.

[58] Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*, p. 9.

[59] Maddren, *The Koyukuk-Chandalar Region, Alaska,* pp. 29, 71-72.

[60] Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements*, p. 19.

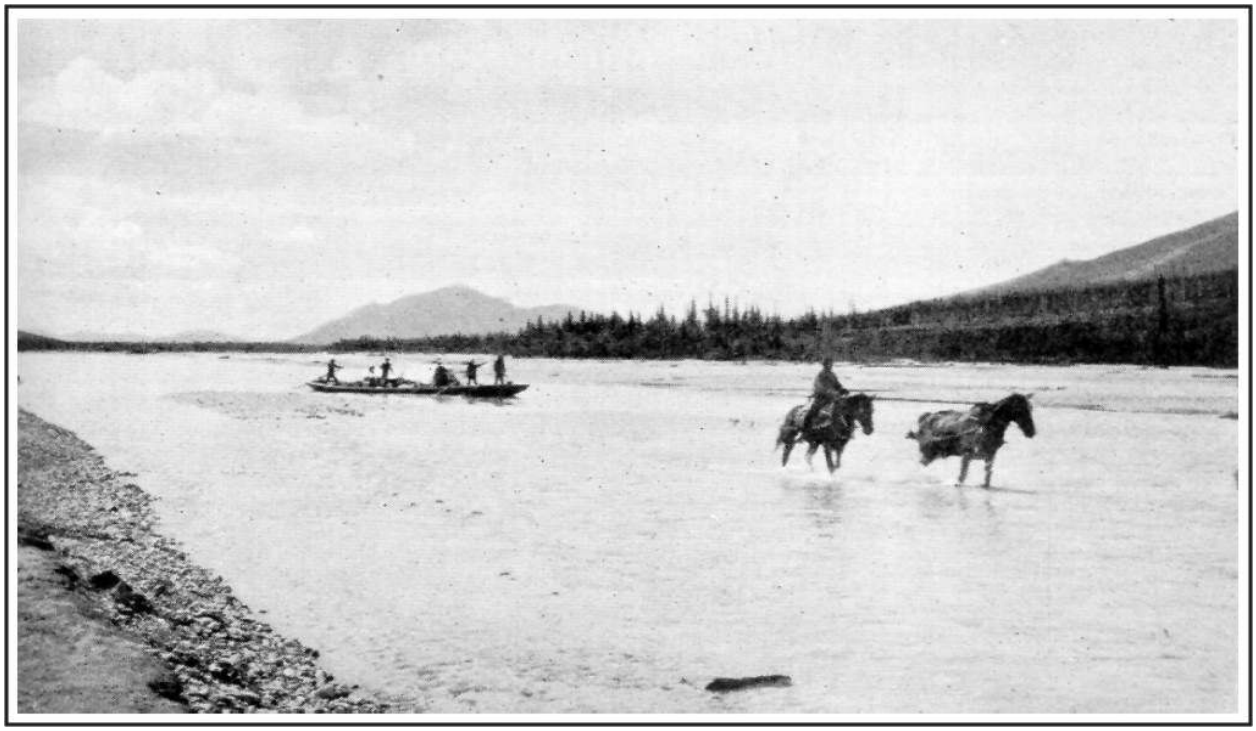

Figure 9. Horses towing a freight scow between Bettles and Nolan on the Middle Fork of the Koyukuk River, 1912. A.G. Maddren photo 19, U.S. Geological Survey, Denver.

boats (Figure 9) that carried about one ton and were propelled by men. Both methods were tedious and expensive, and the boating season was limited to June 15-September 15. Freight charges during 1906-1912 were 4-6 cents a pound from Seattle or San Francisco to Bettles, and 6-8 cents a pound by horse-towed scows from Bettles to Coldfoot and Wiseman. Practically all passenger travel to and from the Koyukuk in the years 1905-1915 was by boat during the summer. Heavy mail was also delivered by boat during the open season. It cost 10-14 cents a pound or $200-280 a ton for freight charges from the west coast to the local supply camps. Winter sledding costs were about 4 cents a pound from local camps to the mines and horse packing in summer was about 6 cents a pound. Travel by dog sled was the only way to reach the district during the winter. A monthly mail service was maintained during the winter and a few people traveled on the mail sled. All goods consumed by the population, with the exception of a small amount of fish and game procured locally, were brought from the states, and freight charges alone for delivery at the mines cost the consumer from 10 to 20 cents a pound.[61]

[<u>High Transportation Costs</u>] The remoteness of the area, high cost of transportation and shortages of supplies resulted in high wage costs in the district, which in turn made it impractical to hire men to work in mining operations. The annual cost of proper food and clothing for the average prospectors or miner was about $1,000. Most of the mining was done by groups of men who

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[61] Maddren, "The Koyukuk-Chandalar Gold Region," pp. 289, 290-291; Maddren, *The Koyukuk-Chandalar Region, Alaska,* pp. 30-31, 72.

entered into partnerships or worked for shares. Under these circumstances, only the richest placers of the district yielded returns considered an adequate reward. A large part of the mining was done with a relatively low percentage of profit, so low in many instances as to furnish no more than a bare living under the harsh conditions of climate and isolation that characterized the district.[62] One contemporary observer described the Koyukuk district as a "pocket" camp where a continuous pay-streak had never been found. Miners would find a "spot," but invariably the claims above and below it would be too poor to work at a profit. "The ground must be rich to be worked at all in the Koyukuk," Hudson Stuck wrote in 1914. "It is the most expensive camp in Alaska, perhaps in the world. This is due to its remoteness and difficulty of access." The diggings were 600 miles above the mouth of the Koyukuk River and its confluence with the Yukon. Freight had to be switched from ocean going vessels to Yukon River stern wheelers, loaded on shallow draft steamboats for the trip up the Koyukuk to Bettles, then transported in scows to Coldfoot and Wiseman, and finally carried by sled or pack animals to the mines. "All that handling and hauling means high rates. The cost of living, the cost of machinery, the general cost of all mining operations is much higher than on the Yukon or on the other tributaries of that river." The small size of the camp was another reason for the high prices, as there was not enough trade to induce competition.[63]

[Early Overland Routes from the East] There were two overland summer routes from the east to Coldfoot. The first, which was 150 miles long and not well marked, left the west bank of the Yukon River opposite abandoned Fort Hamlin and followed the low ridges and benches on the western border of the Dall River valley, crossed the Dall River 45 miles from the Yukon, went over the mountains to the north into the headwaters of the south branch of Fish Creek, crossed the passes between the eastern tributaries of the Koyukuk and the headwaters of the Hodzana River, crossed the Mosquito and South forks, went north through Sitkum Pass, and down Slate Creek to Coldfoot. Horses and a few cows had been taken over this trail in the early rush, but this route was little used and poorly marked by 1909.[64] The other route, used prior to 1906 to carry mail during both summer and winter to Coldfoot from Fort Yukon, followed the Chandalar River. The trail started at Fort Yukon, extended up the Chandalar River (which was navigable the first 70 miles to a point about 40 miles short of Caro), then along the North Fork, up Crooked Creek, over a low divide, across the valley of the South Fork of the Koyukuk, over another low pass, and down Slate Creek to Coldfoot. This trail was 175 miles long.[65] A portion of this latter route, starting about 50 miles up the Chandalar River and extending west, later became the Caro-Coldfoot Trail (Figure 10).

[Early Federal Assistance for Trails] The first federal assistance for trails in the Koyukuk-Chandalar area began when Congress appropriated $2,500 on April 23, 1904, to survey a military

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[62] Maddren, "The Koyukuk-Chandalar Gold Region," p. 290; Maddren, *The Koyukuk-Chandalar Region, Alaska,* p. 73.

[63] Stuck, *Ten Thousand Miles with a Dogsled*, p. 48.

[64] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 150.

[65] Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, p. 31; Bureau of Outdoor Recreation, *The Iditarod Trail*, pp. 150-151.

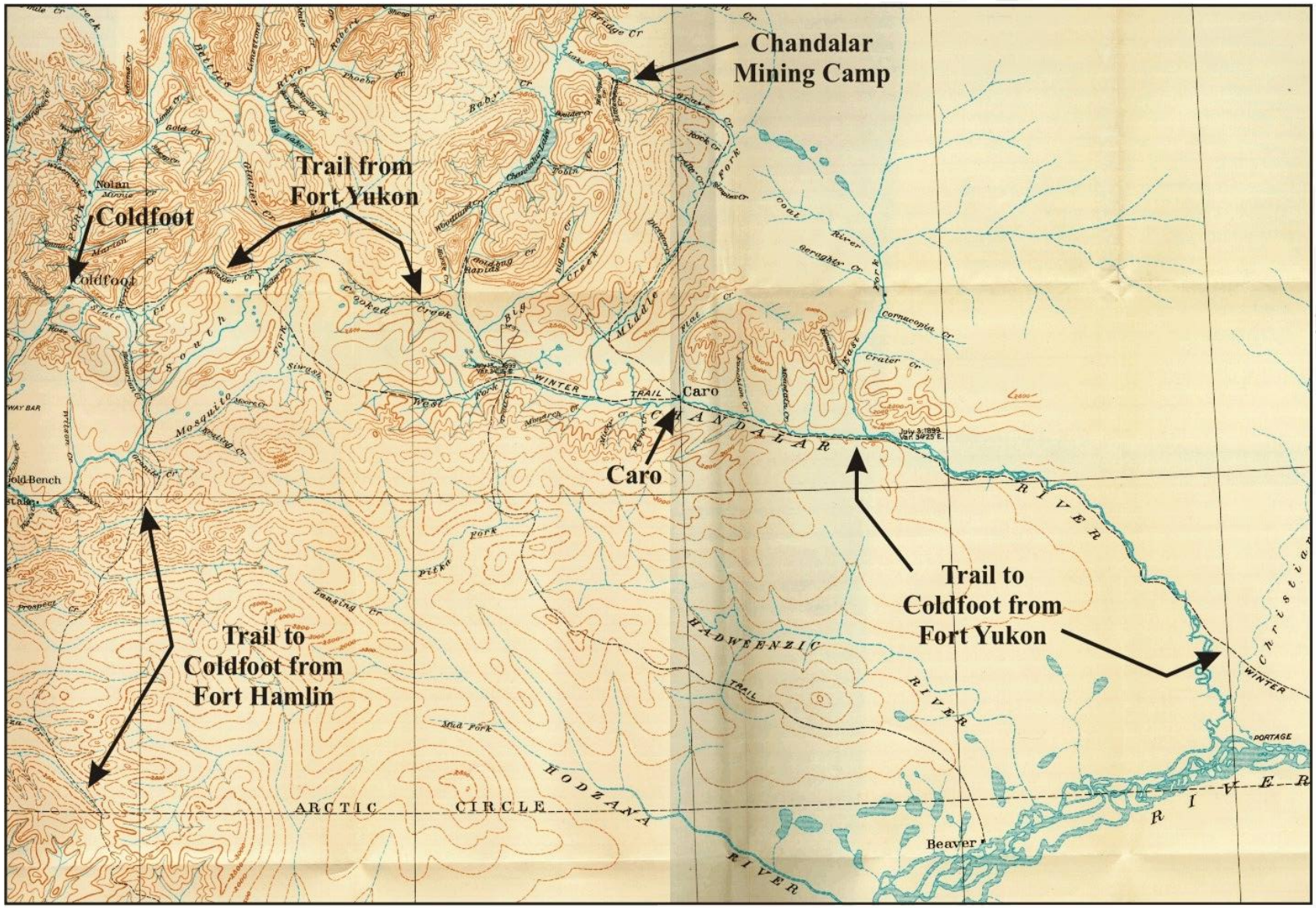

Figure 10. U.S. Geological Survey map of trails in the Caro-Coldfoot-Chandalar Lake area in 1909. From A.G. Madden U.S. Geological Survey Bulletin 532, Plate 1 (1913).

trail between the Yukon River and Coldfoot.[66] The U.S. Army had conducted similar surveys and built trails in other parts of Alaska to link military installations and support construction of the Washington-Alaska Military Cable and Telegraph System (WAMCATS). Congress appropriated an additional $1,431.15 for the Army to complete the survey work for a trail between the Yukon and Coldfoot under the direction of the Chief of Engineers.[67] Oscar A. Piper, a surveyor, and two assistants conducted the survey and marking of the trail during the summer of 1904.[68] Shortly afterward, Congress passed the Act of April 27, 1904, providing for territorial road work, creating road districts, and appointing a road overseer for each district. The law required all male residents of the territory between the ages of 18 and 50 living within a road district to work two eight-hour days on road construction per year. If they could not fulfill this requirement, they had to either hire a substitute or pay $8. This law was in effect until 1913. On January 27, 1905, Congress authorized the creation of the Alaska Road Commission (ARC) under the Department of War. During the early territorial years, the ARC was the primary federal agency that built and maintained trails and roads in Alaska.[69] Starting in 1905, the ARC began improving existing trails and building new roads that emanated from river ports and rail lines and extended to mining camps and towns in Alaska.

[Route to Chandalar Changes] After gold was discovered northeast of Chandalar Lake, mining activity in the upper Chandalar increased between 1905 and 1908 and a mining camp developed near the headwaters of Big Creek and Little Squaw Creek in 1906-1907. This camp was called Chandalar and a post office was established there in 1908.[70] The route for carrying supplies to the Chandalar District gradually changed from the Coldfoot-Chandalar Trail to a trail from Fort Yukon that ascended the Chandalar River from its confluence with the Yukon River. By 1908-1909, most supplies for the district were freighted from Fort Yukon, poled up the lower Chandalar River by boat in the summer to a point below Caro, then hauled to the Chandalar mines by dog sled in the winter on benches adjacent to the North Fork of the Chandalar River.[71] A Rampart prospector, Billy

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[66] Karl Theile, *Biennial Report of the Territorial Board of Road Commissioners for the Territory of Alaska, April 1,1921, to March 30, 1923*, (Juneau), p. 7.

[67] Theile, *Biennial Report Territorial Board of Road Commissioners 1921-1923*, p. 7, 9.

[68] Oscar A. Piper, "Report," October 18, 1904, and letter from Major John Mills, Corps of Engineers, to Brig. General A. McKenzie, Chief of Engineers, U.S. Army, December 29, 1904, in "Wagon Road from Valdez to Fort Egbert, Alaska, and Military Trail between Yukon River and Coldfoot, Alaska," pp. 24-26, 32.

[69] In July 1920, the Department of Agriculture established an arm of the Bureau of Public Roads to build roads on national forest lands in Alaska. The ARC operated on a budget based on congressional appropriations and portions of the 'Alaska Fund.' This special fund was generated by the sales of licenses and collection of fees outside of organized towns. Seventy percent of the fund supported road development, twenty-five percent was spent on education, and the remaining 5 percent was dedicated to the care of the mentally ill.

[70] Orth, *Dictionary of Alaska Place Names*, p. 198.

[71] Marsh, "Reports of Travels."

Mann, described this winter trail in February 1907 as "a boulevard" enabling some men to carry in 800 pounds with four dogs in two days.[72]

[ARC improves Beaver-Caro Trail] Samuel Marsh, the U.S. Commissioner and Recorder for the Chandalar District, alerted the ARC to development going on in the Chandalar and encouraged the road building agency to improve trail access to mining camps. In 1908, the ARC sent a survey party led by Fred Date to survey a wagon road from the Yukon to the Chandalar District (Figure 11). The ARC spent $1,371 to survey the trail between Beaver and Caro.[73] In 1909-1910, the ARC spent $12,180 constructing a route from Beaver to Chandalar to reduce freight rates and stimulate development. The Beaver-Caro route was constructed as a summer pack trail then upgraded in 1911 to a winter sled road. The ARC also began construction of a 100-mile overland route from Chatanika (north of Fairbanks) to the Yukon River. When both projects were completed, the ARC hoped to have a direct route between Fairbanks and the Chandalar mines.[74] According to a USGS geologist, construction of a Fairbanks-Chandalar winter sledding and summer horse packing trail was intended to serve both the Chandalar and the Koyukuk districts.[75] Three freighting companies used the Beaver-Caro Trail in 1910 to carry supplies to Caro.[76] By mid-1913, the ARC had spent an additional $2,243, most of it during the fall of 1912, to improve the Beaver-Chandalar route.[77]

[Trails Diverge from Caro] At Caro, the route north to the Chandalar mines diverged into three routes. The Flat Creek Trail crossed the main branch of the Chandalar River and extended up Flat Creek. The Big Creek Trail extended overland in a northwest direction until it reached Big Creek, then went up Big Creek. The Caro-Coldfoot route followed the north side of the Chandalar River, then ran along the east side of the North Fork of the Chandalar River to Horse Creek, then west up Crooked Creek, across the South Fork of the Koyukuk River and down Slate Creek to Coldfoot. Of the three trails, the Flat Creek Trail was traveled the most during the 1910s and 1920.

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[72] Samuel J. Marsh, "Report," and Samuel J. Marsh to the Assistant Post Master General, April 19, 1907, Record Group 28, Box 15, National Archives and Records Center, Anchorage (hereafter referred to as NA&RC), cited in James H. Ducker, *Alaska's Upper Yukon Region: A History* (Anchorage: Bureau of Land Management, 1983), p. 636.

[73] Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier*, p. 233; Board of Road Commissioners for Alaska (hereafter referred to as ARC), "Report of Operations for the Season of 1908 (of the Board of Road Commissioners for Alaska)," in *War Department Annual Report, 1908*, Vol. 1, Appendix D, 1908, p. 111; ARC, *Report of Operations for the Season of 1909 (of the Board of Road Commissioners for Alaska*, U.S. House of Representatives Document 864, 61st Congress, 2nd Session, Volume 131, April 18, 1910, p. 19.

[74] ARC, *Report of the Board of Road Commissioners for Alaska, 1910* (Washington, D.C. Government Printing Office, 1910), p. 9; ARC, *Report of the Board of Road Commissioners for Alaska, 1911* (Washington, D.C. Government Printing Office, 1912), p. 17.

[75] Maddren, *The Koyukuk-Chandalar Region, Alaska,* p. 31.

[76] Ducker, *Alaska's Upper Yukon Region*, p. 637.

[77] ARC, *Report of the Board of Road Commissioners for Alaska, 1912* (Washington, D.C. Government Printing Office, 1912), p. 27; ARC, *Report of the Board of Road Commissioners for Alaska, 1913*, pp. 26, 31.

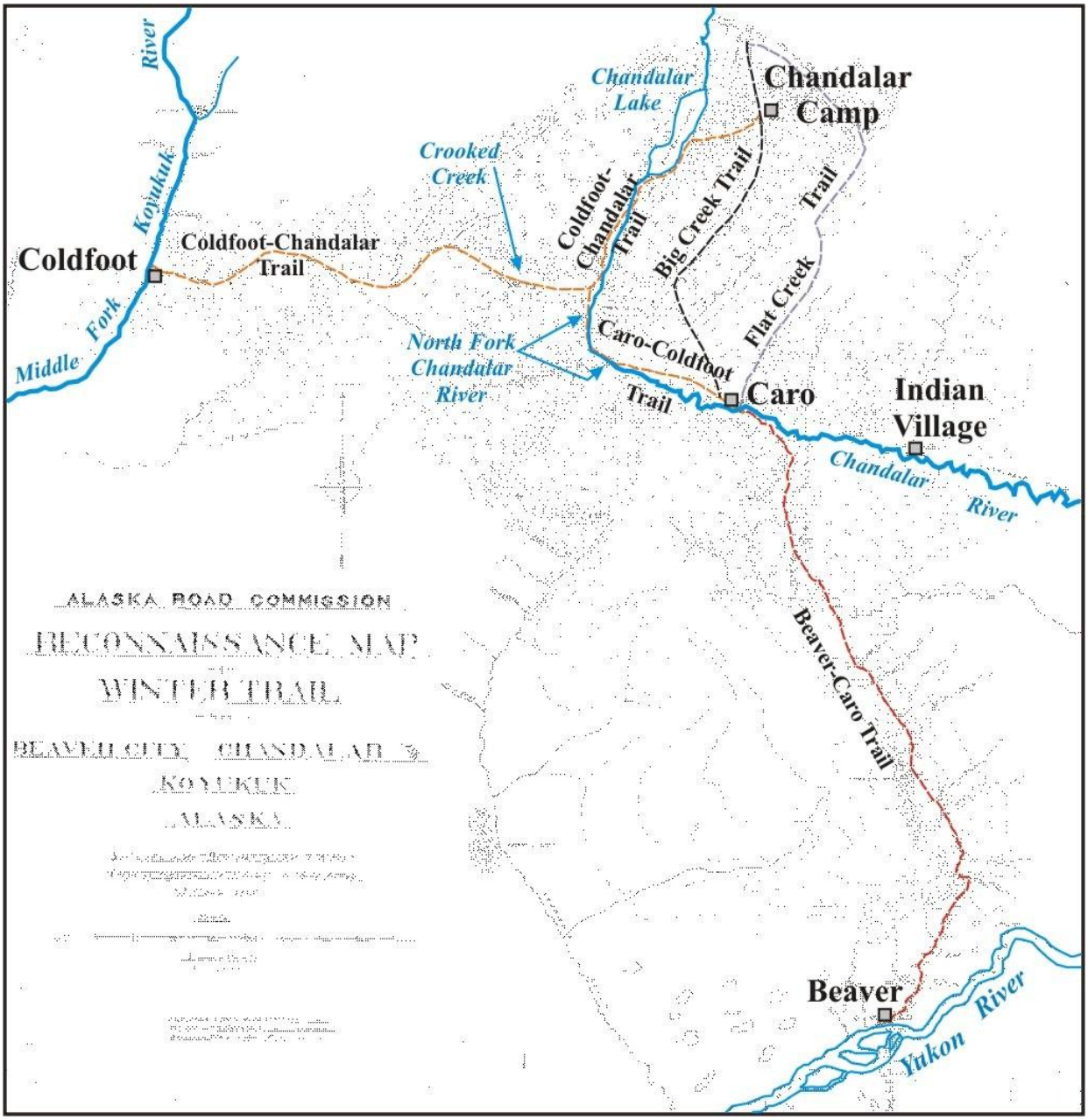

Figure 11. ARC map of the October 1910 reconnaissance survey of the winter trail between Beaver City, Chandalar and Koyukuk, Alaska, by Arnt Greve, surveyed under the direction of Captain F. A. Pope, Corps of Engineers, U.S. Army. Alaska State Archives, Juneau.

After prospectors discovered gold on Big Creek, the miners improved that route which extended 24 miles from Caro west along the North Fork of the Chandalar River, then up Big Creek to the mines. The Flat Creek and Big Creek routes crossed the most difficult terrain and were most in need of improvements, but most of the ARC resources went into upgrading the route between Beaver and Caro. In 1910, one of the miners sent a crew to work on the Flat Creek Trail so he could get supplies

that he needed for his mining operations.[78] As mining in the Chandalar District declined in 1912 and 1913, the only trail repairs made by the ARC were those most urgently needed to keep the Beaver-Caro route open. Travel over that route was reported "to be very light, owing to the present inactivity of the Chand[a]lar mining district. It is not believed, however, that this inactivity will be permanent."[79] For the next seven years the ARC kept the various trails between Beaver and Chandalar on its list of active trails, but expended no funds on maintenance (Table 3). ARC officials concluded that the decline in mining in the area did not warrant improvements to the routes.[80]

Table 3. ARC Expenditures in the Caro-Chandalar Area, 1908-1913

Year	Route	Agency	Type of Work	Amount
1908-1909	Beaver-Caro	ARC	Reconnaissance Survey	$1,371
1910	Beaver-Caro	ARC	Construction of 40 miles of sled road	$8,000
1911	Beaver-Caro	ARC	Improved route and identified extension [Caro-Coldfoot Trail] to the Koyukuk	$5,080
1913	Beaver-Caro	ARC	Repairs to keep road open	$2,036

(Source: ARC Annual Reports)

[Caro-Coldfoot Trail] While the ARC was improving the winter sled road and summer pack trail between Beaver and Chandalar Lake in 1909-1910, it also conducted a survey (Figure 11) of the overland route between Caro and the Koyukuk.[81] This was the first time that the ARC expended funds on the Caro-Coldfoot Trail. The Caro-Coldfoot Trail began at Caro and extended west up the north side of the main branch of the Chandalar River, then northwest along the north side of the North Fork of the Chandalar River. Near Horse Creek, the Caro-Coldfoot Trail crossed the North Fork of the Chandalar and extended west up Crooked Creek, then crossed the South Fork of the Koyukuk and extended on to Slate Creek and Coldfoot (Figures 10 and 11). Mining activity in the

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[78] Marsh, "Reports of Travel."

[79] ARC, *Report of the Board of Road Commissioners for Alaska, 1912,* p. 27; ARC, *Report of the Board of Road Commissioners for Alaska, 1913*, pp. 26, 31.

[80] ARC, *Report of the Board of Road Commissioners for Alaska, 1914* (Washington, D.C.: Government Printing Office, 1914) p. 18; ARC, *Report of the Board of Road Commissioners for Alaska, 1915* (Washington, D.C.: Government Printing Office, 1915 p. 13; ARC, *Report of the Board of Road Commissioners for Alaska, 1916* (Washington, D.C.: Government Printing Office, 1916), p. 27; ARC, *Report of the Board of Road Commissioners for Alaska, 1917* (Washington, D.C.: Government Printing Office, 1917), p. 16. No mention is made of the Beaver-Chandalar route in the ARC *Annual Reports* for 1918, 1919 and 1920.

[81] ARC, *Report of the Board of Road Commissioners for Alaska, 1911*, p.17.

Chandalar District declined after 1913. During the next eight years the ARC did not expend funds to improve the Caro-Coldfoot route.[82] The trail was supposed to be passable by dog team in winter and by pack horse in summer, but use of the trail was infrequent due to the trail's condition.[83]

[Traffic diminishes on Coldfoot-Chandalar Trail] As the ARC made improvements to the Beaver-Caro, the Flat Creek and Big Creek routes to the Chandalar, traffic diminished on the Coldfoot-Chandalar Trail. In 1910, miner Samuel J. Marsh traveled the trail from Chandalar to Coldfoot to acquire a small engine to power a lode mill he was building on upper Little Squaw Creek. After inspecting the trail, however, he found it "impractical to attempt to haul anything over it." He finally found a power plant for his mill elsewhere and ended up having supplies freighted to his mining properties from Beaver and Caro, rather than from Coldfoot.[84]

[Postal Routes, 1906-1912] Portions of the Caro-Coldfoot and Coldfoot-Chandalar routes served as an early mail route between Coldfoot and Boulder Creek. Prior to 1906, mail carriers used the Caro-Coldfoot Trail to deliver mail from Fort Yukon to the Koyukuk mining camps.[85] A post office was established at the Little Squaw camp in 1908.[86] Another post office was established in February 1907 at Caro, 100 miles from Fort Yukon and 35 miles from the placer diggings at the head of Big Creek. Samuel Marsh was the postmaster.[87] The recording office for the Chandalar district was located at Caro, which contained a small population of whites during 1907-1908. By 1909, Caro consisted of a small group of cabins on the north bank of the Chandalar River and only a few natives lived there. The Chandalar district consisted of 20-30 white men who resided near their claims at the head of Big Creek.[88] The Caro post office closed in May 1912 when service to Caro was discontinued and Samuel A.Marsh, the recorder for the district, moved to Chandalar Camp. Mail destined for the Chandalar was routed up the Koyukuk River to Nolan. The post office at Coldfoot, which had been established in 1902, was also closed in May 1912, after which mail was routed to Wiseman. The post office at Chandalar Camp was closed in July 1909, only to be re-established in

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[82] ARC, *Report of the Board of Road Commissioners for Alaska, 1913*, p.26.

[83] Susan M. Will and Pamela K. Hotch, "The Wiseman Historical District: A Report on Cultural Resources," (Fairbanks: Bureau of Land Management, Yukon Resource Area, Fairbanks District Office, 1984), p. 17.

[84] Marsh, "Reports of Travel."

[85] Maddren. *The Koyukuk-Chandalar Region, Alaska, 1913*, p. 31.

[86] E.R. Chipp, *Geology and Geochemistry of the Chandalar Area, Brooks Range, Alaska*, Geology Report No. 42, College: Alaska Department of Natural Resources, Division of Mines and Geology, 1970), p. 5.

[87] Dickerson, *120 Years of Alaska Postmasters: 1867-1987*, p. 23.

[88] Maddren, "The Koyukuk-Chandalar Gold Region," pp. 288-289; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, p. 30.

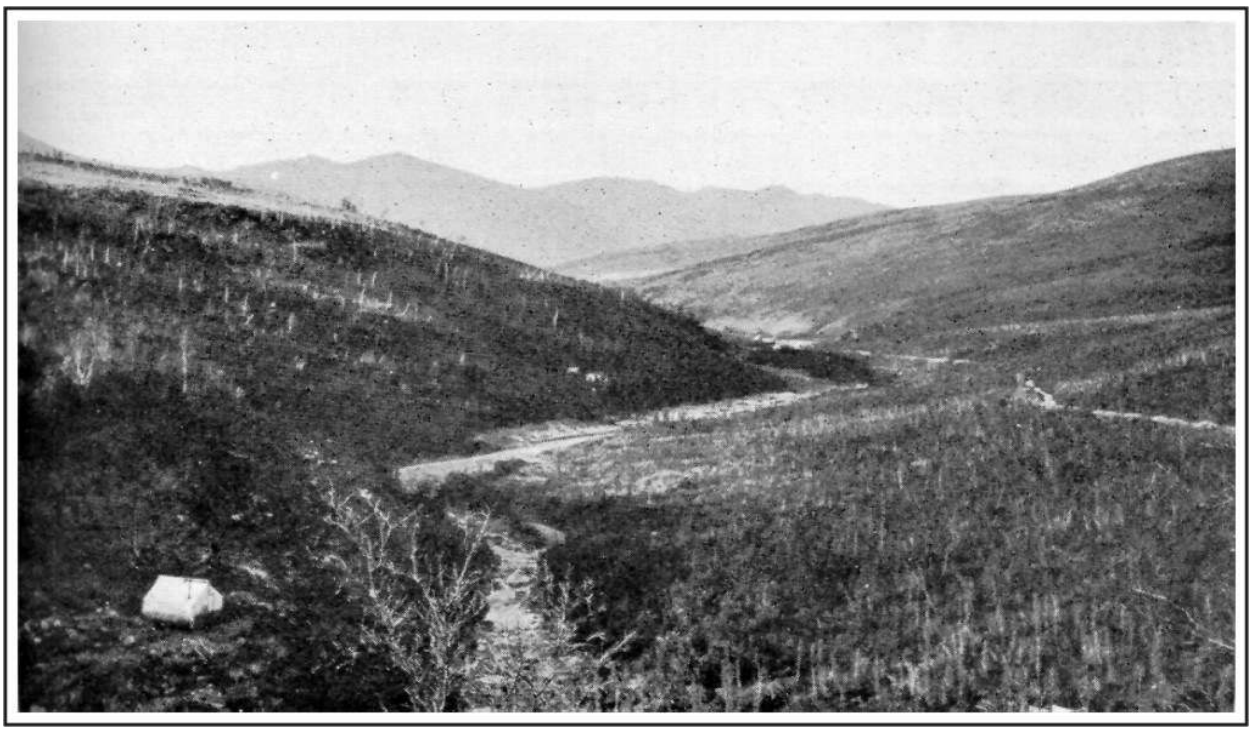

Figure 12. Myrtle Creek valley, 1912, looking upstream from a bench on Claim No. 6. A hydraulic ditch is located along the slope on the right. Plate VIII, U.S. Geological Survey Bulletin 532 (1910).

October 1912 and discontinued again at the end of March 1915.[89]

[Mining on Slate and Myrtle Creeks] During 1906-1914, the most productive mining in the Slate Creek drainage occurred on Myrtle Creek. About 80 men worked on Myrtle Creek in 1906 using hand tools to shovel gold-bearing gravel into sluice boxes.[90] Miners on Myrtle Creek produced more gold than any other creek in the Koyukuk District during 1907.[91] By 1913, Myrtle Creek had been mined from its mouth up to Claim No. 20, about 5 miles upstream from Slate Creek (Figure 12). The seven creek claims from No. 9 to No. 15 were the most productive, yielding an average of $5 to $15 a day to the man. All work was done with shovel, pick and sluice boxes. Nearly all of this shallow ground was worked out by 1909. Several miners found gold in the bench gravels along the sides of lower Myrtle Creek. They dug a ditch parallel to Myrtle Creek during the summer of 1908

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[89] Dickerson, *120 Years of Alaska Postmasters: 1867-1987*, p. 23, 27; Orth, Dictionary of Alaska Place Names, p. 188.

[90] *Fairbanks Daily News-Miner,* August 4, 1906, p. 3.

[91] Alfred H. Brooks, "The Mining Industry in 1907," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1907*, U.S. Geological Survey Bulletin 345, (Washington, D.C.: U.S. Government Printing Office, 1908), p. 45.

at the same time that they brought pipe, monitors and lumber for a hydraulic outfit up the Koyukuk River to Coldfoot. They sledded this equipment nine miles from Coldfoot to Myrtle Creek over the western end of the Coldfoot-Chandalar and Caro-Coldfoot trails with two horses during the winter of 1908-1909. They started working the bench deposits in July 1909 with this hydraulic equipment on a side bench about 1.5 miles above the mouth of Myrtle Creek. This was the only hydraulic operation in the Koyukuk district. A government geologist who visited the area in 1909 and 1912 predicted that the future of mining on Myrtle and Slate Creeks would depend on the application of hydraulic methods.[92] Hand mining methods persisted, due in large part to the expense and difficulty of shipping heavy equipment to the area. Miners working on Slate and Myrtle creeks improved the trail along Slate Creek, much of which ran along the creek bottom laced with gravel bars.

[Mining and Transportation in Slate Creek Drainage] When compared to other Alaskan placer mining districts, the Koyukuk was extremely remote and one of the most costly to operate in largely because of the high cost of transportation.[93] Gold production, which had increased steadily through 1903, declined for a few years, then peaked in 1908 when miners recovered nearly 54,500 ounces, mostly from Nolan Creek. During the following year, production plummeted to 20,230 ounces.[94] During the period from 1900 through 1913, miners in the Koyukuk produced about $2,500,000 in gold. Only about 100 men worked at mining in the district each year. Besides its remoteness, the district was noteworthy in that, unlike other mining districts active for more than a decade, there was no outside capital investment in Koyukuk mining operations, with one exception. Gold production on Slate Creek from 1900 to 1909 was $3,000, while production on Myrtle Creek was estimated at $182,000 for the same time period. The amount of gold recovered in the district declined during 1910-1911, but increased in 1912 in part as a result of the hydraulic operation on Myrtle Creek. Claim filing activity in the Slate Creek drainage (Table 4), an indication of traffic on the western portion of the Coldfoot-

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1907	17	14	0	31
1908	28	18	0	46
1909	10	19	0	29
1910	7	20	0	27
1911	30	6	0	36
1912	10	6	0	16
1913	15	5	0	20
1914	0	15	0	15
1915	2	0	0	2
Total	119	103	0	222

Table 4. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1907-1915 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

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[92] Maddren, "The Koyukuk-Chandalar Gold Region," p. 298; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, pp. 88-89.

[93] Maddren, "The Koyukuk-Chandalar Gold Region," p. 284; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, p. 9.

[94] Kurtak *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, Volume I, p. 10; Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*, p. 9.

Chandalar and Caro-Coldfoot trails, dropped significantly in the years 1907 to 1915. During those years, miners filed 91 new claims on Slate Creek, 24 on Myrtle Creek and none on Boulder Creek. Miners on Myrtle Creek filed 74 annual labor assessment notices and 35 lease agreements, activity typical of the transformation from discovery to consolidation in the second decade of most mining districts.

[Mining in the Chandalar District] About a hundred men were engaged in prospecting and mining in the Chandalar District by 1907, with a total production of $28,000. Miners hauled 12 boilers into the district to conduct winter drift mining.[95] Between 1906 and 1909, Big Creek and St. Mary's Gulch were the largest placer producers of gold in the district. A small summer encampment on Little Squaw Creek, known as Chandalar Camp, was well established by 1908. Most of the miners, however, wintered at Caro or at Beaver. Miners produced about $50,000 worth of placer gold from 1907 though 1909 and another $10,000 worth during the following three years. Prospectors found quartz lodes on Tobin Creek, upper Big Creek, and Little Squaw Creek in 1907.[96] Prospector and promoter Samuel J. Marsh told William Sulzer, a New York City Congressman who was interested in Alaska, about the Chandalar lode discoveries in 1907. Sulzer sent Marsh back to the Chandalar with funds to prospect, file new claims and acquire existing lode claims. Marsh excavated open cut trenches and dug shafts, but the work was not sufficient by 1912 to demonstrate lodes that could be worked profitably. Developing hard rock gold deposits required a larger initial capital investment than placer mining, especially in such a remote region. During the winter of 1909-1910, Marsh hauled a small stamp mill to the Discovery (lode) Claim on Big Creek and attempted unsuccessfully to mine a quartz lode prospect. He was instrumental in persuading the ARC to build the winter sled trail from Beaver to the Chandalar mines, over which supplies and machinery could be transported more economically. When the ARC ran short of funds, Marsh provided a crew to complete the last portion of the trail to the mill site. Sulzer's mill was later used to test ore from a vein on Little Squaw Creek.[97]

[Traffic on Trails to the Chandalar] Claim filing activity dropped significantly in the Chandalar during the years 1907-1915 (Table 5). Only 29 new claims were filed in the district, including seven on Big Creek, one on Big and Little Squaw creeks, five on Tobin Creek, three on the creeks of the Middle Fork of the Chandalar River, and 13 on the creeks on the south side of the West Fork of the Chandalar River west of Caro. By 1914, mining was confined to three small operations employing a total of 8-10 men.[98] The district's extreme isolation and the high costs of transporting

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[95] Brooks, "The Alaska Mining Industry in 1907," p. 46.

[96] Chipp, *Geology and Geochemistry of the Chandalar Area, Brooks Range, Alaska*, p. 5; Maddren, "The Koyukuk-Chandalar Gold Region," pp. 314-315; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, pp. 111-116.

[97] Charles C. Hawley, "William Sulzer (1863-1941)," *The Paystreak*, Volume 6, No. 2, November 2004, p. 9; Maddren, "The Koyukuk-Chandalar Gold Region," pp. 314-315; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, pp. 111-116.

[98] Alfred H. Brooks, "The Alaska Mining Industry in 1914," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1914,* U.S. Geological Survey Bulletin 622, (Washington, D.C.: U.S. Government Printing Office, 1915), pp. 64-65.

equipment and supplies made it very difficult to turn a profit. Even with the improvements made by the ARC and local miners, overland transportation remained problematic and expensive. Charley Schultz was the principal freighter in Beaver and he had a good team of horses and had sleds and wagons. He also held mining claims in the Chandalar. In 1913, William Sulzer and his associates shipped a four-stamp Allis Chalmers stamp mill to Beaver. Marsh hired Schultz to transport the heavy milling equipment to the Chandalar, but heavy snow and other problems prevented Schultz from getting the freight to its destination. Parts ended up scattered along the trail. It was all Schultz could do to save his horses that were stuck in snow drifts and get them back to Beaver alive.[99]

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1907	4	0	0	4
1908	10	1	0	11
1909	0	0	0	0
1910	6	0	0	6
1911	3	0	0	3
1912	0	0	0	0
1913	0	3	0	3
1914	6	0	0	6
1915	0	0	0	0
Total	29	4	0	33

Table 5. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, creeks on the Middle Fork of the Chandalar, and creeks on the South Fork, 1907-1915 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[Summary of Trail Use] The Chandalar rush of 1906 ultimately turned into a poor man's diggings, as only a small amount of gold was produced in the new district. While promising gold-bearing veins were found in the Chandalar region,[100] development work on the lodes, like the placers, was hindered by the high costs of overland transportation. The semi-annual migration of miners and prospectors, summer and winter deliveries of mining equipment and supplies, and mail delivery constituted the mainstay of trail use in the Coldfoot-Caro-Chandalar area. The western portion of the Coldfoot-Chandalar Trail remained the primary route from Coldfoot to the gold placer mines on Slate and Myrtle creeks. From about 1908 forward, "the trail between Coldfoot and the Chandalar [RST 9] was a principal access route for people prospecting and mining in the Chandalar Mining District."[101] After the ARC improved the Beaver-Caro Trail and turned it into a sled road, the Beaver-Caro route, combined with the Big Creek

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[99] Ernest N. Wolff, *Frank Yasuda and the Chandalar* (Fairbanks: E.N. Wolff, 1997), pp. 44-45; Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier*, p. 238.

[100] Maddren, "The Koyukuk-Chandalar Gold Region," pp. 291-292; Maddren, *The Koyukuk-Chandalar Region, Alaska, 1913*, pp. 7, 69.

[101] Edward O. Strandberg, Jr. to Joseph P. Sullivan, Alaska Department of Natural Resources, Division of Land and Water Management, Fairbanks, April 9, 1993, Alaska Department of Natural Resources RS 2477 Case File RST9.

and Flat Creek Trails, became the primary overland route to the Chandalar district.[102] Miners and freight carriers stockpiled supplies in Caro, them sledded then up the Big Creek and Flat Creek trails to the mines during winter. The level of mining activity in the Chandalar remained small by comparison to other districts, primarily because its remote location made operating costs so high.

[102] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 152.

IV. TRAIL IMPROVEMENTS, 1915-1929

[Introduction] Transportation in the Koyukuk and Chandalar areas changed during the decade and a half beginning in 1915. Some of the changes resulted from innovations in mining technology, while other changes resulted from increased investment by the ARC and the Territory in trail improvements. In 1917, the ARC upgraded the Bettles-Coldfoot route to a winter sled trail that horse-drawn double-ender sleds could use, but this did little to lower winter overland freight rates between the lower Koyukuk River and Coldfoot. During the late 1910s, most of the overland transportation in the region was by pack horse in summer and dog sled during winter. Trails improved by the ARC for summer and winter travel were improved to a width of 8 feet. All stumps and underbrush were cut off as close to the ground as possible.[103] The routes of the Caro-Coldfoot and Coldfoot-Chandalar Trails in the late 1910s are shown in Figure 13.

[Mining on Slate Creek, 1915-1929] In 1915, Edgar Brooks, Jimmy Woods, Si Simonson and others mined and prospected on Slate Creek.[104] During 1915-1916, Myrtle Creek was one of the better gold producers in the Koyukuk District, although nowhere near the level of production on Hammond and Nolan creeks.[105] Gold production on Myrtle Creek surpassed Nolan and the other major creeks during the 1920 season.[106] In the 1920s, drift mining, open cut and drilling occurred on Slate and Myrtle creeks. Some prospecting, drilling and mining occurred in the Slate Creek drainage in 1924 and 1925. Miner Jim Kelly drilled at multiple sites along Slate Creek during 1925, and reported excellent prospects.[107] William "Bill" H. Gilbert and a partner named Alexon drift mined on Slate Creek with four men, James Manana had an open cut operation with three men, and James Kelly was drilling.[108] Drift mining increased in the 1920s in the district, which was one of the most

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[103] ARC, *Annual Report of the Board Road Commissioners for Alaska 1917*, p. 16.

[104] *Fairbanks Daily Times*, November 21, 1915, p. 3.

[105] Alfred H. Brooks, "The Alaska Mining Industry in 1915," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1915,* U.S. Geological Survey Bulletin 642, (Washington, D.C.: U.S. Government Printing Office, 1916), pp. 64-65; Alfred H. Brooks, "The Alaska Mining Industry in 1916," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1916,* U.S. Geological Survey Bulletin 662, (Washington, D.C.: U.S. Government Printing Office, 1918), p. 59.

[106] Alfred H. Brooks, "The Alaska Mining Industry in 1920," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1920,* U.S. Geological Survey Bulletin 722, (Washington, D.C.: U.S. Government Printing Office, 1922), p. 59.

[107] Irving M. Reed, *Upper Koyukuk Region, Alaska* (Juneau: Territorial Department of Mines, 1938), p.93; *Fairbanks Daily News-Miner*, August 13, 1924, p. 1.

[108] Norman L Wimmler, "Placer Mining in Alaska in 1924," Miscellaneous Report MR-195-6 (Juneau: Alaska Ter-ritorial Department of Mines, 1924), p. 93; Norman L Wimmler, "Placer Mining in Alaska in 1924 and 1925," Miscellaneous Report MR-195-10 (Juneau: Alaska Territorial Department of Mines, 1925), pp. 162-164; Norman L Wimmler, "Placer Mining in Alaska in 1925," Miscellaneous Report MR-195-8 (Juneau: Alaska Territorial Department of Mines, 1924), p. 103.

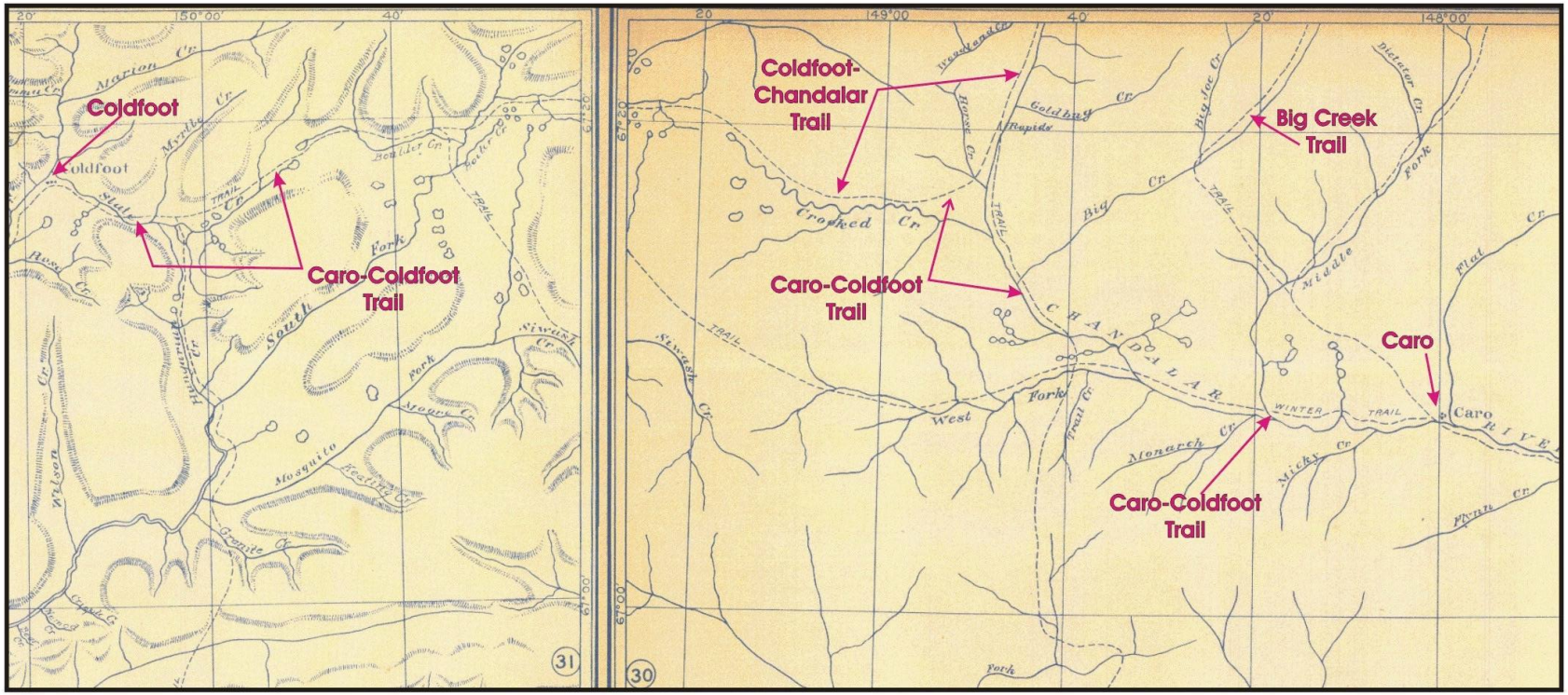

Figure 13. The northeast portion of Map 30 and the northwest portion of Map 31 of the "Highway Plat Book of Alaska," drawn by Edd P. Kendall, for the Territorial Board of Road Commissioners, 1918.

isolated and difficult to access. Mining was conducted on Slate and Myrtle creeks in 1926.[109] In 1929, Knute Ellingson and William Gilbert (Figure 14) hydraulicked on Myrtle Creek two miles above the creek's mouth in 1929. Dan Aston ground-sluiced and shoveled-in further up the creek. No mining was done on Slate Creek in 1929.[110] Throughout this period, miners carried equipment and supplies to Slate Creek over the trail from Coldfoot. The ARC made no improvements on the western portion of the Caro-Coldfoot/Coldfoot-Chandalar trails.

[Placer Mining in Chandalar, early 1920s] Only 8-10 men worked in the Chandalar district during 1915 and 1916, producing $4,000-$5,000 a year in gold.[111] Most of the shallow placers had played out, so miners shifted to drift (underground) mining.[112] Placer gold production increased in the district after 1917, peaking in 1922 at 83,000 ounces, but declined to 42,000 ounces in 1923.[113] In 1922, prospectors

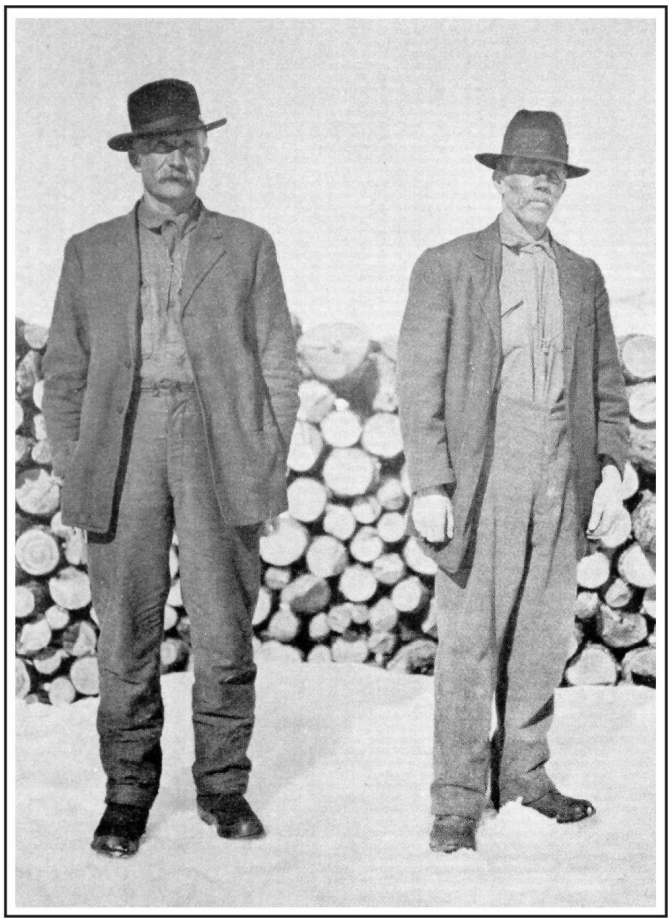

Figure 14. Bill Gilbert (left) and Knute Ellingson, long-time partners on Myrtle Creek, 1920s. Tishu Ulen photo, reprinted from *Koyukuk*, Alaska Geographic, Volume 10, No. 4, 1983, p. 54.

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[109] Norman L Wimmler, "Placer Mining in Alaska in 1926," Miscellaneous Report MR-195-11 (Juneau: Alaska Territorial Department of Mines, 1927), pp. 71-72.

[110] Norman L Wimmler, "Placer Mining in Alaska in 1929," Miscellaneous Report MR-195-12 (Juneau: Alaska Territorial Department of Mines, 1929), p. 233.

[111] Brooks, "The Alaska Mining Industry in 1915," p. 67; Brooks," The Alaska Mining Industry in 1916,", p. 59.

[112] Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004, Little Squaw Gold Mining Company archives, Spokane, Washington.

[113] J.B., Mertie, Jr., "Geology and Gold Placers of the Chandalar District," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1923*, edited by A.H. Brooks. USGS Bulletin 773, (Washington, D.C.: U.S. Government Printing Office, 1925), p. 263.

discovered workable placers on Big Creek. Miners hauled supplies by dogsled from Beaver during the winter months so they could focus on mining during the summer.[114] Winter drift mining produced most of the gold during 1922. The largest and most successful operator was Curley Smith, who employed 15 men drifting bench ground on Little Squaw Creek (Figure 15). Several other parties prospected on Little Squaw Creek. Two outfits shoveled-in on shallow ground on Big Squaw Creek and several other men prospected. A little mining and prospecting was also done on Tobin Creek.[115] About 30 men were engaged in summer and winter placer mining during 1923 on Little Squaw, Big Squaw and Big creeks. Harry Patterson and Fred Smith drift mined using a boiler and hoist on Little Squaw Creek, working one claim in the summer and another in the winter. One man mined on Big Squaw for several years, shoveling gravel into sluice boxes. On Big Creek, one mine operator used an automatic splash dam and another operation, employing eight men, drift mined during the summer.[116] In 1924, shoveling-in and prospecting was done on Little Squaw, Big Squaw, Tobin and Big Creeks. The biggest operation was on Big Creek where O.J. Nicolson and Joe Shaw drift mined with a crew of 6 or 7 men. Arthur Newton and another man ground-sluiced and shoveled-in on Big Creek. Carlson and Buckley had a placer operation on Little Squaw Creek.[117] About 25 to 30 men lived at the Little Squaw Creek mining camp during the

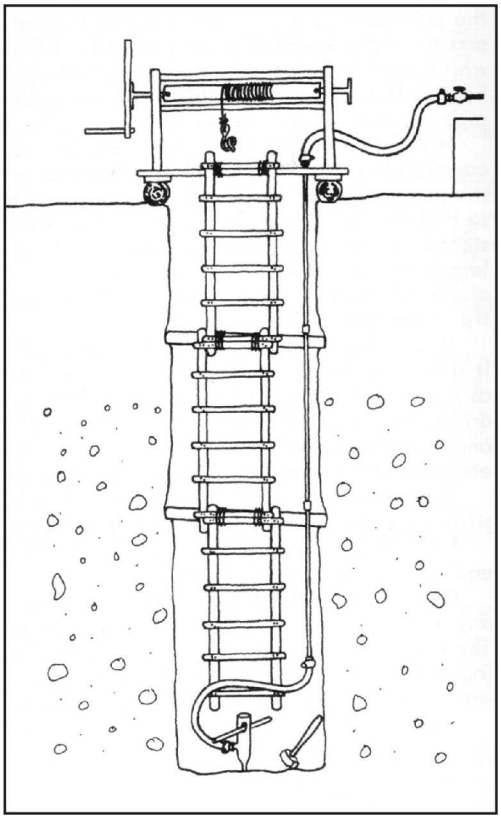

Figure 15. Drawing of a placer prospect shaft with a steam point (bottom) hooked to a boiler to thaw frozen ground. Reprinted from Wolff, *Handbook for the Alaskan Prospector* (third edition, 1980), p. 326.

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[114] B. D. Stewart, *Annual Report of the Territorial Mine Inspector to the Governor of Alaska, 1920.* (Juneau 1921), p. 9; *Fairbanks Daily News-Miner*, June 25, 1920, cited in Ducker, *Alaska's Upper Yukon Region*, p. 637.

[115] Norman L Wimmler, "Placer Mining in Alaska in 1922," Alaska Territorial Department of Mines, Miscellaneous Report MR-195-6 (Juneau, 1922), pp. 39-40; B.D. Stewart, *Annual Report of the Mine Inspector to the Governor of Alaska, 1922* (Juneau: 1923), p. 47.

[116] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 217, 252-253, 258-261.

[117] Wimmler, "Placer Mining in Alaska in 1924," p. 94; G.L. Thompson, "Report on the Property of the Chandalar Gold Company," Miscellaneous Report MR-194-16, (Juneau: Territorial Department of Mines, January 1925), p. 8.

winter of 1922-1923.[118] A post office was re-established at Chandalar Camp on Little Squaw Creek in February 1925 and it stayed open until April 1944.[119]

[Chandalar Placer Mining, 1925-1929] In 1925, twelve placer mining and prospecting operations employed 22 men. Most of the gold came from three small winter drift mines on Little Squaw Creek, and two small winter drift mines and a summer ground-sluicing operation on Big Creek. The most important development in the mid-1920s occurred when C.L. Carlson, Bart Buckley and A.W. Amero discovered pay during the winter in a drift mine on Little Squaw Creek. They shipped in a 20-horse power boiler and other equipment over the Beaver-Caro-Flat Creek route during the fall of 1925. Their operation was not profitable in the mid-1920s. It was the largest outfit in the Chandalar in 1929, but they did not operate in 1930 due to high costs. Others who mined on Little Squaw Creek included William McDaniels drift mining with one man, Joe Wilkes drift mining alone in the winter, and Fred Smith drift mining in the winter. Oscar Otterson and Manuel Mello spent their time prospecting. O.J. Nicolson with five men drift mined during the winter on Big Creek, where he had been working since 1922, and prospected during the summer. In 1929, Nicholson installed an automatic dam on Big Creek where he ground-sluiced and shoveled-in. Joe Shaw also drifted, Arthur Newton ground-sluiced with two men and an automatic dam on Big Creek, and D.A. Murphy prospected. Two men prospected on Tobin Creek for the Chandalar Gold Company. French Joe found coarse gold on Tobin Creek. Ellis Anderson prospected on Baby Creek and Tobin Creek, and Em. Danielson prospected on the East Fork of Chandalar. Chris Olson sank a 135-foot deep prospect shaft on a bench on Dictator Creek, but found no pay. Several men investigated the flats at the junction of the Chandalar and Christian rivers to determine if dredging might be possible.[120] By 1929, four small placer mining operations with ten men engaged were mining and eight men were prospecting in the Chandalar district. From 1906 to 1927, total gold produced was $365,000, practically all coming from Little Squaw, Big, Tobin and Dictator creeks. Drift mining was the most productive, but some open cut mining also produced gold.

[Chandalar Lode Mining] A crew of four prospected for gold quartz lodes in 1923 and they discovered new gold quartz veins at the heads of Little Squaw, Big Squaw, Boulder, Tobin, Big and McLellan creeks. Harry Patterson, owner of the Chandalar Mining Company had the largest lode prospecting operation and his crew drove several adits in 1923. They used the small stamp mill erected near Little Squaw Creek in 1910 to crush ore samples [121] William Sulzer, owner of the Chandalar Mines Company, continued to finance lode prospecting in the Chandalar and he bought

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[118] Mertie, "Geology and Gold Placers of the Chandalar District," p. 219.

[119] Dickerson, *120 Years of Alaska Postmasters: 1867-1987*, p. 23.

[120] Wimmler, "Placer Mining in Alaska in 1924 and 1925," pp. 165-167; Norman L Wimmler, "Placer Mining in Alaska in 1926," p. 73; Norman L Wimmler, "Placer Mining in Alaska in 1929," pp. 236-239; Irving M. Reed, "Report on Mining Conditions in the Chandalar District [in 1929]," Miscellaneous Report MR-31-3 (Juneau: Alaska Territorial Department of Mines, 1929), pp. 2-5.

[121] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 253, 259-261.

Yasuda's and Carter's lode claims in the early 1920s.[122] Sulzer consolidated lode prospecting when he merged his company with Patterson's in 1926. Sulzer became the major shareholder of the new company, Chandalar Gold Mines, Inc.[123] Sulzer already had a small 4-stamp mill at Little Squaw Creek. He purchased a massive 28-ton Allis-Chalmers 4-stamp mill and had it delivered to Beaver in 1922. He hired C.W. Schulz to freight the equipment over the Beaver-Caro trail in 1923. Heavy snow conditions thwarted his efforts, two of his horses froze to death, and he got the equipment only as far as Beaver. Schultz tried again in 1927 and 1930, but was not able to get the mill equipment to the mines on Little Squaw Creek.[124]

[ARC improves Chandalar Trails] As placer mining expanded in the late 1910s and early 1920s from Little Squaw Creek to Big and Flat creeks, miners improved trails in the area. Supplies and equipment were landed by river boat at Beaver or brought overland on the winter trail from Fairbanks to Beaver. Equipment and supplies were transported overland on the Beaver-Caro, Flat Creek and Big Creek trails, to the remote Chandalar mining camps, a distance of about 120 miles. The 74-mile wagon road between Beaver and Caro was wet and unsuitable for wagons until mid-July, after the ground dried out. Earlier in the summer, the road was suitable for pack horses. Increased traffic to the Chandalar mines prompted the ARC to do general repair work on the 75-mile route from Beaver to Caro. Frank Yasuda and Charles Schultz lived at Beaver and a few white men, including Charles DeBien who operated a roadhouse, and a number of Athabaskans lived at Caro.[125] In 1920, the ARC upgraded the Caro-Beaver route to a winter sled road and a summer pack trail. Additional ARC improvements made in 1921 included building a new bridge and a culvert along the route, rebuilding an old bridge, repairing caches at Beaver and at Milepost 55, repairing two relief cabins and placing good stoves in five relief cabins.[126] The ARC upgraded the Beaver-Caro route, over which all supplies and equipment for the placer mines north of Caro were transported, from a sled road to a wagon road in 1924.[127] Geologist G.L. Thompson noted that 1,500 pounds could be hauled by a two-horse team over the road from Beaver to Caro without much difficulty in the summer. Hauling with horses in the winter was possible if the sled road was kept broken. A few bridges had been constructed over smaller creeks on the Beaver-Caro Trail, but would have to be

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[122] Letter from William A. Hess, M.E., U.S. Deputy Surveyor, to William Sulzer, October 22, 1924, Little Squaw Gold Mining Company archives, Spokane, Washington.

[123] Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004.

[124] Irving M. Reed, "Report on Some of the Quartz Prospects of the Chandalar District," Miscellaneous Report MR-31-2 (Juneau: Alaska Territorial Department of Mines, 1927), p. 2; "Chandalar Gold Properties," *The Alaska Weekly*, October 12, 1923; Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier*, p. 238.

[125] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 217, 219.

[126] *ARC, Annual Report of the Alaska Road Commission Fiscal Year 1921* (Washington, D.C.: 1921), 37; ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1922* (Juneau: 1922), 54.

[127] *ARC, Annual Report of the Alaska Road Commission Fiscal Year 1924* (Juneau: 1924), 91.

Figure 16. A loaded dog sled at Caro on the upper Chandalar River, 1920s. Frank Yasuda Collection, 91-046-274N, Alaska Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska, Fairbanks.

rebuilt or strengthened for heavy freighting with caterpillar tractors. But at that time, the small requirements of the Chandalar were taken care of by dog sled teams[128] (Figure 16).

[Flat Creek Trail] Caro was connected to the mines in the Chandalar Lake area by two trails (Figure 17). The first was a 48-mile trail that went up Flat and Grave creeks to Little Squaw. The Caro-Flat Creek Trail was a pack horse route in summer and a horse or dog sled trail during the winter months. Miners built this trail to access their mines on Big and Little Squaw creeks and nearby quartz properties. The output of the operations on Little Squaw Creek in 1921 and 1922 was $24,000, and 100 tons of freight passed over the road during 1921.[129] The ARC improved the Flat Creek Trail from a mining trail to a sled road in the 1920s. Miners and freight carriers hauled over 100 tons of equipment and supplies along this route in a single season.[130] During the summer of 1923, the ARC constructed an aerial tram across the Chandalar River at Caro. Supplies headed for Little Squaw Creek were freighted from Beaver to Caro by wagon during the late summer and by dog sled in winter. The winter rate for freight supplies from Beaver to Little Squaw Creek was 15 cents a pound. Mail was received at Beaver once a month in the winter and carried by any responsible person who was making a trip to Little Squaw.[131] ARC crews also cleared 6.5 miles of the Caro-Flat

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[128] G.L. Thompson, "Report on the Property of the Chandalar Gold Company," pp. 2, 4.

[129] *ARC, Annual Report of the Alaska Road Commission Fiscal Year 1922*, p. 54; ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1923* (Juneau: 1923), p. 68.

[130] ARC, *Alaska Road Commission Annual Report for 1922*, p. 55.

[131] Mertie, "Geology and Gold Placers of the Chandalar District," pp. 219-221, 253; G.L. Thompson, "Report on the Property of the Chandalar Gold Company," pp. 2, 4, 8.

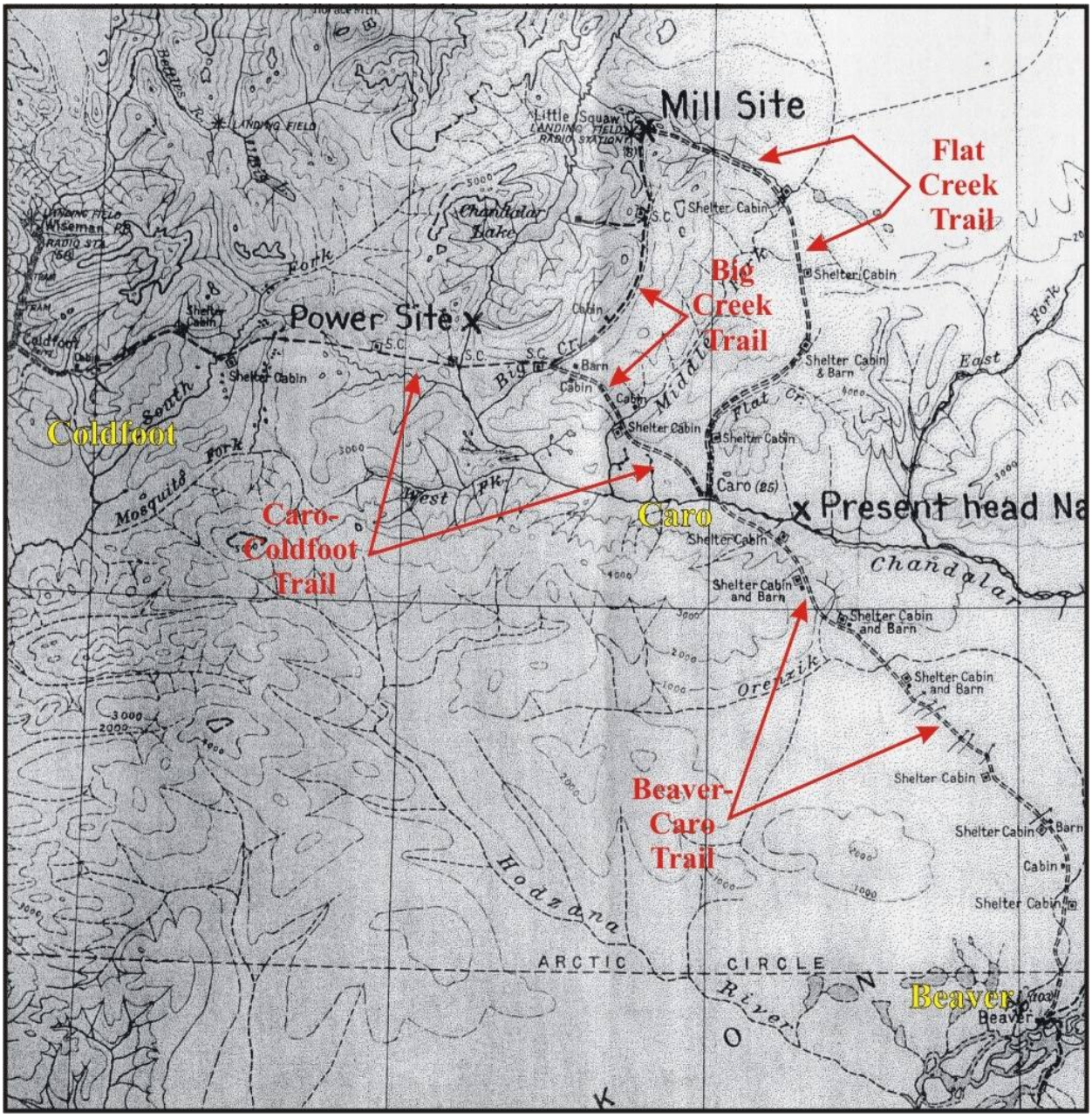

Figure 17. Part of a 1924 ARC map of the Fairbanks Region, showing trails in the Coldfoot-Chandalar-Caro area. Map courtesy of Richard Walters, Little Squaw Gold Mining Company, Spokane.

Creek Trail to a width of 10 feet and cleared roots and stumps on another 1.75 miles of trail in 1927.[132]

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[132] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1928*, (Washington, D.C: U.S. Government Printing Office,1928), p. 50.

[Big Creek Trail] The Big Creek Trail went from Caro up the north side of the North Fork of the Chandalar River to Big Creek, then up Big Creek and over the divide to Tobin and Little Squaw creeks. The 45-mile trail was passable for Yukon and double-ender sleds in the early 1920s. The ARC reconnoitered the route and placed a Yukon stove in the Big Creek Shelter Cabin at Mile 26. In 1923, Shaw and Nicholson, who were operating a placer mine on Big Creek, brought a small Cleveland Tractor weighing about 3,800 pounds to Caro and then up the Big Creek Trail to the mining camp. By 1925, they were using the tractor to haul supplies, equipment and fuel (wood) to their mining camp. This was the first tractor in the Chandalar.[133] In 1927, the ARC widened, straightened, graded and marked the 24-mile Big Creek Trail, improving it to sled road standard.[134]

[ARC Changes Caro-Coldfoot Route] During 1922, ARC crews improved the Caro-Coldfoot Trail, brushing out the trail and removing stumps so that it averaged eight feet in width. The ARC also changed the location of the eastern end of the trail so that it overlapped with the first part of the Caro-Big Creek Trail. After Big Creek, the Caro-Chandalar Trail continued north-west to the North Fork of the Chandalar, then west up Horse Creek, down into the valley of the South Fork of the Koyukuk and then west to Coldfoot. The route was used primarily in the winter by dog sled. In the winter of 1922, Frank Irons, a foreman for the ARC, conducted a reconnaissance of the 75-mile route between Caro and Coldfoot. He estimated that upgrading the route to a sled road would cost $10,000.[135]

[Caro-Coldfoot Trail in 1922] ARC foreman Ross J. Kinney visited trails in the Chandalar and Koyukuk areas during December 1922. The first 25 or so miles of the Caro-Big Creek Trail is the one used in going from Beaver on the Yukon into the Koyukuk District," Kinney wrote.

> This trail is bound to be used more or less for years to come and for that reason is worthy of attention, besides serving the Big Creek operators and prospectors.... The trail for the Koyukuk leaves Big Creek at Cabin # 69, goes over a fairly low divide to Gold Bug Creek and down Gold bug Creek on left limit to North Fork of Chandalar, crossing near mouth of Horse Creek, where there are two cabins and [a] barn. The trail then takes a westerly course over a rolling country for about 10 miles to the old Crooked Creek cabin and barn, both of which are badly dilapidated. From Crooked Creek, it bears a little north of west for about 15 miles to South Fork of Koyukuk, where I located a cable ferry about 1/4 mile above old cabin on left limit of river. From South Fork the trail bears westerly and little south to Boulder Creek and on over a low divide thru string of lakes and on down to Slate Ck., following down Slate Creek for a mile or so to James Minano's camp; it then crosses over the right limit and over cross Myrtle Creek (one of the early producers in the Koyukuk Dist.) crosses Myrtle and follows down right limit of Slate Creek to within 3 miles of mouth,

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133 Mertie, "Geology and Gold Placers of the Chandalar District," pp. 219-221, 253; G.L. Thompson, "Report on the Property of the Chandalar Gold Company," pp. 2, 4, 8.

134 ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1928*, p. 50.

135 ARC, *Annual Report of the Alaska Road Commission for Fiscal year 1922*, p. 55.

where it crosses to left limit and follows down to Middle Fork of Koyukuk." Kinney noted that "The trail as a whole, from Big Creek to Coldfoot is fairly well located, but badly in need of brushing out, blazing and tripoding in few places. A great deal of the trail has been burned over by the careless musher."

Kinney noted that the trail needed shelter cabins at the South Fork of the Koyukuk, at Crooked Creek, and new stoves at the shelter cabins at Horse Creek, Crooked and South Fork. [136]

[Maintenance Improvements]

In 1923, the ARC installed new aerial trams on the Caro-Coldfoot Trail at the Middle Fork of the Chandalar River near Caro, at the North Fork of the Chandalar near Horse Creek, on the South Fork of the Koyukuk River, and on Slate Creek.[137] The ARC decided not to upgrade the Caro-Coldfoot Trail to sled road status, but its crews made significant improvements to the eastern portion of the route two years later. Summer travel was improved by clearing vegetation. Winter travel was made more hospitable by marking open stretches with tripods and constructing shelter cabins along the route. The ARC installed cable tramways for water crossings (Figure 18) along the route where it crossed the North Fork of the Chandalar River and the South Fork of the Koyukuk River. The ARC expended $6,969 on the route in 1924 and its *Annual Report* noted "this trail is now easily passable for dog team travel in winter and foot travel in summer." The first 25 miles of the Caro-Coldfoot Trail overlapped the 45-

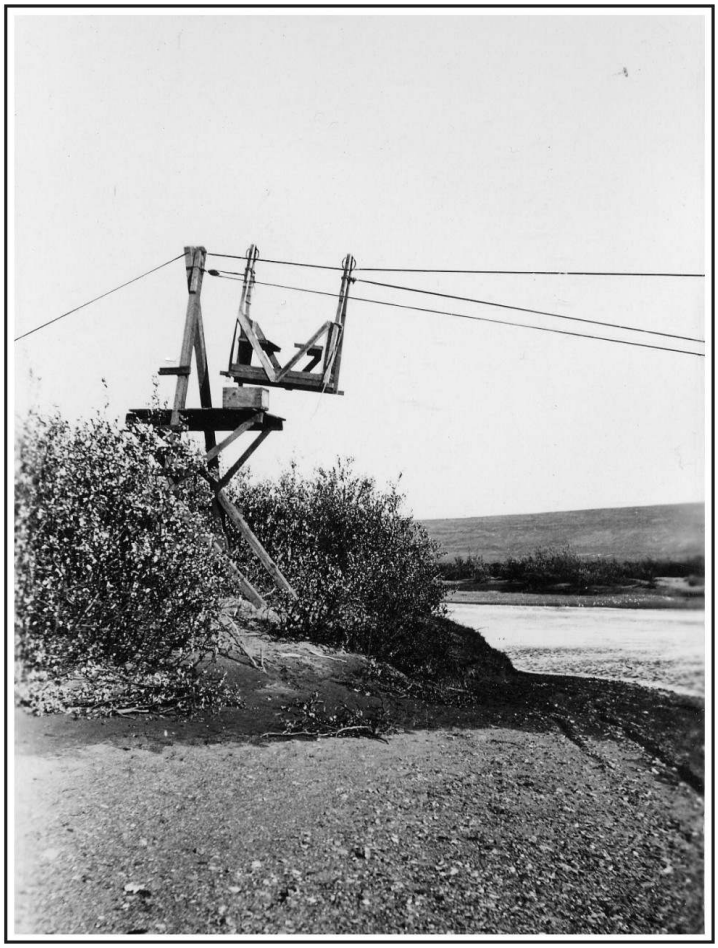

Figure 18. Standard cable tram installed by the ARC on river crossings along trails such as the Caro-Coldfoot Trail. Photo courtesy of the ADOT&PF Bridge Design Section, Juneau.

[136] Report by Ross J. Kinney to ARC office in Fairbanks, December 21, 1922, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

[137] Summer Work [Schedule] Chandalar and Koyukuk Districts, ARC Fairbanks Region, February 19, 1923, Route 030.3 - Wiseman Correspondence-General, ADOT&PF, Fairbanks, Right-of-Way Section.

mile Caro-Big Creek Trail. The ARC changed the name of the latter trail to the Big Creek Trail and designated the 20-mile trail as starting at Mile 25 of the Caro-Coldfoot Trail.[138] This reflected the increased importance of the Caro-Coldfoot Trail. Ike Taylor, an assistant engineer for the ARC, inspected the Beaver-Caro Road during the summer of 1925, and traveled the first mile of the Caro-Coldfoot Trail.[139] In 1926, an ARC crew cleared and widened the first 22 miles of sled road extending west from Caro toward Big Creek, along the eastern portion of the Caro-Coldfoot Trail. During the following year, the ARC finished upgrading the trail to wagon road standards from Caro to the junction of the Big Creek Trail.[140] The majority of the route, from Big Creek to Coldfoot, was left as a brushed out sled trail with shelter cabins.

[Caro-Coldfoot Trail in 1926] H.G. Haslem, ARC assistant superintendent of the Fairbanks region, traveled the Caro-Coldfoot Trail on an inspection tour during July 1926. The 55-mile part of the trail from Coldfoot to Big Creek, he wrote,

> is a poor dog trail a good part of the way, 50% of it is in swamp and niggerheads [tussocks] and it has been used as a pack and foot trail, also as a cattle trail until it consists of merely a deep trench not wide enough for a dog sled. There are many bad grades and the distance could be shortened considerably if it went more direct in several places where there are no apparent obstructions.

Haslem noted that the shelter cabins were "adequate and in good condition" and the longest distance between cabins was 14 miles. There was no shelter cabin at Coldfoot or Slate Creek, "but there were good stopping points that are generally used by the traveling public." There were two aerial trams, a short span at the South Fork of the Koyukuk, 25 miles from Coldfoot, and a 250-foot span at the North Fork of the Chandalar, 47 miles from Coldfoot. At the time, the ARC had a crew working on the 24-mile section of the Caro-Coldfoot Trail between Big Creek and Caro. Haslem predicted that when the crew's work was done in another month, the section of trail would be "a very excellent sled road." Haslem noted that "there is very little travel over the Caro-Coldfoot Trail between Big Creek and Caro. Only one dog team passed this way last winter."[141]

[Caro-Coldfoot Trail in 1927] A year later, ARC Fairbanks superintendent Hawley W. Sterling traveled on foot over the Caro-Coldfoot Trail, which was designated as Route 23E. In a report to Juneau, he summarized the Caro-Coldfoot Trail as a 78-mile route with eight shelter cabins. The route had steep grades in the vicinity of Slate and Myrtle creeks and there were places where snow drifted badly on the trail during the winter. The trail crossed several large lakes, but the

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[138] ARC, *Annual Report of the Alaska Road Commission for Fiscal Year 1924*, p. 91-92.

[139] Report by Ike P. Taylor to Major Lunsford E. Oliver, ARC engineering officer, Juneau, September 22, 1925, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

[140] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1927*, (Juneau: 1927), pp. 49, 50-52; ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1928*, p. 50.

[141] Letter from H.G. Haslem to Hawley Sterling, Fairbanks ARC superintendent, July 27, 1926, Route 030.3 - Wiseman Correspondence- General, ADOT&PF, Fairbanks, Right-of-Way Section.

location was "not objectionable as the trail is used for winter travel only, and very little of that." He noted that there was "little or no summer travel" over the route. The "character of travel is dog teams driven by miners and trappers. There was a very large amount of travel over this trail when the Chandalar was first struck, but it has gradually diminished until there are not on an average of more than 6 trips made in a winter." The trail was "used once in a great while as a summer foot trail, but is a niggerhead [tussock] swamp for more than 50% of the distance." Sterling concluded that the trail could not be used as a sled road "as it is not brushed out wide enuf [sic]. Route as a whole would make a very satisfactory sled road on present location and could be converted into such for $10,000, but it is not required and not recommended." Sterling noted that the journey was his first over the trail, and there were several places that he might have missed the trail "on account of lack of tripods, blazes and brushing out."[142] Miners north of the Yukon requested that the winter trails be improved to truck roads from Beaver to the Chandalar and Koyukuk, with the Caro-Coldfoot route serving as the connection to the upper Koyukuk mines. After his inspection tour, Sterling wrote to the president of the ARC:

> I know that proposing the construction of a truck road into these remote districts, for the few people who are now there is entirely unreasonable from a business standpoint, but if the policy of the government is to develop the country, I feel convinced that both these [Chandalar and Koyukuk] districts will eventually produce many millions of dollars. Without such a road, these districts will lay dormant until a very rich strike is made; rich enough to afford preposterous freight rates.[143]

[Improvements on the Coldfoot-Chandalar Trail] Improvements made to the portion of the Caro-Coldfoot Trail between Horse Creek and Coldfoot in the 1920s overlapped the western portion of the Coldfoot-Chandalar Trail. However, the section of the Coldfoot-Chandalar route from Horse Creek to Chandalar Lake was seldom used during the 1920s. There are no ARC records showing maintenance or improvements on that part of the trail between Horse Creek and Chandalar Lake in the 1920s (Table 6).

[Territory Contributes to Trails] Relief or shelter cabins, mentioned above, were shelters built with territorial funds for travelers using trails in remote areas. In 1917, the Alaska Territorial Legislature created the Territorial Board of Road Commissioners (TBRC), comprised of the Governor, the Secretary and the Treasurer of the Territory. The TBRC administered the territorial portion of a cooperative funding agreement with the ARC. This gave the territory some influence over how funding was spent on trails and roads in an arena where the ARC and the Bureau of Public Roads, the federal agency that began building roads in Alaska's national forests in July 1920, received

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[142] Report by Hawley W. Sterling, ARC Fairbanks superintendent, to Major Lunsford E. Oliver, ARC engineering officer, Juneau, July 7, 1927, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

[143] Letter by Fairbanks ARC superintendent Hawley W. Sterling to James G. Steese, ARC president, July 6, 1927, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

Table 6. Road Trail Expenditures, 1921-1930

Fiscal Year	Route	Agency	Type of Work	Amount
1921	Beaver-Caro	ARC	Maintenance	$1,998
1922	Beaver-Caro	ARC	Construction/Maintenance	$5,053
1922	Caro-Big Creek	ARC	Maintenance	$ 25
1922	Caro-Flat Creek	ARC	Maintenance	$ 25
1923	Beaver-Coldfoot	ARC	Survey & Cable Tram Materials	$1,689
1923	Caro-Big Creek	ARC	Maintenance	$ 324
1923	Caro-Coldfoot	ARC	Maintenance	$ 252
1923	Beaver-Caro-Coldfoot	TBRC	Shelter Cabin Repairs	$ 250
1924	Beaver-Caro	ARC	Construction/Maintenance	$5,482
1924	Big Creek	ARC	Construction/Maintenance	$ 277
1924	Caro-Flat Creek	ARC	Construction/Maintenance	$6,669
1924	Caro-Coldfoot	TBRC	Construction of Shelter Cabins	$1,000
1925	Caro-Coldfoot	ARC	Maintenance	$ 668
1926	Big Creek	ARC	Maintenance	$2,000
1927	Caro	ARC	Construction/Maintenance	$3,250
1927	Beaver-Caro-Coldfoot	TBRC	Shelter Cabin Repair/Construct.	$1,212
1928	Caro-Flat Creek	ARC	Construction/Maintenance	$5,879
1929-1930	Caro			$ 0

(Source: ARC annual and Territorial Board of Road Commissioners [TBRC] biennial Reports)

the lion's share of funding for trails and roads.[144] While the ARC built and maintained most of the trails and roads in Alaska, the TBRC funded trail and road projects that the ARC could not get to because of limited funding. The TBRC funded construction of trails to remote mining camps, shelter cabins and, later, airfields. The TBRC had no construction crews, so their projects were often built by ARC crews and some projects were jointly funded by the ARC and TBRC. In places where there were no ARC crews, the TBRC granted funds directly to miners to make the trail improvements. In many of those cases, miners contributed labor and equipment. In the Chandalar area, the TBRC funded the construction and maintenance of shelter cabins for people traveling along trails (Figure 19), particularly during winter when weather conditions could be very dangerous.[145]

[Shelter Cabins in Chandalar Area] The first time the Territorial Legislature appropriated funds for the construction of shelter cabins along roads and trails was in 1917.[146] During 1922-1923,

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144 Theile, *Biennial Report of the Territorial Board of Road Commissioners, 1921-1923*, pp. 9, 11.

145 Frank A. Metcalf, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1947-1948*, (Juneau: 1949), p. 8.

146 William Maloney, *Report of William Maloney, Territorial Mine Inspector to the Governor of Alaska for the Year 1917*. (Juneau, 1918), p. 50.

Figure 19. A typical shelter cabin funded by the TRBRC and built by the ARC along remote routes such as the Caro-Coldfoot Trail in the 1920s. Photo courtesy of the ADOT&PF Bridge Design Section, Juneau.

the TBRC funded $250 in repairs to shelter cabins along the Beaver-Caro-Coldfoot trail network. In 1923-1924, the TBRC also funded repair of five cabins, construction of a new cabin, and installation of stoves in seven cabins along the Caro-Coldfoot Trail at a cost of $1,000.[147] In 1927-1928, the territory provided funding to build three new shelter cabins on the Beaver-Caro Trail and a new cabin on the Caro-Coldfoot Trail. These shelter cabins were built of local logs and measured 13 feet by 15 feet.[148] Some shelter cabins included separate barns to shelter dogs and horses.

[Trail Users] Miners and freighters were the principal users of the trails in the Caro, Coldfoot-Chandalar area. Miners and their employees often spent much of their winters hauling supplies from Coldfoot, Beaver and Caro to their mining camps. Other men were self-employed and hauled freight by the pound for miners. And many of these men alternated between mining and freight hauling at various times. One such man was Turak Newman, who arrived in the Coldfoot-Chandalar area in 1912. He worked for various miners doing mining and hauling freight. During some years he worked as a contract freight hauler, mostly between Beaver, Caro and the mines in the

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147 Theile, *Biennial Report of the Territorial Board of Road Commissioners, 1921-1922*, p. 52; Karl Theile, *Biennial Report of the Territorial Board of Road Commissioners, 1923-1925*, (Juneau: Alaska Daily Empire Print, 1925), p. 67.

148 R.J. Sommers, *Biennial Report of the Territorial Board of Road Commissioners, April 1,1927-March 31, 1929*, (Juneau: 1929), pp. 88-89.

Chandalar Lake area. Some use of the trails, however, was for travel unrelated to mining or freight hauling. In November 1917, Newman and Bob Winer, a North Slope Native, traveled over the Caro-Coldfoot Trail on a journey from Beaver to the North Slope to visit Winer's family in Barrow. They made the journey by dog sled, using five dogs and a single sled. After traveling over the Caro-Coldfoot Trail, they bought supplies in Coldfoot and continued their journey to the North Slope.[149]

[Introduction of Airplanes] The introduction of air transport occurred in the mid-1920s and within a few years began to impact transportation to the area (Figure 20). Noel Wien made the first flight that landed north of the Arctic Circle in May 1925, stopping on a gravel bar at Wiseman. After that summer, other pilots flew into the Koyukuk including Joe Crosson, A.A. Bennett, Ed Young, Maurice King, Herm Joslyn, Frank Pollack, and Lon Brennan, who cracked up on the Wiseman strip.[150] The ARC built the first airstrip at Wiseman in 1926. During the same year, the ARC foreman in the area made an inspection trip over the summer trails in the Beaver-Chandalar district. He noted that use of the eastern portion of the Caro-Coldfoot Trail declined as miners began using

Figure 20. A bi-plane taking off from a remote airfield, 1920s.
Photo courtesy of ADOT&PF Bridge Section, Juneau.

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[149] Turak Newman, "One Man's Trail: An Old Timer Tells the Story of His Life," with commentary by William Schneider and illustrations by Kathleen Lynch (Fairbanks: Adult Literacy Laboratory, 1978), pp. 30-31.

[150] Shirley English, "Angel of Allakaket," in *Koyukuk*, Alaska Geographic Quarterly, Vol. 10, No. 4 (Anchorage: Alaska Northwest Publishing Company, 1983), pp. 85-86.

airplanes to fly light-weight supplies and equipment to their camps. The ARC, using funds supplied by the TBRC, built an airstrip (designated the Chandalar Airfield) at Little Squaw Creek in the summer of 1926.[151] Construction crews cleared moss from an area 157 feet by 175 feet. Local miners contributed $835.50 in money and labor. The following summer, ARC crews cleared a triangular addition on the north side of the airfield consisting of 1.6 acres. Local miners contributed labor to the value of $615. The territory spent $5,284.41 constructing and improving the airfield.[152] The territory spent $120 on minor improvements to the airstrip during 1929-1930.[153]

[Changing Trail Use] Although airplanes took over transport of mail and began carrying passengers in the late 1920s, most heavy equipment and supplies still had to be brought up the Koyukuk to Bettles via small steamers and transported up the river to Coldfoot primarily by horse-drawn scows, or brought up the Yukon to Beaver. From Coldfoot and Beaver, the heavy equipment and supplies were carried overland to the mining camps, primarily in the winter by dog sleds or horse-drawn sleds. Horse-drawn wagons were used in late summer to carry supplies from Beaver to Caro, then relayed in the winter by sleds to Chandalar area mines. Airplanes were too small and were not economical for carrying heavy freight during the late 1920s. The ARC continued to do maintenance on the Beaver-Caro Trail in the late 1920s, but spent no money maintaining the Big Creek and Caro-Coldfoot trails. In 1927, William Sulzer and Joseph S. Shaw each wrote the ARC requesting shelter cabin improvements and repairs to the Beaver-Caro and Caro-Flat Creek trails. James Steese, president of the ARC, authorized funds to improve the "Caro-Flat Creek and Big Creek routes.[154] According to the *ARC Annual Report* for 1929, the Caro-Coldfoot Trail was in good condition and still used, except for the last 55 miles between the West Fork of the Chandalar and Coldfoot, which "are very little used and are in poor condition." In 1928-1929, the ARC spent $2,720 on construction and $3,159.44 on maintenance of the Caro-Flat Creek Trail, which served as the primary supply route from Caro to the mines at Little and Big Squaw creeks. Work included constructing 7.5 miles of new alignment to eliminate some steep grades and constructing two bridges.[155]

[Mining in the Koyukuk] Claim and assessment work filings in the Slate Creek drainage declined in the 1910s, then rebounded in the mid-1920s. Thirty-eight new claims were filed on Slate

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[151] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1927*, p. 52; Karl Theile, *Biennial Report of the Territorial Board of Road Commissioners, 1925-1927*, (Juneau 1927), pp. 49, 61.

[152] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1928*, p. 51; Sommers, *Biennial Report of the Territorial Board of Road Commissioners, 1927-1929*, p. 62.

[153] R. J. Sommers, *Biennial Report, Territorial Highway Engineer, Territorial Board of Road Commissioners for the Territory of Alaska,, April 1,1929-March 31, 1931*, (Juneau: 1931), p. 82.

[154] Letter from James G. Steese to William Sulzer, April 7 1927, Record Group 30, Records of the Alaska Road Commission (ARC) and Bureau of Public Roads (BPR), Project Correspondence, 1916-1959, Box 33, NA&RC.

[155] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1929* (Juneau, 1929), p. 51.

Creek and five new claims on Myrtle Creek from 1916 to 1929 (Table 7). Most of the claims were filed in the mid-1920s. Gold production and trail activity in the Koyukuk District declined substantially after 1917. America's entry into World War I tightened the labor market, luring miners and workers to join the military or take more lucrative jobs in the war economy. Other richer mining districts also drew some miners away from the Koyukuk gold fields. By the late 1910s, the easy-to-get-at gold placers on most creeks had been exhausted, leaving miners to work the more deeply buried deposits which involved more intensive labor. The remoteness of the area and the crude trail system discouraged capitalists from introducing large-scale mining equipment. Although a few miners continued to operate small placers, the gold rush era was largely over in the Koyukuk by 1920.[156]

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1916	2	0	0	2
1917	0	0	0	0
1918	0	0	0	0
1919	0	0	23	23
1920	6	17	0	23
1921	1	9	0	10
1922	7	0	0	7
1923	4	0	0	4
1924	17	6	0	23
1925	0	7	0	7
1926	1	1	0	1
1927	4	1	0	5
1928	0	0	0	0
1929	2	2	0	4
Total	43	43	23	109

Table 7. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1916-1929 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[Chandalar Mining] New claim and assessment work filings practically ceased in the Chandalar District between 1916 to 1929. Only one new claim was filed in 1916 on Big Creek (Table 8).The Chandalar District, in the words of one writer, "held more continued hope and less actual production than perhaps any other in Alaska."[157] After the initial rush in 1906, fewer than 50 people worked in the Chandalar in any given year until the early 1980s. The discovery of lode deposits in the Chandalar spurred investment in development work and improvements in trail construction to move the heavy equipment needed for milling hard rock gold deposits. However, lode gold production was small. Most gold production in the Chandalar came from small-scale placer operators, many of whom worked in open pit mining in the summer and labor intensive drift mining in the winters. Gold production increased in the early 1920s, prompting the ARC to upgrade the Beaver-Caro, Flat Creek, Big Creek and Caro-Coldfoot trails. But gold production and trail use declined in the late 1920s,

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156 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 152.

157 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 152.

at the same time that airplanes began to provide an alternative to overland travel.

[Chandalar Hampered by High Transportation Costs]Geologist Norman Wimmler noted in 1929 that the remote-ness of the area, the high cost of transportation and supplies, and lack of nearby fuel and timber all hindered prospecting and mining in the Chandalar. The road from Beaver to Caro was "rough and difficult to travel being really nothing more than a winter road." Freight continued to cost 15 cents a pound in winter and 40 cents in the summer.[158] Miners in the Chandalar "have been badly handicapped by the difficulty of getting supplies to their camps, as the roads and trails leading to the district have fallen into ill repair." One miner observed that "poor trails and faulty mail service are the two main factors in keeping a good country down."[159] Irving Reed, a territorial geologist, noted that despite the continued existence of ground that is promising, "the remoteness of the district, high freight rates and difficulties of transportation make living conditions so hard that most of the miners have had to leave." Despite ARC improvements to the Big Creek Trail, a wagon and two horses driven over the trail in August 1927 could not make it to the mining camp. The wagon was taken apart and hauled by dog teams the last 10 miles.[160]

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1916	1	0	0	1
1917	0	0	0	0
1918	0	0	0	0
1919	0	0	0	0
1920	0	0	0	0
1921	0	0	0	0
1922	0	0	0	0
1923	0	0	0	0
1924	0	0	0	0
1925	0	0	0	0
1926	0	0	0	0
1927	0	0	0	0
1928	0	0	0	0
1929	0	0	0	0
Total	1	0	0	1

Table 8. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, creeks on the Middle Fork of the Chandalar, and creeks on the South Fork, 1916-1929 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[**Summary Conclusions**] The Caro-Coldfoot and Coldfoot-Chandalar trails were summer pack trails and winter dog sled trails during the 1920s. The majority of the people using the trails were miners and freight carriers. A few local residents, such as Neveloe Yasuda, the wife of Frank Yasuda, used the Beaver-Caro and Big Creek trails for subsistence purposes and to travel to the

158 Wimmler, "Placer Mining in Alaska in 1929," p. 237.

159 Stewart, *Annual Report of the Territorial Mine Inspector to the Governor of Alaska, 1920*, pp. 9-10.

160 Irving M. Reed, "Report on Mining Conditions in the Chandalar District [in 1929]," p. 1.

Chandalar Lake area to provide services such as sewing for "campers and miners" in the 1910s and 1920s.[161] Completion of the Alaska Railroad between Seward and Fairbanks helped extend the shipping season for the Koyukuk and Chandalar mining districts. Freight hauled by the railroad to Nenana could be barged via the Nenana and Yukon rivers to Bettles and Beaver a month earlier in the spring and a month later in the fall. But freight costs remained high.[162] Even though the ARC was responsible for maintaining the Caro-Coldfoot and Coldfoot-Chandalar routes, these routes were not improved beyond winter dog-sled and summer pack trails in the 1920s. The vast majority of supplies reached Upper Koyukuk camps through the late 1920s via horse-drawn scows on the Middle Fork of the Koyukuk River in the summer and overland from Bettles to Coldfoot and Bettles by dog or horse-drawn sleds in winter. Supplies arriving at the Chandalar were delivered by way of the Beaver-Caro route by pack horses in summer and dog and horse-drawn sleds in winter, then to the Chandalar mines by way of the Flat Creek and Big Creek trails. These were the same methods that had been employed for nearly three decades.

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[161] Tom E. Gillispie and Robert Sattler, "Archaeological inventory and evaluation of a proposed negotiated Sale of the Chaille Ann Yasuda (aka Shelly Anne Trainor) certified Native allotment, Chandalar Lake. (FF-1449, USS No. 11,942)," Tanana Chiefs Conference, Inc. NHPA Section 106 Report No. 68, (Fairbanks: Tanana Chiefs Conference, Inc., June 2002), p. 16.

[162] Bureau of Land Management, *The Search for Gold along the Koyukuk River* (Fairbanks: Bureau of Land Management, Northern Field Office, 1999), p. 11.

V. TRAIL USE AND IMPROVEMENTS, 1930-1941

[Introduction] Gold mining in the Koyukuk and Chandalar mining districts, as in most of Alaska, declined in the early 1930s with the onset of the Great Depression. The ARC, which was tasked with maintaining roads and trails in the territory, suffered budget cuts and had to reduce its services. The cutbacks in road and trail maintenance were felt most in remote mining districts, where trail and road construction and maintenance were most expensive to provide and high transportation costs were often a critical factor in mining operations. A rise in the fixed price of gold in 1933 and the introduction of new technology in the late 1930s led to a resurgence of mining activity in the interior. However, the potential for a bright future for Koyukuk and Chandalar miners was cut short as war clouds in Asia and Europe loomed on the horizon.

[Mining in the Slate Creek Drainage, 1930-1940] The Koyukuk district was one of the most isolated and remote in Alaska, and the high cost of transportation to the mining camps made it one of the most expensive mining camps in the world. After thirty years of mining, almost every pound of freight and supplies had to be hauled another 65-75 miles from Bettles by way of poling boats and horse drawn scows.[163] Geologist Irving Reed observed in early 1931 that mining in the Koyukuk District was "at a very low ebb." Most mining was by crude hand methods, but with improved transportation and capital, Reed thought it might be possible to mine Slate and other creeks in the district with hydraulic equipment. But it might be many years before transportation costs were made less expensive by a road from the Yukon River, and he predicted that in the near future the "district will be practically abandoned ... except for a few prospectors."[164] In the 1930s, intermittent mining was conducted using hydraulic and hand methods on Slate Creek.[165] Three men were mining on Myrtle Creek and none on Slate Creek during 1931.[166] Billy Mar and Mike Farley drift mined a bench on Slate Creek and Knute Ellingson and Billy Gilbert shoveled-in on Myrtle Creek.[167] In 1934, Peter Haslem and associates and William Marr did open cut mining along Myrtle Creek.[168] The modern channel on Myrtle Creek had been mostly worked out by 1937, but there was

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[163] Terrence Cole, "Early Explorers and Prospectors on the Koyukuk," in *Koyukuk*, Alaska Geographics, Vol. 10, No. 4. (Anchorage: The Alaska Geographic Society, 1983). p. 34.

[164] Irving M. Reed, "The Future of the Placer Mining Industry in Seward Peninsula and the Interior of Alaska," Miscellaneous Report MR-195-13, (Juneau: Territorial Department of Mines, 1931), p. 14.

[165] Philip S. Smith, "Mineral Industry of Alaska in 1938," in P. S. Smith, editor, *Mineral Resources of Alaska: Report on Progress of Investigations in 1938*. USGS Bulletin 917 (Washington, D.C.: U.S. Government Printing Office, 1939), p. 55.

[166] Robert Marshall, "Reconnaissance of the Northern Koyukuk Valley," in P.S. Smith, editor, *Mineral Resources of Alaska: Report on Progress of Investigations in 1931*, USGS Bulletin 844 (Washington, D.C.: U.S. Government Printing Office, 1934), p. 255.

[167] *Fairbanks Daily News-Miner*, February 8, 1933, p. 7.

[168] Philip S. Smith, "Mineral Industry of Alaska in 1934," in P. S. Smith, editor, *Mineral Resources of Alaska: Report on Progress of Investigations in 1934*. USGS Bulletin 868 (Washington, D.C.: U.S. Government Printing

mining activity midway up the creek.[169] In 1937 and 1938, Knute Ellingson (Figure 21) ground sluiced and sank shafts on Myrtle Creek with a crew of five men. Peter Haslem and Peter Doherty ground sluiced and shoveled-in on Myrtle Creek and Victor Neck ground sluiced on Kelly's Pup, a tributary of Myrtle Creek.[170] During the summer of 1939, Andrew Schwaesdall and John Repo leased 20 claims on Myrtle Creek from Peter Haslem, Peter Doherty, Victor Neck, Knute Ellingson and others. Later that fall, Schwaesdall and Repo purchased two RD-8 Caterpillar tractors with LeTourneau dozers, a 20-ton Athey trailer, a LeTourneau rooter, an arc welder, steel sluice boxes, hydraulic pipe and diesel oil, and had the equipment barged up the Koyukuk River to Alatna.[171] During the winter of 1939-1940,they walked the equipment overland by cat-train to Coldfoot, then over the Coldfoot-Chandalar Trail to Myrtle Creek. The two caterpillar tractors pulled go-devils that carried the fuel and equipment (Figure 22). Repo and Schwaesdall made another trip over the same route in early 1941 hauling a dragline up the trail to Myrtle Creek (Figure 23). They operated the first dragline and dozer in the region during the 1940 mining season. They also used hydraulic equipment.[172] Their Myrtle Creek operation marked the introduction of modern mechanized mining in the northern part of the Koyukuk district. The Repo

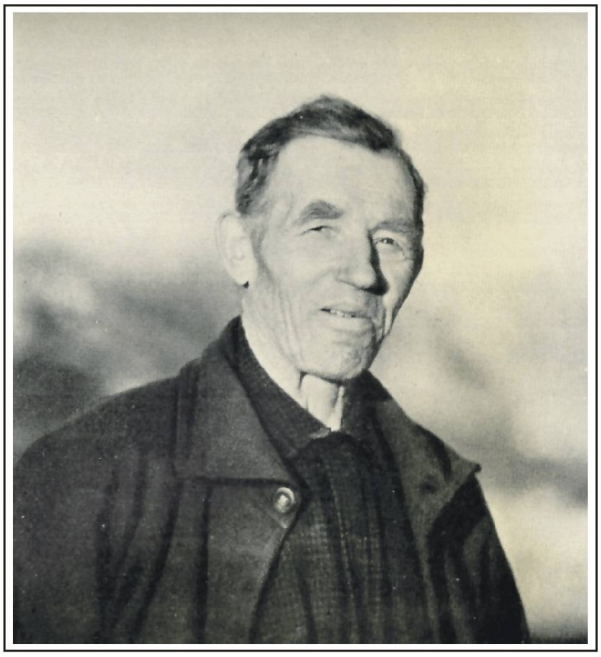

Figure 21. Knute Ellingson, Myrtle Creek miner, early 1930s. Photo reprinted from Robert Marshall, Arctic Village (1933), p. 37.

Office, 1937), p. 43.

169 Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, Volume I, C-1976.

170 Irving M. Reed, "Upper Koyukuk Region, Alaska, 1937," (Juneau: Territorial Department of Mines, Juneau, 1938), pp. 96, 98, 100; B.D. Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1938* (Juneau: Territory of Alaska, 1939), p. 56.

171 Henry R. Joesting, "Koyukuk Precinct, Notes on Placer Mining," (Juneau: Territorial Department of Mines, 1939), p. 1, reprinted in Erik Hansen, *Mining Activity along Coldfoot to Chandalar Lake Trail (RST 9) and Caro to Coldfoot Trail (RST 262), 1898-1968*, (Ester, Alaska, November 2005); Philip S. Smith, "Mineral Industry of Alaska in 1939," in P. S. Smith, editor, *Mineral Resources of Alaska: Report on Progress of Investigations in 1939*. USGS Bulletin 926 (Washington, D.C.: U.S. Government Printing Office, 1941), p. 52.

172 *Fairbanks Daily News-Miner*, March 18, 1940, p. 4; B.D. Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1940* (Juneau: Territory of Alaska, 1941), p. 87: Telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzell, August 22, 2006.

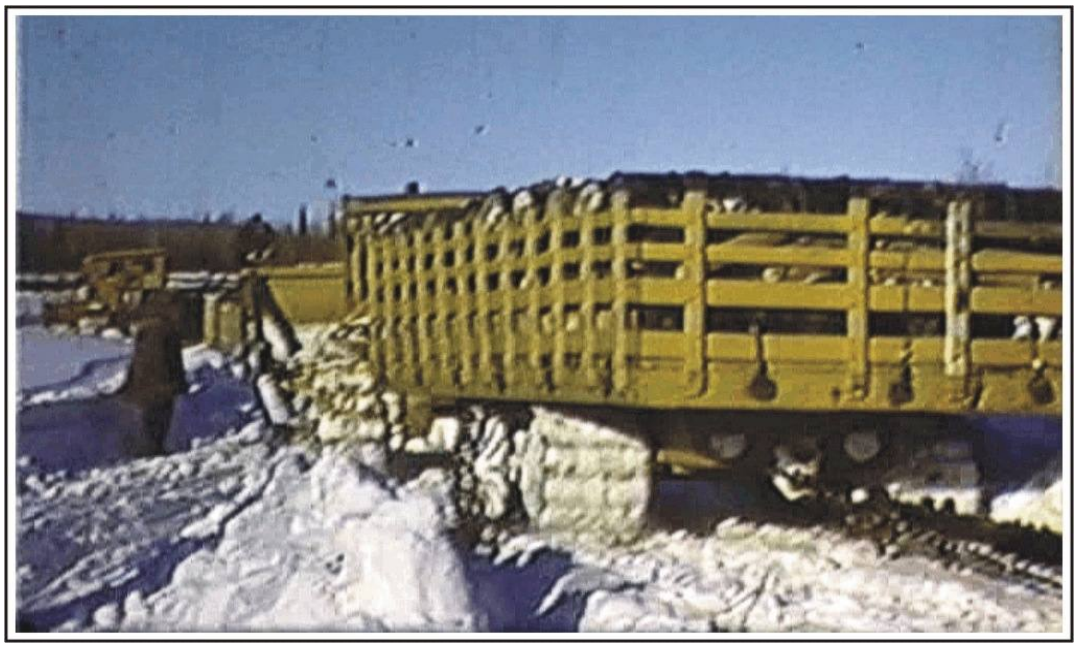

Figure 22. Repo and Schwaesdall cat-train en route to Myrtle Creek on the east end of the Caro-Coldfoot and Coldfoot-Chandalar trails, spring 1939. The tracked trailer carrying fuel barrels is being pull by a tractor. The lead tractor (far left) is also pulling a trailer. Photo reproduced from "2006 Placer Mining Convention Film," courtesy of George Lounsbury, Fairbanks.

Figure 23. Repo and Schwaesdall dragline in 1940 at Myrtle Creek. Photo reproduced from "2006 Placer Mining Convention Film," courtesy of George Lounsbury, Fairbanks.

and Schwaesdall operation was the largest mine in the district and resulted in a major jump in gold production in the district.[173]

[Transportation to Slate Creek] In the late 1930s, transportation to Myrtle Creek was by an 8-mile winter tractor road, at the west end of the Coldfoot-Chandalar Trail. The road left the deserted town of Coldfoot on the south side of the mouth of Slate Creek, crossed Slate Creek two miles upstream at an elevation of 1,210 feet and Sutton Creek at 4.5 miles at an elevation of 1,315 feet. The trail crossed the summit of the rise between Slate and Myrtle Creeks at an elevation of 1,660 feet, then dropped down to Myrtle Creek in front of Peter Haslem's cabin at an elevation of 1,500 feet. Miners brushed out a winter airplane landing field on the summit just south of the trail.[174]

[Placer Mining in Chandalar District] Placer mining in the Chandalar declined during the 1930s. The remaining pay zones were either deep or lower grade, or, in many cases, no longer frozen making drift mining impractical. During 1929 and 1930, Bart Buckley, C.L. Carlson and Amero, drift mined in the Chandalar area.[175] The prospects looked so dismal that geologist Irving Reed wrote in 1930 that "placer mining in the Chandalar District is practically finished." Nicolson, who had been hydraulicking in recent years, was idle on Big Creek during 1930, but Arthur Newton ground sluiced on upper Big Creek, Manuel Mella drift mined on Little Squaw Creek, and Ellis Anderson prospected on Tobin Creek. Reed predicted that if drift mining ground on Tobin and lower Big Creek did not turn out to be profitable, "two years will probably see the entire abandonment of the Chandalar District."[176] During 1932, seven men mined at five separate drift-mining operations, one was shoveling-in and two were prospecting. In 1934-1935, ten men engaged in placer mining in the Chandalar.[177] Arthur Newton and Manuel Mello placer mined in the Chandalar in 1935. Mello, Carlson and Buckley, and Ellis drift mined in 1936, while Newton was hydraulic mining.[178] Eight men

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[173] P.S. Smith, "Mineral Resources of Alaska in 1940," in *Mineral Resources of Alaska: Report on Progress of Investigations in 1940*. U.S. Geological Survey Bulletin 933A, (Washington, D.C.: U.S. Government Printing Office, 1942), p. 47; Joseph M. Kurtak, et. al., *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*, p. 9.

[174] Irving M. Reed, "Upper Koyukuk Region, Alaska, 1937," p. 95.

[175] Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004; B.D. Stewart, *Report on Cooperation Between the Territory of Alaska and the United States in Making Mining Investigations and in the Inspection of Mines for the Biennium Ending March 31, 1931* (Juneau: 1931), p. 145.

[176] Reed, "The Future of the Placer Mining Industry in Seward Peninsula and the Interior of Alaska," pp. 13-14; Irving M. Reed, "Report on the Little Squaw Area of the Chandalar Mining District," Miscellaneous Reports MR-31-4, (Juneau: Territorial Department of Mines, 1930), pp. 7-9, 11.

[177] B.D. Stewart, *Mining Investigations and Mine Inspection in Alaska, Including Assistance to Prospectors: Biennium Ending March 31, 1933* (Juneau: 1933), pp. 99-100; B.D. Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1936* (Juneau: Territory of Alaska, 1937), pp. 48, 67.

[178] P.S. Smith, "Mineral Resources of Alaska in 1935," P.S. Smith, editor, *Mineral Resources of Alaska: Report on Progress of Investigations in 1935*. U.S. Geological Survey Bulletin 880A, Washington, D.C.: U.S. Government Printing Office, 1937), pp. 46; Smith, "Mineral Resources of Alaska in 1936," P.S. Smith, editor,

were engaged in placer mining in the district during 1937-1938, including Mello and Ellis Anderson and Carlson and Freshman.[179] Three outfits produced gold during the 1939 season. Two were on Big Creek, the other was on Little Squaw Creek, and another outfit prospected on Tobin Creek. Gold production in 1940 dropped from the previous year, as only three outfits were active. Two did open pit mining and the third engaged in drift mining[180] (Figure 24). During 1941, an outfit brought a 4-inch Kirk-Hillman drill from Fairbanks to Big Creek to conduct testing to determine the prospects for larger-scale placer mining. The outfit drilled only 6 or 8 holes and did no follow-up mining due to the onset of World War II. The piece of equipment was abandoned and was still at the drilling site in 1956.[181]

Figure 24. Sluicing winter gravels from a drift mine, early 1930s. Photo reprinted from Robert Marshall, *Arctic Village* (1933), p. 161.

[Lode Prospecting in the Chandalar] While placer mining declined, development of lode prospects continued. Chandalar Gold Mines, Inc., the owners of the Sulzer lode claims on Little Squaw Creek, shipped a new Allis-Chalmers four-stamp mill, complete with engine and boiler, into the district during the winter of 1931-1932 and stored it ten miles from a proposed Spring Creek mill site, where a three-stamp mill was already located.[182] Sulzer continued intermittent development of

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Mineral Resources of Alaska: Report on Progress of Investigations in 1936. U.S. Geological Survey Bulletin 897A, Washington, D.C.: U.S. Government Printing Office, 1938), pp. 54-55;

[179] P. S. Smith,"Mineral Resources of Alaska in 1937," in, *Mineral Resources of Alaska: Report on Progress of Investigations in 1937*. U.S. Geological Survey Bulletin 910, (Washington, D.C.: U.S. Government Printing Office, 1939), pp. 58; Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1938*, pp. 39, 64; B.D. Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1940,* (Juneau: Territory of Alaska, 1951), p. 73.

[180] Smith, "Mineral Industry of Alaska in 1939," p. 54; Smith, "Mineral Resources of Alaska in 1940," p. 47;

[181] Eskil Anderson, "Big Creek Placer Prospect, Chandalar Mining District, Alaska," Miscellaneous Report PE-031-01, (Juneau: Territory of Alaska, Department of Mines, 1946), p. 3.

[182] Letter and report from E.A. Broadway, consulting engineer, to W.R. Wade, Engineer's Exploration Syndicate, New York, April 1, 1932, Little Squaw Gold Mining Company Archives, p. 17, copy in Miscellaneous Reports MR 31-6 of the Territorial Department of Mines; Stewart, *Report of the Commissioner of Mines to the Governor for*

lode prospects throughout the 1930s.[183] During the Great Depression, Sulzer had difficulty raising money for his Chandalar venture, so most of the money invested in the venture was his own. Over the years Sulzer poured $200,000 of his money in to the Chandalar, with only minute returns on his investment.[184] He acquired federal mineral patents for the principle discovery claims, prepared reports in anticipation of mining ore and continued to promote his lode claims until his death in 1941.[185]

[Transportation to the Chandalar] The ARC concentrated maintenance work on the Beaver-Caro and Caro-Flat Creek trails in the early 1930s and did no work on the Caro-Coldfoot and Big Creek trails.[186] The only communication with the Chandalar mining camp was by dog team in winter or by airplane or foot travel in summer. The route from Beaver to Caro and up Flat Creek to the Chandalar mines was the primary overland supply route for the miners in the district. One geologist noted that the Beaver-Caro Road could be used in late fall and early winter for hauling, "but it is too wet in summer for general use." Most of the freighting was done in winter with miners wintering in Beaver and spending the cold season freighting supplies and equipment to their mining camps. Heavy freighting was done during the winter by individual miners with dog teams, horses, and tractors, the latter being used only where a large amount of freight was handled. Local miners built a good pack horse road between the Little Squaw lode claims and the mill that had easy gradients. Transportation in the future, one geologist predicted, "lies in the use of tractors."[187]

[Condition of the Caro-Coldfoot Trail] During February 1930, ARC employees Charles Mayben and Iver Quenboe made an inspection visit of the trails in the Beaver-Caro-Coldfoot area. Quenboe noted that O.J. Nickolson, C.L. Carlson and other local miners had made repairs on the Beaver-Caro and Caro-Flat Creek trails. Quenboe characterized the 88-mile Caro-Coldfoot Trail as "a good winter trail only." Along the route, he noted shelter cabins (starting from Caro at Mile 0.0) at Mile 2.5, Mile 20, Mile 24, Mile 33, Mile 60, Mile 65 and Mile 77, bridges at Mile 2.5 and Mile 20, and aerial trams at Mile 13.5, Mile 31 (the North Fork of the Chandalar), Mile 33 (Horse Creek), and Mile 60 (South Fork of the Koyukuk River). He also noted that much of the trail from Mile 24 (Big Creek) to Mile 88 (Coldfoot) went through open country with little or no staking or through

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the Biennium Ended December 31, 1936, pp. 48, 67.

183 P. S. Smith,"Mineral Resources of Alaska in 1937," pp. 58; Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1938*, pp. 39, 64; Stewart, *Report of the Commissioner of Mines to the Governor for the Biennium Ended December 31, 1940,* p. 73.

184 Hunt, *North of 53°: The Wild Days of the Alaska-Yukon Mining Frontier*, pp. 233, 239.

185 Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004; Hawley, "William Sulzer (1863-1941)," p. 9.

186 ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1930*, (Juneau: 1930), p. 75; ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1931*, (Juneau: 1931), p. 67.

187 Irving M. Reed, "The Little Squaw Group, and the Bonanza Group, of Gold Mines owned by the Chandalar Gold Mines, Inc.," October 17, 1930, pp. 2-3, Irving M. Reed Collection, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska Fairbanks.

forest with only occasional blazes to mark the route. Quenboe recommended that the entire Caro-Coldfoot Trail be re-staked, the section from Crooked Creek to South Fork be re-cut, and a new shelter cabin be built at Crooked Creek and another shelter cabin be built at the South Fork of the Koyukuk to replace the one there that was in poor condition.[188]

[Chandalar Miners lobby ARC] The ARC focused its efforts in 1930 on replacing bridges between Beaver and Caro that had been washed out during the last breakup. Sulzer complained that the condition of the roads was terrible in the Chandalar area, but the ARC Fairbanks superintendent, Frank Nash, who constantly received complaints from the Chandalar miners, tended to take Sulzer's information with a grain of salt. Nash advised his foreman for the area to "listen to some of those birds up there and do somethings the way they want it done, if it is'nt [sic] to raw, by doing that it will satisfy their vanity a little and give them a little satisfaction and then they will probably not do so much squawking."[189] In 1932, consulting engineer E.A. Boadway described the Beaver-Caro Trail as "a well cut road." All traffic "to this [Chandalar] district now enters ... through the village of Beaver on the Yukon River." Tractor and wagon travel was possible, except during summer. "The completion of this road through to the mining district," he wrote, "will probably be undertaken by the government when mining activity within the district warrants."[190] Broadway lobbied the ARC for improvements, pointing out that the high costs of freighting to the Chandalar could be greatly reduced. He reported to investors that "government assistance is assured when justified by active development."[191]

[Trails Not Improved] Development on a scale that would have warranted the ARC making significant improvements to the trails in the Chandalar did not materialized. And the route was not in as good a shape as Broadway claimed. In 1932, the ARC down-graded its classification of the Beaver-Caro Route from a wagon to a sled road because the route had not been improved to road standard. It had been erroneously classified as a road because it was passable for wagons with light loads.[192] Governor John Troy asked the U.S. Secretary of the Interior for Public Works funding for road and trail improvements under the National Industrial Recovery Act in the fall of 1933, including $290,000 for a summer tractor road between Beaver, Caro and Little Squaw Creek in the Chandalar

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[188] Letter from Iver Quenboe to Frank Nash, ARC Superintendent for the Fairbanks Region, March 16, 1930, pp. 1, 3-7, and telegram from Quenboe in Fairbanks to Frank Nash in Juneau, March 14, 1930, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

[189] Letter from Frank Nash, Fairbanks, to ARC foreman C.R. Mayben, Russian Mission, August 20, 1930, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section.

[190] Letter and report from E.A. Boadway, consulting engineer, to W.R. Wade, Engineer's Exploration Syndicate, New York, April 1, 1932, p. 2.

[191] Letter and report from E.A. Boadway, consulting engineer, to W.R. Wade, Vice President and Consulting Engineer for Idaho-Alaska Corporation, New York, May 25, 1933, Little Squaw Gold Mining Company Archives, pp. 1, 5, copy in Miscellaneous Report MR 31-7 of the Territorial Department of Mines.

[192] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1932*, (Washington, D.C.: U.S. Government Printing Office, 1932), p. 31.

Figure 25. A typical cat-train in the late 1930s, delivering fuel to a mining camp during winter. The wanagan at the rear of the train was the crew quarters during the trip. This cat-train was traveling from Aniak to Flat. Eddie Barge collection, OHA/BLM Flat Project, OHA, Anchorage.

District.[193] That project and many others proposed for Alaska were not funded. O.J. Nicholson, who was placer mining on Big Creek, hauled all of his supplies from the Yukon by dog team. Considering those conditions, one miner concluded, "it must be admitted that tremendously rich ground would have to be necessary to allow for any profitable operations." In the spring of 1938, miners on Big Creek brought an RD tractor from Beaver to Big Creek "with relatively little difficulty" in seven days, pulling a 7-ton load.[194] A year later, Lake Chandalar Gold Mines Limited used a RD-4 tractor to deliver about 1,500 pounds of oil and gas to Chandalar from Beaver (Figure 25). The cat-train took six days to go from Beaver to Caro and up Flat Creek Trail to the mines.[195]

[ARC Trail Work in the 1930s] The ARC continued to list the Beaver-Caro, Caro-Coldfoot, Big Creek and Flat Creek trails on its inventory of active trails through out the 1930s. Due

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[193] John W. Troy, "Alaska Road, Air Field and other Related Projects Recommended to Honorable Harold L. Ickes, Secretary of the Interior, for Construction under the Public Works Section of the National Industrial Recovery Act," September 11, 1933, Anthony Dimond Collection, Alaska Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska Fairbanks.

[194] Wayne Adney, "Big Creek" Report, 1945, p. 1, reprinted in Erik Hansen, *Mining Activity along Coldfoot to Chandalar Lake Trail (RST 9) and Caro to Coldfoot Trail (RST 262), 1898-1968*, (Ester, Alaska, November 2005).

[195] Letter from C.W. McKee, Chandalar, to Lake Chandalar Gold Mines Limited, Toronto, Canada, August 5, 1939, Little Squaw Mining Company archives, Spokane, Washington.

to the relatively low level of mining activity in the area, the ARC spent small amounts on maintenance on the Beaver-Caro route in 1932-1935 and 1939, the Caro-Flat Creek route in 1932-1933, and the Caro-Coldfoot route in 1938 and 1939. An ARC maintenance crew performed work during the summer of 1938 on the trail between Coldfoot and Myrtle Creek (Route 47E) at the far west end of the Coldfoot-Chandalar and Caro-Coldfoot trails. The ARC spent "considerable time" on this segment clearing the trail of windfalls, corduroying soft spots, ditching, installing timber culverts and repairing washouts. "Considerable time was spent on this trail; it should not require much work for some time to come."[196] By the end of the decade, the ARC had spent accumulated totals over the years on construction and maintenance of $70,028 on the Beaver-Caro route, $9,614 on the Big Creek route, $16,517.56 on the Caro-Flat Creek Trail, and $13,325 on the Caro-Coldfoot Trail.[197] The ARC spent Territorial funds to maintain the Chandalar Airstrip in the early 1930s (Table 9), and built an airstrip at Beaver in 1940.[198] The Territory spent $3,367 on maintenance of trails and sled roads in the Yukon-Tanana Region in 1939-1940, but none of that money was spent on trails connecting Beaver, Caro, Chandalar and Coldfoot.[199]

Table 9. ARC Expenditures, 1928-1940

Year	Route	Agency	Type of Work	Amount
1928-1932	Caro			$0
1933	Caro	ARC	Maintenance	$7,559
1933	Caro	ARC	Construction	$5,607
1934-1938	Caro	ARC		$0
1939	Caro	ARC	Maintenance	$157
1940	Myrtle Creek	Territory	Construction of Air Field	$1,500

(Source: ARC annual and TBRC biennial reports.)

[196] Letter from Frank Nash to ARC in Juneau, August 12, 1938, Records of the ARC and BPR, Federal Records Center (FRC) 65419, copy located at ADOT&PF, Fairbanks, Right-of-Way Section, p. 4.

[197] ARC, *Annual Report of the Alaska Road Commission Fiscal Year 1932*, (Washington, D.C.: U.S. Government Printing Office, 1932), p. 49; ARC, *Annual Report of the Alaska Road Commission For the Year Ending June 30, 1933*, (Juneau, U.S. Department of the Interior, 1933), pp. 22-23; ARC, *Annual Report of the Alaska Road Commission For the Year Ending June 30, 1934*, (Juneau: U.S. Department of the Interior, 1934), p. 25; ARC, *Annual Report of the Alaska Road Commission, 1935*, (Juneau, 1935), p. 25; ARC, *Annual Report of the Alaska Road Commission, 1939*, (Juneau, 1939), pp. 22-23;

[198] ARC, *Annual Report Alaska Road Commission, 1940* (Juneau, 1941), p. 27.

[199] William A. Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1939-1940*, (Juneau: 1941), p. 64.

[Potential New Traffic on the Eve of War] In early 1941, thirteen people were planning to prospect or mine in the Chandalar district during the coming summer and one of them requested ARC assistance in improving sled roads and trails accessing the Chandalar. The miner, Noel Ross, noted that mechanical equipment in the area included a tractor in Beaver used for freighting; a "22" tractor, an RD-4 caterpillar, and the old Cleveland Tractor at Little Squaw; and a drill rig that was used to test placer ground. "At present, tonnage moved over the trail[s] is negligible, being confined to dog transportation," Ross advised the ARC superintendent in Fairbanks. Airplane costs, he added, were so high that they discouraged freighting by air. Another miner, R.S. McConke, also made inquires to the ARC about routes for freighting by tractor from Beaver to Wiseman during the winter months. Frank Nash, the ARC superintendent in Fairbanks, suggested sending someone to do an on-site inspection of trails in the area during the summer of 1941. Hawley Sterling, the ARC's chief engineer in Juneau, wrote Nash on March 24, 1941, directing him to plan on sending someone to look over the trails that next season.[200]

[Shelter Cabins] Throughout the 1930s, appropriations from the TBRC for shelter cabins decreased while support for airstrips increased as the mode of freighting shifted away from dog sleds to airplanes. The territory decreased funding for shelter cabins along remote trails and sled roads from $20,000 a year in 1929 to $2,000 a year in 1933.[201] The TBRC reasoned that airplanes had supplanted overland travel and airmail contracts had taken the place of mail transport by dogs.[202] The Territory spent no money during the mid- and late-1930s on shelter cabins or airstrips in the Caro-Chandalar-Coldfoot area. The ARC office in Fairbanks shipped two stoves and some pipe to Beaver in March 1936, for use in shelter cabins in the Chandalar section. Since there was no ARC employees in the Chandalar area, the ARC paid Frank Yasuda (Figure 26), one of the discoverers of gold in the Chandalar in 1904, to install the stoves and stove pipe in the shelter cabins along the trails in the Chandalar.[203] The winter tractor road from Beaver to Caro had shelter cabins every 10 miles in 1939.[204] Six shelter cabins were located along the Caro-Coldfoot Trail and two shelter cabins were

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[200] Frank Nash to ARC in Juneau March 12, 1941 and Hawley Sterling to Frank Nash March 24, 1941, Records of the ARC and BPR, Record Group 30, Program Planning and Research Correspondence, 1905-1959, Box 12, NA&RC.

[201] William A. Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1933-1934*, (Juneau: 1935), p. 45.

[202] William A. Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1937-1938*, (Juneau: 1939), p. 58.

[203] Letter from Frank Nash to Hawley Sterling, March 2, 1936, Records of the ARC and BPR, FRC 65419, copy located at ADOT&PF, Fairbanks, Right-of-Way Section, p. 1; letter from Frank Nash to Hawley Sterling, August 6, 1936, p. 5, Records of the ARC and BPR, FRC 65419, copy located at ADOT&PF, Fairbanks, Right-of-Way Section.

[204] Letter from C.W. McKee, Chandalar, to Lake Chandalar Gold Mines Limited, Toronto, Canada, August 5, 1939, Little Squaw Mining Company archives, Spokane, Washington.

located along the upper portion of the Coldfoot-Chandalar Trail between Horse Creek and Chandalar Lake (Figure 27). The Territory suspended its support of shelter cabins on trails to remote mining areas in 1940 because they were primarily used by local trappers, not travelers.[205]

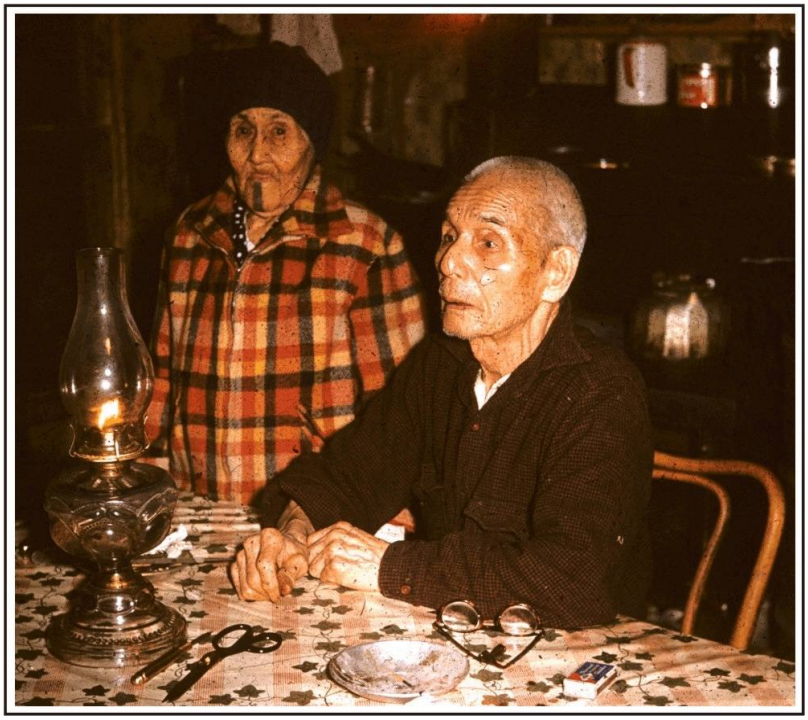

Figure 26. Frank Yasuda and his wife, Nevelo (background), in Beaver, Alaska, 1955. Slide courtesy of Hugh Matheson, Boulder, Colorado.

[Airfields] The Territory also cut back on construction and maintenance of airfields in the area. The Chandalar Airfield at Little Squaw Creek was reported to be in "poor" condition and "infrequently used" in 1933.[206] Four years later, mining engineer Merle Guise wrote the ARC that he was flying men and equipment to the Chandalar and suggested the miners and ARC partner to lengthen the Little Squaw runway. The ARC replied that it had no funds available and referred Guise to the TRCB.[207] By 1938, the Chandalar Airfield was reported to be seldom used, prompting the territory to list it as "abandoned."[208] In a cooperative venture with miners in 1940, the TBRC spent $1,500 on the construction of an airstrip at Myrtle Creek. It also funded construction of new airfields at Beaver and Wiseman.[209]

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[205] Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1939-1940*, pp. 9-10.

[206] William A Hesse, *Biennial Report of the Territorial Highway Engineer, April 1, 1931 to March 31, 1933* (Juneau, 1933), p. 89.

[207] Letter by Merle Guise to Ike Taylofr the ARC, May 28, 1937; and telegram by Hawley Sterling to Guise, June 1, 1937, Record Group 30, Records of the ARC and BPR, Project Correspondence, 1916-1959, Box 33, NA&RC.

[208] Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1937-1938*, pp. 62, 64.

[209] Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1939-1940*, pp. 33, 55-56.

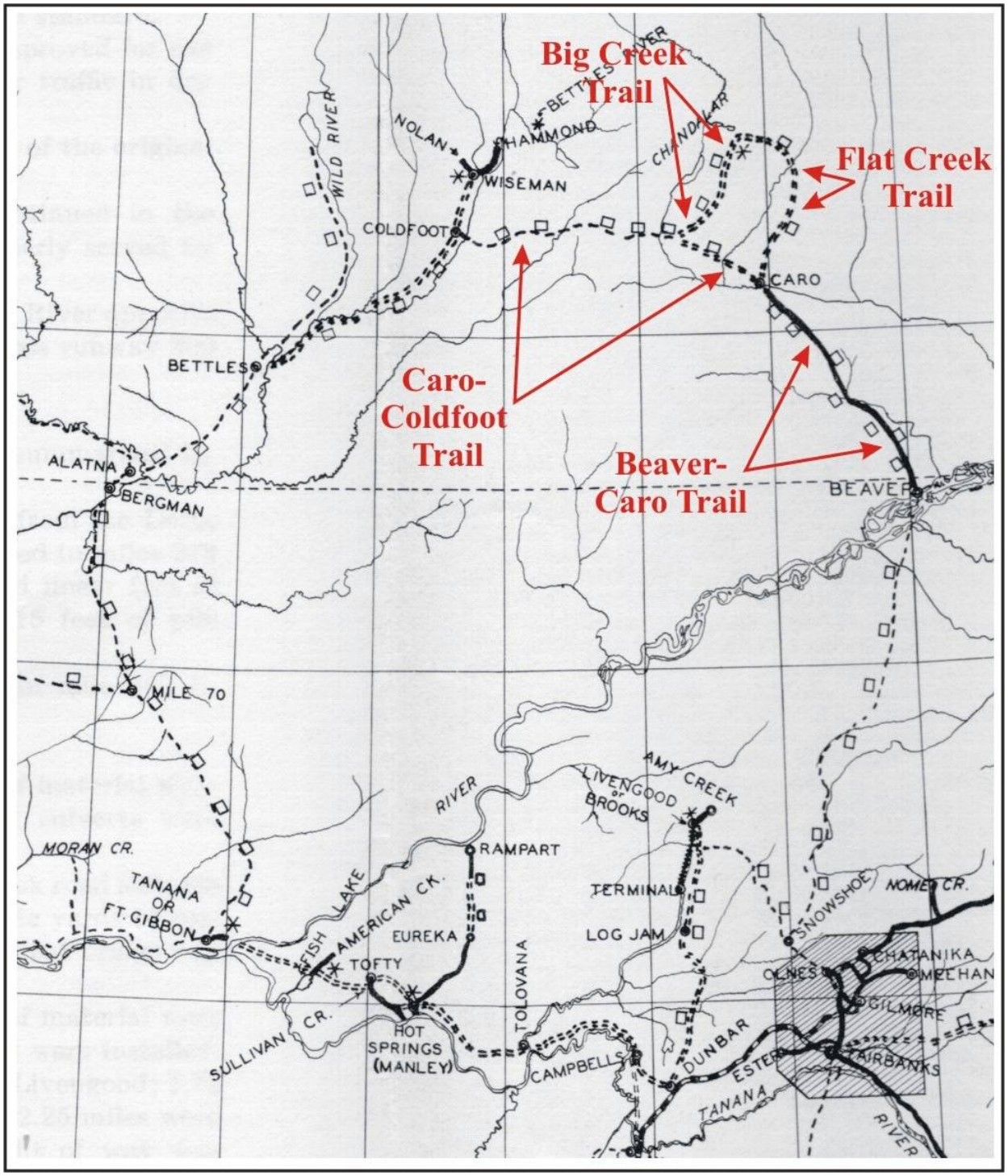

Figure 27. ARC map showing the northern portion of the Fairbanks District, including the Beaver-Caro, Caro-Coldfoot, Big Creek and Flat Creek Trails in the Chandalar-Koyukuk area. The small square objects along the trails are ARC maintained shelter cabins. Map reproduced from the *ARC 1932 Annual Report.*

[Impact of Air Transport] By 1934, airplanes based at Fairbanks could carry a ton of mail, passengers and freight. They made the trip to Chandalar in less than three hours and flew year-round.[210] Five years later, five air freight companies in Fairbanks were capable of handling up to two tons of freight on skis. Air freight rates to the Chandalar were about 12 cents per pound.[211] In 1939, the Territorial Mining Commissioner wrote that the development of air transport since the 1920s "has revolutionized the handling of passengers and freight to such outlying districts as the Chandalar." Pollock Air Service and Wien Airways in Fairbanks were the principal freight carriers to the Chandalar. "Overland freighting between Beaver and the Chandalar District is a difficult undertaking at best," he added, and "no recent improvements on the route have been made."[212] The ARC built an airfield at Beaver in 1939.[213] The small community continued as the gateway for overland transportation from the Yukon River to the Chandalar mines in the 1930s, but the largely Native community gradually became a trapping center as aircraft took over much of the freight business to the Chandalar mines.[214]

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1930	2	0	0	2
1931	8	2	0	10
1932	0	0	0	0
1933	1	0	0	1
1934	36	1	0	37
1935	0	0	0	0
1936	7	0	0	7
1937	7	0	0	7
1938	1	0	0	1
1939	1	0	0	1
1940	54	0	0	54
1941	26	35	0	61
Total	143	38	0	181

Table 10. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1930-1941 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[Claim filing on Slate Creek Drainage] Claim filing activity in the Slate Creek drainage (Figure 10) declined in the

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[210] Wayne Darlington, "Report of Wayne Darlington, M.E. on No. 1 Above Discovery Gold Placer Claim," September 7, 1934, Little Squaw Mining Company archives, Spokane, Washington.

[211] Letter from C.W. McKee, Chandalar, to Lake Chandalar Gold Mines Limited, Toronto, Canada, August 5, 1939, Little Squaw Mining Company archives, Spokane, Washington.

[212] Letter from B.D. Stewart, Commissioner of Mines, to G. Fred. H. Long of Vancouver, Washington, May 10, 1939, p. 1, reprinted in Erik Hansen, *Mining Activity along Coldfoot to Chandalar Lake Trail.*

[213] Letter from Frank Nash to ARC in Juneau, July 14, 1939, Record Group 30, Records of the ARC and BPR, Project Correspondence, 1916-1959, Box 16, NA&RC.

[214] Charles C. Hawley, "Kyosuke (Frank) Yasuda (1868-1958) [and] Nevelo Yasuda (1897-1966)," *The Paystreak*, Volume 5, No. 1, November 2003, p. 9.

early 1930s, but increased sharply in 1940 and 1941. Ten new claims were filed in 1930-1931, 36 new claims in 1936, followed by a lull in the late-1930s, then a significant spike in new claims filed in 1940 and 1941. Most of the new claims filed at the end of this time period were on Slate Creek, where prospecting continued but good pay streaks were elusive. Mining activity remained constant on Myrtle Creek, which continued to produce the lion's share of gold in the drainage.

[Claim filing in the Chandalar] Very few new claims were filed in the Chandalar District in the 1930s and early 1940s. This reflected the low level of prospecting and mining in the district, where a few long-time miners continued to work open-cut and drift mines. Two new claims were filed on Big Creek in 1941 and the other four were filed on creeks of the Middle Fork of the Chandalar River (Table 11). Lode mining activity centered on developing existing claims, as most of the hard rock gold veins had been discovered by the late-1920s. The lack of assessment affidavits filed in the Chandalar reflects low concern by miners that other prospectors would try to over-file claims that already existed in the district.

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1930	0	0	0	0
1931	0	0	0	0
1932	0	0	0	0
1933	0	0	0	0
1934	0	0	0	0
1935	0	0	0	0
1936	0	0	0	0
1937	0	0	0	0
1938	2	0	0	2
1939	2	0	0	2
1940	0	0	0	0
1941	2	0	0	2
Total	6	0	0	6

Table 11. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, and creeks on the Middle Fork of the Chandalar, 1930-1941 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[Changing Transport Trends in the 1930s]. The use of airplanes to carry mail, passengers and light freight and tractors to carry heavy equipment and fuel replaced dogsleds as the primary mode of freighting in the 1930s. Changing mining methods increased the need for heavy machinery, affecting the trails to active mining areas. During the 1930s, the gas and diesel tractors supplanted horse-drawn transportation and hauling in the areas surrounding Wiseman, both in summer and winter. The introduction of the tractor eventually displaced local teamsters, dogsled freighters, wood haulers and some mine laborers.[215] Overland routes remained crucial to miners in the upper Koyukuk and Chandalar districts. The ARC continued to carry the Caro-Coldfoot, Coldfoot-Chandalar, and other remote trails on their inventory of trails (Figure 28) even though the road building agency did not have the funds available to do maintenance on them during the 1940s.[216]

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[215] Robin Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements,* p. 21.

[216] During the same year that the ARC published its map of routes in Alaska (Figure 23), the U.S. Coast and Geodetic Survey published an aeronautical map of the Porcupine River area (August 1941) and erroneously listed

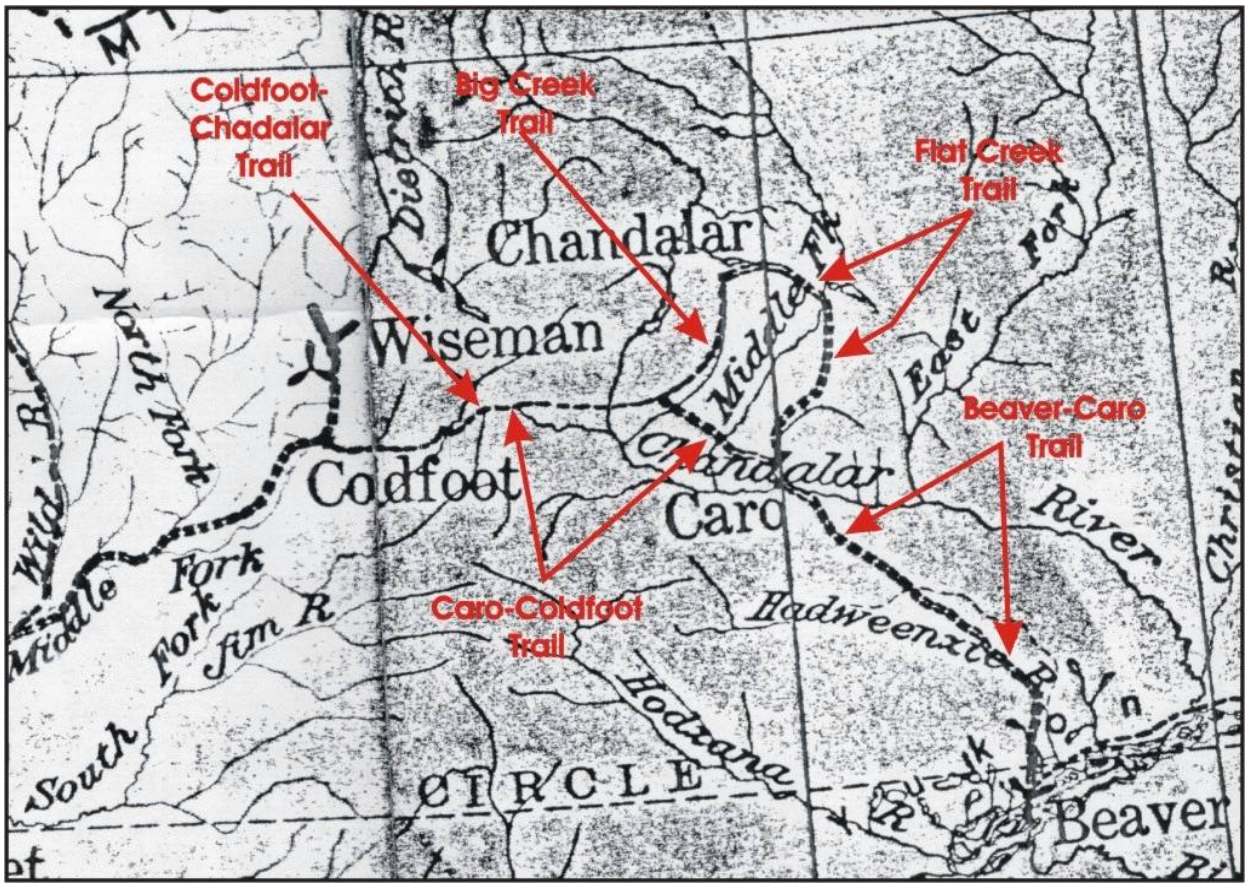

Figure 28. Portion of the ARC map of Alaska, 1941, compiled by the U.S. Geological Survey. Record Group 126, NA&RC.

the Caro-Coldfoot Trail as "abandoned."

VI. TRAIL USE DURING THE WAR AND POSTWAR YEARS, 1942-1959

[ARC suspends maintenance on sled roads during WWII] Gold mining practically ceased in the Koyukuk and Chandalar districts, as well as the rest of Alaska, in 1942 due to enactment of Public Law L-208, which curtailed mining in the United States not related to the production of strategic materials.[217] John Repo attempted to mine on Myrtle Creek at the beginning of the war. He borrowed an ARC dump truck briefly from the Wiseman maintenance station in early 1942 to help carry supplies over the Caro-Coldfoot Trail to his mining camp.[218] Shortages of fuel, parts and laborers, however, quickly brought his operation to a halt. The U.S. Army confiscated tractors and other heavy equipment from miners during the war, including the two RD-8 Caterpillar tractors at Myrtle Creek owned by John Repo and Andy Schwaesdall.[219] Due to the war emergency, all work on remote trails in outlaying sections was held to a minimum. The ARC kept the trails and sled roads in the Chandalar-Koyukuk area on its books as active trails, but did not expend maintenance funds on them. The ARC spent $4,000 on maintenance of trails and sled roads in the Yukon-Tanana Region in 1941-1942, but none of that money was spent on trails connecting Beaver, Caro, Chandalar and Coldfoot.[220] The 1944 and 1945 ARC *Annual Reports* noted that "due to curtailment of gold mining" on account of the war, "expenditures on roads leading to mines, sled roads and trails have been reduced to a minimum."[221] The Territory suspended support for shelter cabins everywhere in Alaska except the Nome region. Shelter cabins were seldom used by travelers and had been preempted by local trappers who sometimes used up all the fuel and burned the benches and tables before abandoning the cabins. "Shelter cabins in the early days afforded a worthwhile facility," one official wrote, "but the need for them is not believed to exist today."[222] The suspension of trail maintenance, as well as shortages of labor, supplies and fuel, contributed to a significant decline in

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[217] Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, p. 9.

[218] ARC Fairbanks superintendent Frank Nash to Ed Marsan, ARC foreman in Wiseman, April 2, 1942, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section;

[219] Telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006.

[220] ARC Fairbanks superintendent Frank Nash to Ed Marsan, ARC foreman in Wiseman, April 2, 1942, Route 030.3 - Wiseman Correspondence - General, ADOT&PF, Fairbanks, Right-of-Way Section; William A. Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1941-1942*, (Juneau, 1943), p. 29;

[221] ARC, *Annual Report Alaska Road Commission, 1944* (Juneau: 1944), pp. 9, 16; ARC, *Annual Report Alaska Road Commission, 1945* (Juneau: 1945), pp. 11, 18.

[222] William A. Hesse, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1943-1944*, (Juneau, 1945), pp. 11-12.

mining in the Coldfoot, Caro and Chandalar areas. In 1944, the Chandalar post office closed permanently.[223]

[Mining in the Chandalar in late 1940s] Mining resumed in the Chandalar after the war with a flurry of claim filing in the early postwar period (Table 12). One shovel-in, one drift mine and one or two prospectors were active in the district during 1945. Operations increased in 1946 to two shovel-in and one drift operation and four prospectors. Alfred W. Amero sniped on Big Creek, Ellis Anderson shoveled-in on Tobin Creek, the Chandalar Mining Company hydraulic mined with a crew of three on Little Squaw Creek, Dennis O'Keefe sniped on Big Creek below Chandalar Lake, and Herman Webb drift mined on Little Squaw Creek with a crew of four. Wilcox and Wolf Anderson prospected for lode gold on Big Squaw Creek and Wayne Abney prospected for lodes at several locations in the district.[224] Mining activity declined during 1947-1948. Amero shoveled-in on Big Creek (Figure 29) and drift mined on Little Squaw Creek, Ellis Anderson drift mined and shoveled-in on Tobin Creek, and Eskil Anderson and a crew of four did prospect drilling on Big Creek.[225] Eskil Anderson's crew used a 4-inch Kirk-Hillman Airplane drill to determine ore reserves on placer claims.[226] Nine men engaged in mining during 1949. Herman Web ground-sluiced on Little Squaw with one other man and drift mined during the winter. Amero ground-sluiced alone on Big Squaw Creek and Ellis Anderson ground-sluiced on Tobin Creek. Eskil Anderson, who acquired the principal lode claims in the district from Sulzer's estate in 1946, began investigating the lode prospects and did placer drilling late in the

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1942	0	0	0	0
1943	0	0	0	0
1944	0	0	2	84
1945	32	4	0	36
1946	7	67	0	74
1947	2	27	0	29
1948	1	51	0	52
1949	0	63	0	63
Total	42	212	2	256

Table 12. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, and creeks on the Middle Fork of the Chandalar, 1942-1949 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

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223 Orth, *Dictionary of Alaska Place Names*, p. 198.

224 B.D. Stewart, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1946* (Juneau: Territory of Alaska, Division of Mines, 1947), pp. 22, 38, 44, 47.

225 B.D. Stewart, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1948* (Juneau: Territory of Alaska, Division of Mines, 1949), pp. 22, 36.

226 Ernest Wolff, "Report on Big Creek Placer," 1949, pp. 3-4, copy courtesy of Erik Hansen, Fairbanks.

season with four men (Figure 30). Dennis O'Keefe prospected and did lode development.[227] "It seems strange," one Chandalar miner wrote in the mid-1940s, "with the richness of some of its placers, that the Chandalar should be about the last camp in the territory to have its old hand mining methods replaced by modern mechanical methods."[228] Another miner noted that the Chandalar was "one of the few old placer camps in Alaska in which mechanized methods of mining have not replaced hand methods."[229]

[Mining in Slate Creek drainage in late 1940s] Mining resumed in the Slate Creek drainage near Coldfoot after the end of the war. Repo and Havenstrite test drilled on placer ground on Myrtle Creek during 1946. In 1947, John Repo freighted two D-8 Caterpillar tractors and a D-4 Caterpillar to Bettles and brought them overland to Coldfoot and then to Myrtle Creek on the west end of the Caro-Coldfoot Trail.[230] Repo's Myrtle Creek Mining Company operated a dragline and bulldozer operation on Myrtle Creek

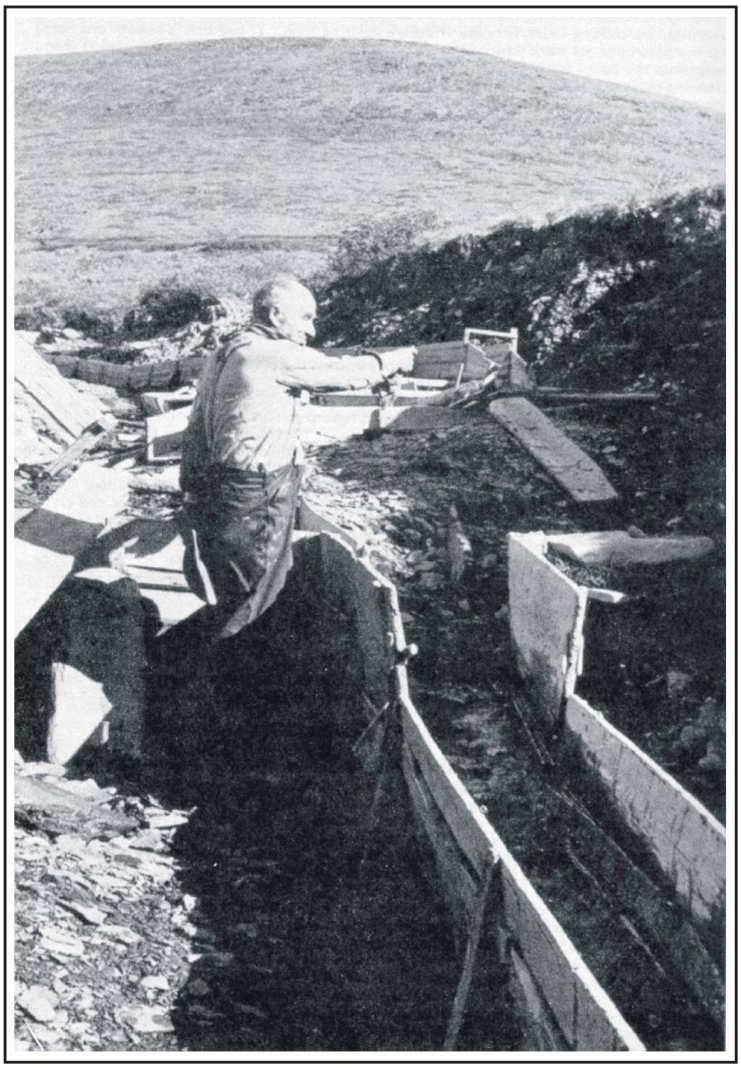

Figure 29. Alfred W. Amero sluicing on Big Creek, late 1940s or 1950s. Photo by Ernest R. Wolff, re-printed from his book, *Handbook for the Alaskan Prospector* (third edition, 1980), page 212.

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227 J.C. Roehm, "Reported Mining Activities in the Chandalar District, Alaska, 1949," (Juneau: Territorial Department of Mines, 1949), p. 1; Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004.

228 Wayne Adney, "Big Creek" Report, 1945, p. 4, reprinted in Erik Hansen, *Mining Activity along Coldfoot to Chandalar Lake Trail*.

229 Eskil Anderson, "Big Creek Placer Prospect, Chandalar Mining District, Alaska," p. 1.

230 Telephone interview with Jack Reakoff in Wiseman, by Rolfe G. Buzzell, August 16, 2006; telephone interview with Douglas Colp, Fairbanks, by Rolfe G. Buzzell, July 20, 2006.

with a crew of 14 during 1947-1948.[231] During 1949, Myrtle Creek was the highest gold producing creek in the Koyukuk district. The Myrtle Creek Mining Company used a dragline-bulldozer-hydraulic operation on Myrtle Creek to successfully re-mine ground previous mined with hydraulic equipment. The ten-man crew used rooters to tear up the fractured bedrock where gold had been missed by earlier hydraulic mining. The bedrock was then bulldozed and hydraulicked into sluices. The outfit used D-8 and D-4 Caterpillars, a dragline to stack tailings, rooters, and a diesel operated pump and pipe for hydraulic water. Victor Neck, who owned most of the ground on Myrtle Creek, was engaged in prospecting on Myrtle Creek during August 1949.[232] Claim filing activity in the Slate Creek drainage reflected a resurgence of mining activity after the end of the war (Figure 13).

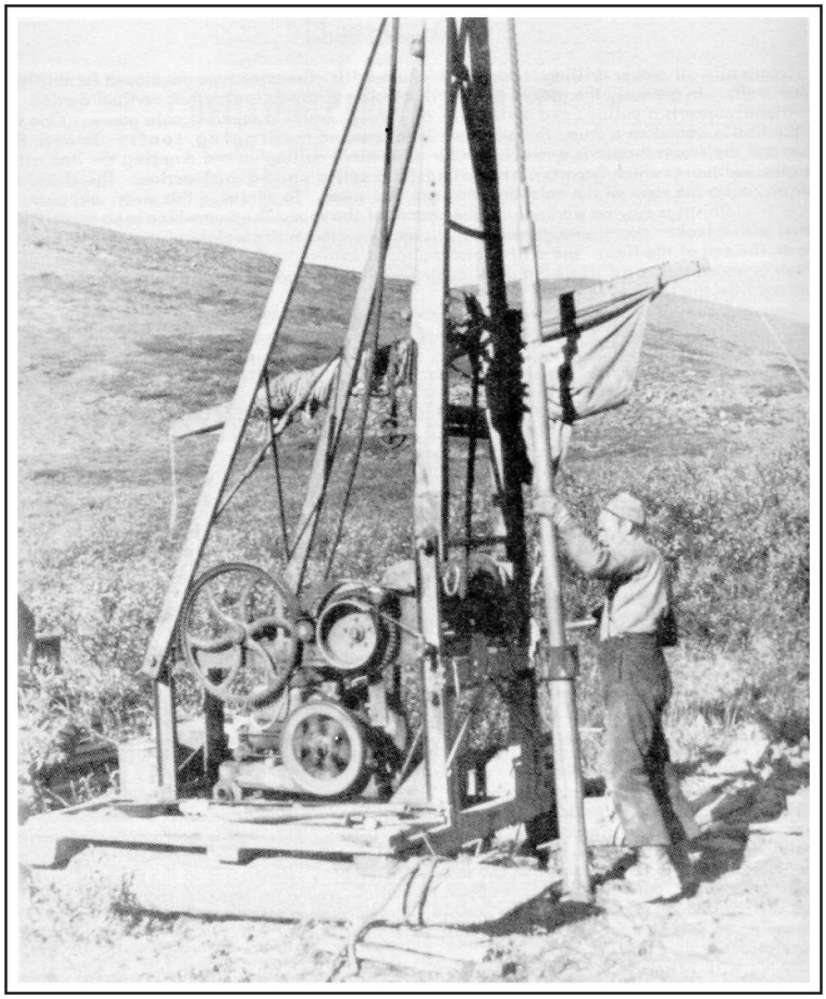

Figure 30. A small placer drill in operation in the Chandalar in the 1940s or 1950s. Photo by Ernest R. Wolff, reprinted from Wolff, *Handbook for the Alaskan Prospector* (third edition, 1930), page 238.

[Trail Access to Slate Creek Drainage] In the late 1940s, Repo made heavy use of the western end of the Coldfoot-Chandalar Trail to bring equipment by cat-train from Bettles to Myrtle Creek. When Victor Neck died at Myrtle Creek, Ken Harvey drove a weasel (a tracked vehicle) from Wiseman to Coldfoot and over the Coldfoot-Chandalar trail to Myrtle Creek to carry Neck's body to Wiseman for burial. In the late 1940s, Walter Johnson, an ARC employee in Wiseman walked the

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[231] Stewart, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1946*, p. 44; Stewart, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1948*, p. 43.

[232] J.C. Roehm, "Report of Investigations and Itinerary of J.C. Roehm, Associate Mining Engineer, Territorial Department of Mines, in the Koyukuk Precinct, Alaska, August 15 to 22 inclusive, 1949," Report 31-1, (Juneau: Alaska Territorial Department of Mines, 1949), p. 2.

western end of the Coldfoot-Chandalar Trail from Wiseman to Myrtle Creek to serve a notice of divorce to a miner working at Myrtle Creek.[233]

[ARC Keeps Trails on Books] The ARC noted in its annual reports for 1946-1948, that due to the curtailment of gold mining during the war, "expenditures on roads leading to mines, sled roads and trails had been reduced to the minimum. With the end of the war, mining activities have increased and additional maintenance on these roads is now required."[234] Following the end of the war, the ARC Fairbanks superintendent continued to list the Beaver-Caro (Route 23B), Big Creek (Route 23C), Flat Creek (Route 23D) and Caro-Coldfoot (Route 23E) routes on its roster of trails and sled roads, but expended no funds to maintain them.[235] The Territorial Highway Engineer and the ARC proposed building a road from Livengood to Wiseman that would tie together the Chandalar and upper Koyukuk trails to the territorial road system.[236] The ARC conducted a survey in 1947-1948 for a road from Livengood to Beaver and Caro, and up the Caro-Coldfoot Trail to Wiseman. The U.S. Army stated that while such a project was desirable, it would be "a lesser priority for military considerations than improvements of other roadways within the theater."[237] The needs of the military after the war and the territory's rapid postwar population

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1942	0	0	93	93
1943	0	0	53	53
1944	10	0	74	84
1945	35	84	0	119
1946	8	80	0	88
1947	0	96	0	96
1948	2	60	0	62
1949	0	53	0	53
Total	55	373	220	648

Table 13. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1942-1949 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

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[233] Telephone interview with Walter Johnson, Homer, Alaska, by Rolfe G. Buzzell, August 22, 2006.

[234] ARC, *Annual Report Alaska Road Commission, 1946* (Juneau: 1946), pp. 12, 18; ARC, *Annual Report Alaska Road Commission, 1947* (Juneau : 1947), pp. 12, 19; ARC, *Annual Report Alaska Road Commission, 1948* (Juneau: 1948), pp. 14, 22.

[235] Frank Nash to ARC in Juneau, January 29, 1946, Record Group 30, ARC & BPR Records, Project Correspondence, Juneau, 1916-1959, Box 30, NA&RC.

[236] W. Leonard Smith, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1945-1946*, (Juneau, 1947), p.5.

[237] Operations Orders, Fairbanks ARC District, Season of 1948, March 1, 1948, Records of the ARC and BPR, FRC 65419, copy located at ADOT&PF, Fairbanks, Right-of-Way Section; letter from John R. Noyes to Major General Stalley L. Scott, Fort Richardson, October 11, 1948; Letter from General Scott to Noyes, October 20, 1948, ARC and BPR Records, Record Group 30, Program Planning and Research Correspondence, 1905-1959, Box 2,

growth changed the dynamics of road construction and maintenance in Alaska. The ARC redirected its priorities to connecting the territory's main and feeder roads. There were few funds left over for trails and roads to remote mining areas. The ARC recognized that there were 1,000 miles of "disconnected roads extending from railroads or navigable waters to isolated mining camps and similar developments" that should be connected with the main road system,[238] but lacked the resources to do so. When a Chandalar miner asked the ARC in 1949 to make trail improvements, the ARC replied that it "does not have funds available at this time to undertake the improvement" of the Beaver-Chandalar route and that the present demand for improvement was not sufficient to "justify the submission of an estimate to Congress for the work involved."[239]

[ARC Suspends Assistance on Remote Routes] In 1949, the ARC reorganized and formalized its priorities to bring its practices since the war into line with the agency's new goals. At the behest of the U.S. Army, the ARC switched focus to improving and linking up the Territory's 1,845 mile system of main roads while suspending maintenance of most remote sled roads and trails. The ARC's prime directive shifted from connecting communities and mining camps with rail stops and river ports to improving main and feeder roads to connect military installations and population centers on the road system. The ARC's budget shifted to construction of new highways and improving existing paved and unpaved highways by bringing them up to minimum paved standards. The funding that was left went to improving and building new feeder roads that linked local farms and industries to markets in populated areas. The ARC revised its designation of route numbers, identifying nine main highways and numerous feeder roads. With the shift in its mission to linking population centers, the ARC suspended maintenance of most of the 1,000 miles of sled roads and trails that extended from railheads and rivers to remote mining camps. ARC officials justified dropping maintenance of these routes on the grounds that the construction standards of these roads were low, very few of them were kept open in the winter, and traffic capacity, even in summer, was far below the standards common in the states. "The sled roads, designed for winter use of double-ender sleds and tractor trains, and the trails, designated for the use of dog teams and pack horses," the ARC concluded, "had largely gone out of use, having been replaced by the airplane..."[240]

[Trails Maintenance Suspension Hurts Mining] Use of remote trails declined, but they were not abandoned as miners continued to use them. In 1945, miners brought a RD-4 Caterpillar tractor and seven tons of freight over the Beaver-Caro Trail and the Flat Creek Trail to the Chandalar. Another Fairbanks group walked two small tractors into the Chandalar by way of Livengood

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NA&RC.

[238] ARC, "A Plan for Alaska Roads, August 1, 1949," Appendix 1, in *Report of Operations of the Alaska Road Commission for the Fiscal Years 1949, 1950 & 1951* (Juneau: Department of the Interior, 1951), p. 1.

[239] Letter from Bert Hallen to ARC, December 13, 1949; letter from Ike P. Taylor to Hallen, December 13, 1949, ARC and BPR Records, Record Group 30, Program Planning and Research Correspondence, 1905-59, Box 2, NA&RC.

[240] ARC, *Report of Operations of the Alaska Road Commission for the Fiscal Years 1949, 1950 & 1951,* (Juneau: 1951), pp. 3, 23, 27, and Table 14.

to Beaver in the late 1940s.[241] Decline in trail use had as much to do with increased operating costs for labor, equipment, supplies and fuel mining in the postwar years, as with increased use of airplanes. Mining in the postwar era in the Koyukuk and Chandalar districts slowly shifted from labor-intensive hand-mining to increased mechanization, requiring heavier equipment and reliance on petroleum fuels. Those commodities were expensive to transport by air. Heavy equipment, such as tractors, barrel washers and front end loaders, were too large to be transported by aircraft. The ARC's suspension of trail and sled road maintenance to remote mining camps during the postwar era contributed to increased costs, making gold mining less profitable. J.C. Roehm, a mining engineer for the Territory, visited the Koyukuk precinct in 1949 and noted that "high costs, mainly due to high cost of transportation of supplies plus the generally high costs of supplies and equipment... account for the low production in the precinct more than any other factor."[242] The Territory tried to compensate for the suspension of funding on trails by putting money into airfields. The Territory spent $2,500 to improve the Myrtle Creek Airfield in 1947-1948,[243] but overland transport of heavy equipment necessary for some operations remained difficult and expensive.

[Chandalar Mining in the early 1950s] Mining activity in the Chandalar (Table 14), even without government maintenance of trails, increased in the early 1950s. Alfred W. Amero hand-mined on Big Creek, Ellis Anderson drift mined on Tobin Creek in 1950-1952 (Figure 31), and Herman Webb drift mined on Little Squaw Creek in 1951-1952. A new operator, R.W. Sellars on Big Creek, used a bulldozer, but got started late in the 1950 season and had only one clean-

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1950	2	14	0	16
1951	2	1	0	3
1952	1	11	0	12
1953	0	15	0	15
1954	0	23	0	23
1955	0	4	0	4
1956	0	0	0	0
1957	0	36	0	36
1958	0	15	0	15
1959	3	27	0	30
Total	8	146	0	154

Table 14. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, and creeks on the Middle Fork of the Chandalar, 1950-1959 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[241] Kurtak, Mineral Investigation in the Koyukuk Mining District, Northern Alaska, Progress Report, pp. 9-10; Adney, "Report," Little Squaw Gold Mining Company Archives, 1945. Telephone interview with Hugh Matheson, Boulder Colorado, by Rolfe G. Buzzell, July 28, 2006.

[242] Roehm, "Report of Investigations ... in the Koyukuk Precinct, Alaska, August 15 to 22 inclusive, 1949," p. 2.

[243] Frank A. Metcalf, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1947-1948*, (Juneau, 1949), p. 19.

up. During 1951 and 1952, Sellars' placer operation on Big Creek was idle. Wayne Adney and Ed Toussaint did a limited amount of lode development in the Chandalar District during 1951-1952.[244] In April 1954, Hugh Matheson, Jr. started the Chandalar Mining Company and bought Sellers's two International Harvester TD-18 tractors and other equipment on Big Creek at a marshal's sale. Matheson leased claims on Big Creek from Eskil Anderson[245] and his three-man placer operation was the first mechanized operation in the Chandalar since 1950 and the second in the history of the district. Old-timer Amero did small-scale hand mining on Big Creek in 1953-1954 and Ellis Anderson did the same on Tobin Creek (Figure 32). Ed Toussaint did development work on the Summit lode claim and bought some milling equipment.[246]

[Chandalar Mining in the late 1950s] Ed Toussaint continued development work on his lode property in 1955-1956. He built a mill in 1957 and 1958 (Figure 33) and continued preparations to mine the gold bearing quartz of the Summit Claim. Amero hand-mined on Big

Figure 31. Ellis Anderson at his drift mine on Tobin Creek, 1961. Eskil Anderson Photo Collection, courtesy of Richard Walters, Spokane, Washington.

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[244] Leo H. Saarela, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1950* (Juneau: Territory of Alaska, Division of Mines, 1951), pp. 18, 40-41; Phil R. Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1952* (Juneau: Territory of Alaska, Division of Mines, 1953), pp. 19, 23-24, 49, 63.

[245] Telephone interview with Hugh Matheson, Boulder Colorado, by Rolfe G. Buzzell, July 28, 2006; interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006. The equipment on Big Creek had been owned by Walt Rasmuson and R.D. Sellar, who had mined one year, but Sellar had not paid federal taxes resulting in the seizure of the equipment by the IRS.

[246] Phil R. Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1954* (Juneau: Territory of Alaska, Division of Mines, 1955), pp. 34-35, 41, 77, 79, 81, 93; William H. Kerns and Phil R. Holdsworth, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1954, Volume III, Area Reports*, (Washington, D.C.: U.S. Government Printing Office, 1957), p. 105.

Figure 32. Ellis Anderson (left) and Eskil Anderson (center) at the former's sluice boxes on a bench on Tobin Creek, 1957. Eskil Anderson Photo Collection, courtesy of Richard Walters, Spokane, Washington.

Figure 33. Ed Toussaint's mill on upper Big Creek, 1958. Eskil Anderson Photo Collection, courtesy of Richard Walters, Spokane, Washington.

Creek until 1957, when he started prospecting alone on the East Fork of the Chandalar River. Ellis Anderson did small-scale hand-mining on Tobin Creek during the 1950s and Dennis O'Keefe prospected alone in the Twin Lakes vicinity. Hugh Matheson, working on Big Creek with a crew of two to four men, was the only mechanized placer operation in the district in the mid- and late 1950s.[247] During 1959, Matheson mined on St. Mary's Gulch, a tributary to Big Creek, using three D-8 Caterpillar tractors, two TD-8 International Harvester tractors, one of which was fitted with a rock blade, and a hydraulic system fed by a ditch and a pump powered by a General Motors diesel engine. He used the tractors to haul equipment, strip overburden, push gravel into sluice boxes and push tailings away from the sluice boxes (Figure 34), and the pump to wash tailings through sluice boxes.[248] Matheson also test drilled on Big Creek. Two men worked on an adit at Ed Toussaint's Summit lode in 1959. Toussaint's mill included a jaw crusher and an ore-trailer. A diesel-electric

Figure 34. Sluicing using bulldozers at Hugh Matheson's mine on Big Creek, late 1950s. Slide courtesy of Hugh Matheson, Boulder, Colorado.

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[247] Phil R. Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1956* (Juneau: Territory of Alaska, Division of Mines, 1957), pp. 34, 38 65, 70, 85, 87, 94; Phil R. Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1958* (Juneau: Territory of Alaska, Division of Mines, 1959), pp. 27, 45, 48, 57, 69.

[248] Telephone interview with Hugh Matheson, Boulder Colorado, July 28, 2006; Interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006. While Hugh Matheson spent most of his time doing placer mining, his real goal was to develop lode deposits in the Chandalar. Matheson quit mining in the Chandalar after his father-in-law, Mike Muffly, died in a plane crash on Big Creek in 1959.

generator provided power for the mill. Eskil Anderson started the Little Squaw Mining Company in 1959 and he employed Frank Birch and another man doing development work on the Mikado Lode at the head of Tobin Creek. Ellis Anderson placer mined three miles downstream from the Mikado Lode, shoveling-in gravel by hand.[249]

[Mining on Slate Creek in 1950s] Mining in the Slate Creek drainage also increased during the 1950s (Table 15). The Myrtle Creek Mining Company operated using a dragline-bulldozer outfit and crew of ten on Myrtle Creek, and it was the largest producer of gold in the Koyukuk District (out of 19 operations) in both 1949 and 1950.[250] The Myrtle Creek Mining Company was idle in 1951, but resumed activity in 1952 when its dragline-bulldozer-hydraulic plant was the largest operation in the district.[251] John Repo died and his nephew, Rudy Kransi, operating as the Myrtle Creek Exploration Company, took over the Myrtle Creek Mining Company and mined on Myrtle Creek in 1953 with a mechanized operation and a crew of eight. During the following year, Prospectors, Inc. acquired the property and took out a small cut and prospected the rest of the season. Andy Schwaesdall did sniping on lower Myrtle Creek in 1953, and Joe Tauber did small-scale mining on lower Myrtle Creek in 1954. The Slate Creek Mining Company, owned by Frank Theissen and Ed Durand, brought a bulldozer and sluice plate overland from Galena during the winter of 1953. The company built an airstrip to supply their operation and started mining with a crew of three on upper Slate Creek in

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1950	0	35	0	35
1951	0	46	0	46
1952	0	49	0	49
1953	0	46	0	46
1954	0	19	0	19
1955	0	0	0	0
1956	0	0	0	0
1957	0	52	0	52
1958	0	66	0	66
1959	0	52	0	52
Total	0	365	0	365

Table 15. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1950-1959 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[249] Robert H. Saunders, "Itinerary Report on a Trip to the Chandalar District, 1959," Itinerary Report IR 31-3 (Juneau: Alaska Department of Natural Resources, Division of Mines and Minerals, December 1959), pp. 1-3, 4-5, 8-11.

[250] Saarela, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1950*, pp. 21, 49.

[251] Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1952*, pp. 26, 58.

1954.[252] Slate Creek Mining Company was the second largest producer of gold in the Koyukuk District in 1954. Prospectors, Inc. also recovered some gold using a bulldozer.[253] The Slate Creek Mining Company did not mine on upper Slate Creek during 1955-1956, but Prospectors, Inc. did some prospecting with a three man crew on Myrtle Creek. Joe Tuber, who mined on Myrtle Creek in 1954, was not active during 1955-1956. Douglas Colp mined on Myrtle Creek in 1956 with several partners. They used an old caterpillar that had been brought up the Coldfoot-Chandalar Trail before World War II by a Finn who had been partners with Gus Uotila. Colp and his partners used the tractor to push tailings away from the end of the sluice boxes. They used hydraulic methods to push the gold bearing gravel into sluice boxes. On one occasion he traveled to Myrtle Creek by cat train, but most of the time he flew into the Myrtle Creek airstrip. The operation was supplied mainly by C-46s, DC-3s and Norsman aircraft. Other operations continued as before.[254] Prospectors Inc. carried out prospecting with a crew of three on Myrtle Creek in 1957-1958.[255] In the early 1950s, bulldozers and sluice plates were used through out the Koyukuk and along Myrtle Creek, and by the 1960s there were six such operations along Slate Creek.

[<u>Miners Adapt to Changes</u>] Miners in both the Chandalar and Slate Creek drainages used overland trails in the 1950s to access their mining camps and get heavy equipment to the mine sites. They did trail maintenance as needed. "Freighting of heavy earth moving equipment on the Coldfoot-Chandalar trail began in the 1950s, according to Eskil Anderson who prospected in the Chandalar in throughout the 1950s."[256] Other miners who used the trail between Coldfoot and the Chandalar, according to Anderson, included C.L. Carlson, Bart Buckley, Arthur Newton, Manuel Mello, Frank Yasuda, and Jim Creasey. Miners also used the trail from Beaver to Caro, and the trails from Caro up Big Creek and Flat Creek and the trail from Caro to Coldfoot, which connected with the Coldfoot-Chandalar Trail at Horse Creek.[257] One of the miners who used the Beaver-Caro and Big Creek trails was Hugh Matheson, who bought three surplus military D-8 "slide-bar 8" Caterpillar tractors, rebuilt them in Anchorage, and shipped them to Fairbanks by rail. In the spring of 1954, Matheson, Halver Inglestad, George Payanun and Jack Neubauer walked the three cats from Fairbanks to Beaver

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[252] Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1954*, pp. 43, 95, 99, 101; Robert H. Saunders, "Itinerary Report on a Field Trip to the Koyukuk District, July 20 to 30, 1954," (Juneau: Territory of Alaska, Department of Mines, 1955), pp. 2-3; telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006.

[253] Kerns and Holdsworth, "The Mineral Industry of Alaska," in Bureau of Mines, *Minerals Yearbook, 1954, Volume III, Area Reports*, p. 109.

[254] Telephone interview with Douglas Colp, Fairbanks, by Rolfe G. Buzzell, July 20, 2006; Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1956*, pp. 39-40, 88.

[255] Holdsworth, *Report of the Commissioner of Mines for the Biennium Ended December 31, 1958*, pp. 64.

[256] Letter from Eskil Anderson to the Department of Natural Resources, Division of Lands, Northern Region, Fairbanks, November 12, 1993, Alaska Department of Natural Resources RS 2477 Case File RST9.

[257] Letter from Edward O. Strandberg, Jr. to Joseph P. Sullivan, April 9, 1993.

and Caro and up the Big Creek Trail to Matheson's mining claims (Figure 35). Two tractors each pulled two sleds, each carrying 64 barrels of diesel fuel. The lead cat, which cut trail through the snow, pulled one sled of fuel and a 27-foot long wanigan trailer on a go-devil sled. The trip from Fairbanks to Chandalar began on March 17th and took 41 days. The trail from Beaver north to the Chandalar was littered with mining equipment from Schultz's unsuccessful attempts to haul a mill to the Chandalar in the 1920s. Dennis O'Keefe (Figure 36), who prospected at Twin Lakes west of Chandalar Lake, walked part of the Coldfoot-Chandalar Trail with his dog at least once a year from 1954 to 1959 to visit with Matheson and A.W. Amero on Big Creek.[258] Only the part of the Beaver-Caro route closest to Beaver was cleared and used frequently by local residents in the early 1960s.[259] A U.S. Army Corps of Engineers publication in 1958 reported that maintenance of the Beaver to Caro Road had ceased "long ago." Trees burned by a forest fire in the area had fallen across the route, which was still suitable for winter use but difficult in summer because of marshes and

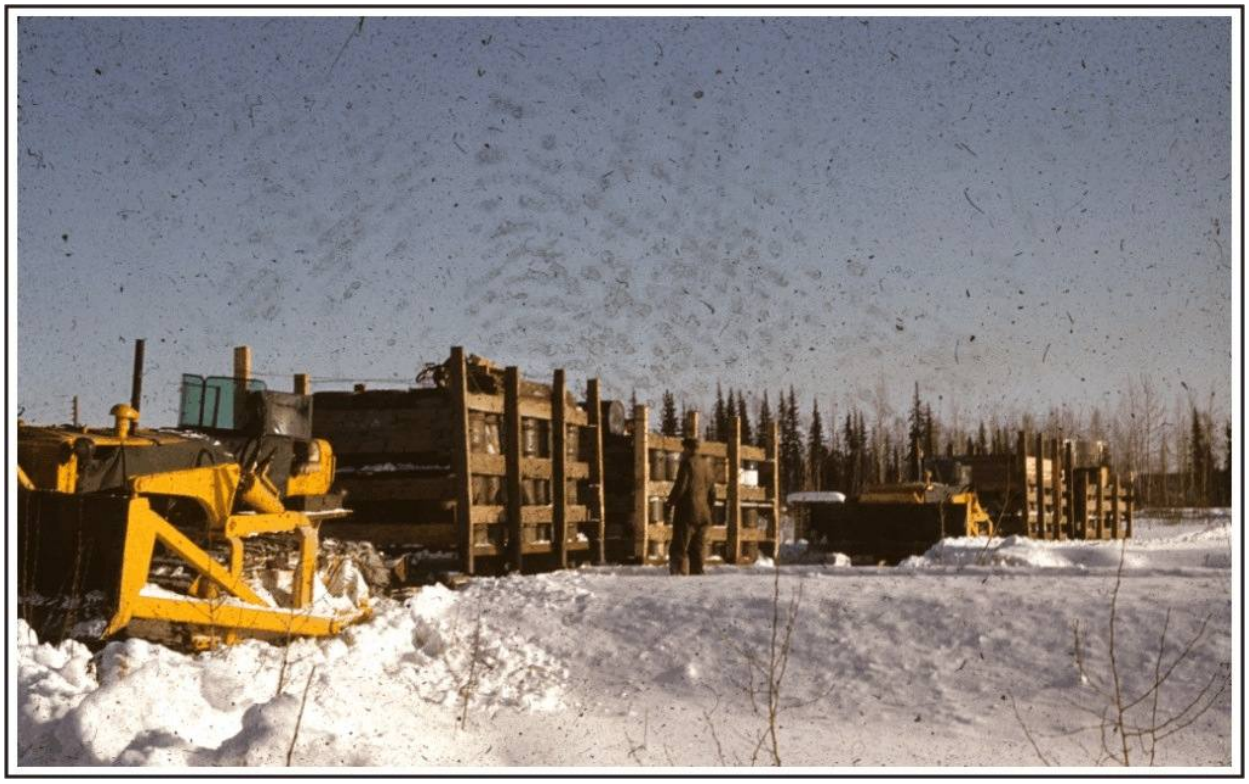

Figure 35. Hugh Matheson's cat-train outside of Fairbanks, departing for Beaver, Caro and the Chandalar, April 1954. Slide courtesy of Hugh Matheson, Boulder, Colorado.

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[258] Telephone interview with Hugh Matheson, Boulder Colorado, by Rolfe G. Buzzell, July 28, 2006; interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006.

[259] Memorandum by Ted Lipham to file after a visit to Beaver, June 3, 1982, File F-14837-EE, BLM ANCSA file, cited in Ducker, *Alaska's Upper Yukon Region*, p. 639.

Figure 36. Hugh Matheson, wearing light-colored jacket, and Dennis O'Keefe, holding a gold pan containing $15,000 in gold, at Matheson's placer mine on Big Creek, late 1950s. Slide courtesty of Hugh Matheson, Boulder, Colorado.

muskegs.[260] The Caro-Coldfoot and Coldfoot-Chandalar trails were shown on 1956 USGS maps and the Caro-Coldfoot Trail was shown on a community housing report for Beaver published in 1959. The report advocated for developing tourism on the south side of the Brooks Range, using Beaver as a starting off point and resurrecting the old wagon road from Beaver to Caro, described as the "old Chandalar Road."[261]

[Development of Airfields] Miners also pushed for the development of airfields and used airplanes to haul lightweight supplies to the rudimentary airstrips on Myrtle and Little Squaw creeks.

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[260] U.S. Army Corps of Engineers, *Terrain Study of Yukon Flats*, p. 24, cited in Ducker, *Alaska's Upper Yukon Region*, p. 639.

[261] Paul Gagnon, "The Beaver Report: A Community Housing Project at Beaver, Alaska," (Alaska Rural Development Board, 1959), pp. 3, 67-68.

Placer miners Hugh Matheson and Ed Toussaint, who were both pilots, used airplanes to access and supply their mining operations. In the 1950s, Toussaint built an airfield on Little Squaw Creek and Matheson built an airfield on Big Creek and another at Chandalar Lake in 1959 with a small amount of state matching funds.[262] Toussaint, who owned Toussaint Air service based in Fort Yukon (Figure 37), flew his equipment and supplies to his claims, landing at the strip on Little Squaw Creek. In 1956, Toussaint built a ball mill capable of crushing ten tons of ore per day. He bought the equipment in Idaho and flew it in pieces from Fort Yukon to Chandalar. Bobby Shoulton, who started Northern Air Cargo, hauled the big pieces of equipment in C-82 Flying Boxcars and landed on the ice on Chandalar Lake. Hugh Matheson's crew hauled the equipment overland to Little Squaw Creek, where Toussaint constructed the 30-ton ball mill in an old building that was already standing.[263] After the summer of 1954, Matheson and his crew flew each year to the Chandalar at the start of the season and flew out in the fall (Figure 38). These three airfields were too short to accommodate aircraft capable of carrying heavy equipment such as bulldozers and barrel washers. Hugh Matheson chartered a C-182 "Flying Boxcar" in the late winter of 1959 that landed on the ice at Chandalar Lake to deliver fuel oil and other supplies before spring breakup (Figure 39). He used tractors to haul the fuel and freight ten miles on sleds to his mining camp on Big Creek. Some house trailers were also taken into the Chandalar in this manner for use as camp buildings.[264]

Figure 37. Ed Toussaint of Fort Yukon and his Curtis "Robin" airplane, 1945. Photograph courtesy of Donald Toussaint, Princeton, Oregon.

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[262] Letter from Eskil Anderson to Richard A. Downing, Commissioner of the Alaska Department of Public Works, February 26, 1960, and letter from Richard A. Downing to Anderson, March 11, 1960, Little Squaw Mining Company archives, Spokane, Washington.

[263] Telephone interview with Donald Toussaint (brother of Ed Toussaint) at Princeton, Oregon, by Rolfe G. Buzzell, July 26, 2006; telephone interview with Hugh Matheson, Boulder Colorado, by Rolfe G. Buzzell, July 28, 2006. Ed Toussaint did only one test run on ore from a tunnel driven in 1906.

[264] Telephone interview with Hugh Matheson, Boulder Colorado, July 28, 2006; Interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006); Robert H. Saunders, "Itinerary Report on a Trip to the Chandalar District, 1959," pp. 1-3.

Figure 38. Bobby Shoulton (left) and Hugh Matheson (right) at Big Creek, Fall 1956. Slide courtesy of Hugh Matheson, Boulder, Colorado.

Figure 39. Unloading mining equipment from a C-82 Flying Boxcar at Chandalar Lake, late 1950s. Slide courtesy of Hugh Matheson, Boulder, Colorado.

[ARC Policy in the 1950s] The only maintenance the ARC did in the Koyukuk and Chandalar districts was on the roads from Wiseman to Nolan Creek, from Wiseman up the Hammond River, and from Wiseman to Porcupine Creek.[265] The Coldfoot-Wiseman Route, listed by the ARC in 1950 as Route 47, included Route 47E (Figure 40) which extended from Coldfoot to Myrtle Creek.[266] The ARC revised its road numbering system in 1951, classifying routes as "through roads," "feeder roads," and "local roads." A year later, the ARC refined the numbering system to include "isolated feeders," and "isolated local roads." The Coldfoot-Chandalar and Caro-Coldfoot trails were not included in the later category, although Wiseman local trails were. The Coldfoot-Chandalar and Caro-Coldfoot trails did not appear in ARC "isolated" road lists from 1952 to 1956.[267] Responsibility for maintenance of most local trails, including the Caro-Coldfoot and the Coldfoot-Chandalar route fell on the miners

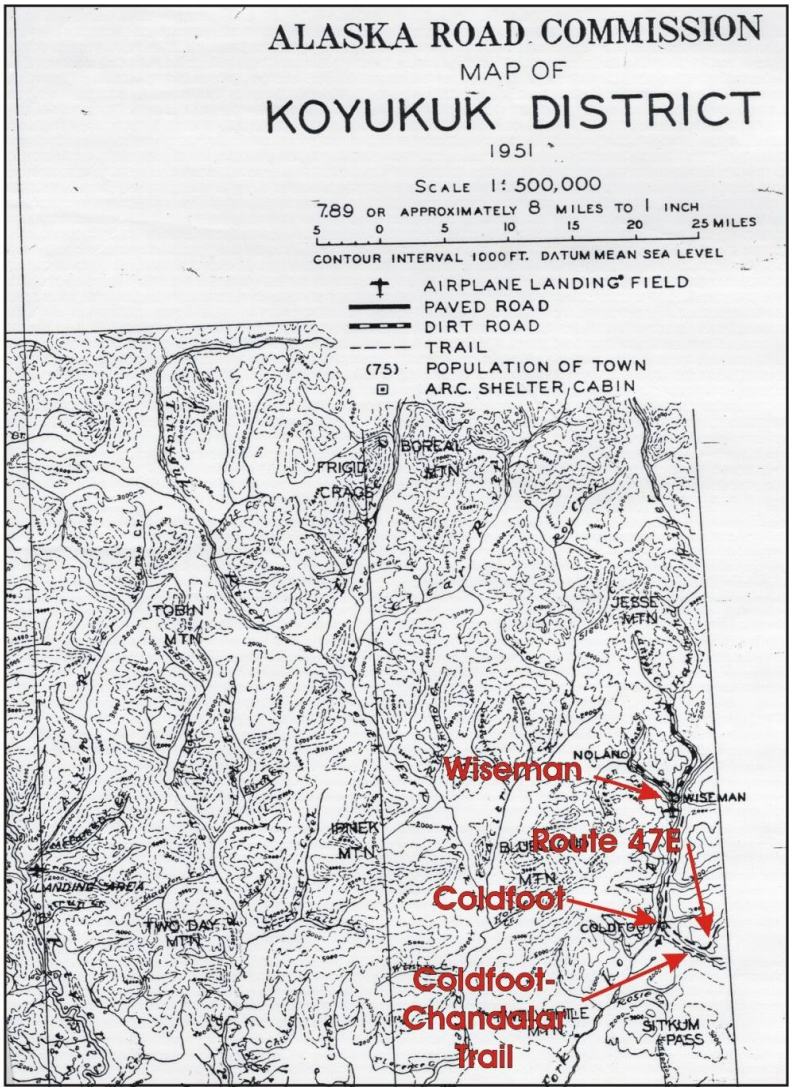

Figure 40. Northeast corner of ARC map of the Koyukuk District, 1951. ARC Map Collection, Map Drawer HE 356, A4, A48, 1950, Map 9, ARLIS Library, Anchorage.

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[265] Robert H. Saunders, "Itinerary Report on a Field Trip to the Koyukuk District, July 20 to 30, 1954," p. 7.

[266] Frank Nash, "Description and Statement of Work Accomplished, November 1, 1949 to October 31, 1950, Fairbanks District," Record Group 30, Records of the ARC and BPR, Project Correspondence, Juneau, 1916-1959, Box 30, NA&RC.

[267] ARC Order No. 40, Supplement No. 1 (August 11, 1952), by A.F. Ghiglione, ARC president; ARC Order No. 40, Supplement No. 2 (June 11, 1953), by William J. Niemi, chief engineer; ARC Order No. 40, Revised (March 30, 1954), by William J. Niemi, ARC chief engineer, Records of the Alaska Road Commission and Bureau of Public Roads, FRC 65419, copies located at ADOT&PF, Fairbanks, Right-of-Way Section.

who had created the trails in the first place. In 1953 and 1954, the ARC listed the Beaver-Caro Trail and associated branches, which since 1940 included the Flat Creek, Big Creek and Caro-Coldfoot trails, as "Inactive Routes."[268] In 1956, the ARC was transferred from the Department of the Interior to the Department of Commerce and was subsumed under the Bureau of Public Roads (BPR).[269] The BPR continued the policy of placing priority on highways and feeder roads at the expense of remote trails.

[Territory Hoped to Improve Access North of Yukon] While changing priorities forced the ARC to shelve support for routes to remote mining areas north of the Yukon River, remote trails remained important to Alaskan miners. A few miners still traveled trails in the Coldfoot and Chandalar areas during the 1950s on foot or using dog sleds during the winter (Figure 41) and the Coldfoot-Chandalar and Caro-Coldfoot trails were clearly marked on the U.S. Geological Survey map of the Chandalar Quad published in 1956 (Figure 42). The Territorial Highway Engineer hoped to someday connect the remote mining trails in the Koyukuk and Chandalar to the Territory's road system. The Engineer's *Biennial Report* for 1953-1954 included a map showing a proposed trunk

Figure 41. Two men and a dog sled team in the Chandalar Mining District, late 1950s. Slide courtesy of Hugh Matheson, Boulder, Colorado.

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[268] ARC, *Alaska Road Commission Annual Report for the Fiscal Year 1953* (Juneau: U.S. Department of the Interior, 1953), p. 57; *Alaska Road Commission Annual Report, Fiscal Year 1954.* (Juneau: U.S. Department of the Interior, 1954), p. 61.

[269] This transfer and merger was part of Public Law 672, the Federal Aid Highway Act of 1956.

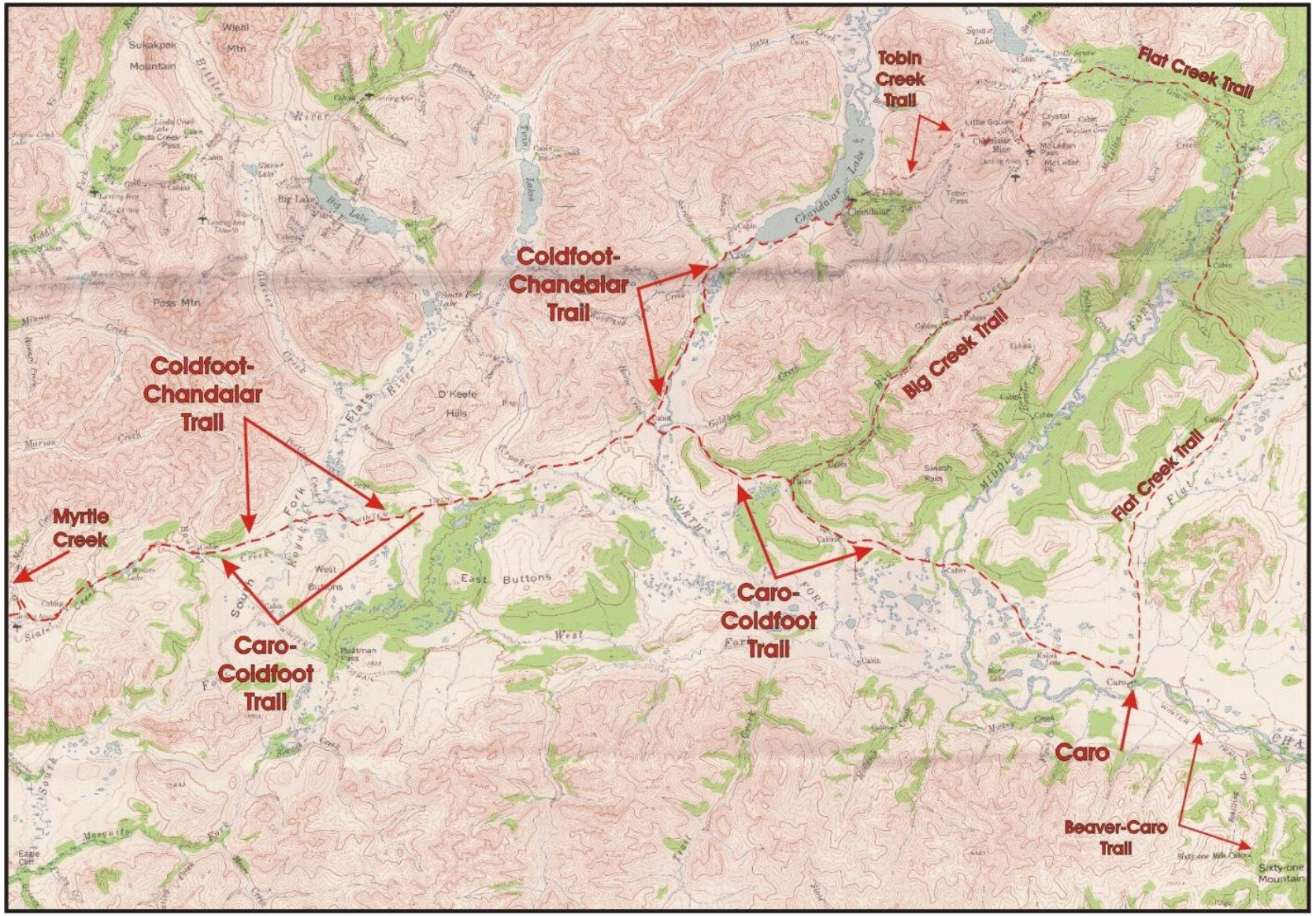

Figure 42. The 1956 U.S. Geological Survey map for the Chandalar Quadrangle. The Caro-Coldfoot and Coldfoot-Chandalar trails are highlighted in red.

road from Bettles to Wiseman to the Chandalar.[270] The 1955-1956 *Biennial Report* included a map showing a proposed route expanding the Territorial Highway System to Hughes, Bettles and north past Anatuvik Pass, although the route did not include the Chandalar Lake area.[271] Construction of a major road north of the Yukon, however, would not occur for another two decades and resulted only after the discovery of oil at Prudhoe Bay on Alaska's North Slope. Benign neglect best describes the policy of the ARC and the Territory during the postwar years with respect to maintenance of remote roads and trails north of the Yukon River. Maintenance of the trails was left to the miners who continued to use them during the 1940s and 1950s.

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[270] Irving McK. Reed, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1953-1954*, (Juneau, 1955), map between pp. 24-25.

[271] Irving McK. Reed, *Biennial Report of the Alaska Territorial Highway Engineer and Superintendent of Public Works, 1955-1956*, (Juneau, 1957), p. i.

VII. MINING AND TRAIL USE DURING STATEHOOD, 1959-2006

[Introduction] With the commencement of Statehood in 1959, the new Alaska State Government sought ways to support mining north of the Yukon and in other remote mining districts. The State of Alaska inaugurated programs to build and support remote mining roads and to build and improve remote airfields. Miners occasionally used the western end of the Coldfoot-Chandalar Trail to move heavy equipment from Coldfoot to mines in the Slate Creek drainage, but most freighting to Slate Creek area and Chandalar mines was done by aircraft. After the Haul Road was completed in the mid-1970s, miners and freight carriers resumed using the Caro-Coldfoot and Coldfoot-Chandalar trails. A few other people, including Hana Kangas, the daughter of Frank Yasuda, and Challie Anne Yasuda, his granddaughter, used the trails to access their properties at Chandalar Lake for subsistence activities from 1947 to 1971.[272]

[Mining on Slate Creek Drainage, 1960s] During the early 1960s, there were six mining operations on Slate Creek. Ten new claims were filed in the Slate Creek drainage during the 1960s, but most of the filing activity consisted of assessment work (Table 16). E.H. Durrand mined and filed assessment notices on 20 claims on Slate Creek during 1960 to 1968, and Duane Hall filed several new claims on Slate Creek and did assessment work from 1960 to 1963. Michael Thompson prospected on Slate Creek in 1960, and Jim Fuks, John Millhouse, Phillip Pierce and William Storke prospected together and filed several claims in 1964. John Repo and Duane Hall mined on Myrtle Creek in 1961 and Andy Schwaesdall mined and did assessment work on Myrtle Creek during 1961 and 1962.

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1960	6	50	0	56
1961	2	41	0	43
1962	0	61	0	61
1963	0	53	0	53
1964	2	20	0	22
1965	0	20	0	20
1966	0	20	0	20
1967	0	19	0	19
1968	0	20	0	0
Total	10	304	0	314

Table 16. Summary of Slate Creek drainage mining activity based on claim and assessment work filings on Slate, Myrtle and Boulder creeks, 1960-1968 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

[Mining in the Chandalar, 1960s] The same pattern of claim filing occurred in the Chandalar as in the Slate Creek drainage, with miners filing a small number of new claims and a large number of assessment affidavits (Table 17). Although several miners used mechanized mining equipment such as bulldozers in the Chandalar in the 1950s, it was not until the 1960s and 1970s that mechanization became the principal form of mining in the district. Placer production in the 1960s and 1970s produced as much or more than the

[272] Gillispie and Sattler, "Archaeological inventory and evaluation of a proposed negotiated Sale of the Chaille Ann Yasuda (aka Shelly Anne Trainor) certified Native allotment, Chandalar Lake," p. 7.

original value of all gold mined by hand methods.[273] Eskil Anderson organized the Little Squaw Mining Company in 1959 and began development work on the former Sulzer lode claims by reopening underground workings on the Mikado lode. Anderson hired Frank Birch to supervise four men working at the lode mine. Birch and his crew drove 2,100 feet of underground workings, did surface exploration and trenching, and built access roads between the Little Squaw camp and the lode mine sites with the caterpillar tractors purchased from Chandalar Mining Company. Anderson financed work in 1962 and 1963 with an Office of Minerals Exploration loan, the first such loan in Alaska. He purchased equipment in early 1968 to build a mill capable of processing 100 tons of ore per day. [274] Ed Toussaint also did lode development work in the 1960s on Big Creek lode claims, most of which were owned by Eskil Anderson.[275]

Year	New Locations	Assessment Affidavits	Exemptions Filed	Total
1960	6	10	0	16
1961	4	29	0	33
1962	2	35	0	37
1963	1	28	0	29
1964	0	37	0	37
1965	0	33	0	33
1966	8	47	0	55
1967	10	11	0	21
1968	2	33	0	35
Total	33	263	0	296

Table 17. Summary of Chandalar District mining activity based on claim and assessment work filings on Big Creek, Tobin Creek, Big and Little Squaw creeks, and creeks on the Middle Fork of the Chandalar, 1960-1969 (Source: Charts of claim recording activity by geologist Erik Hansen, 2005).

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[273] Chipp, *Geology and Geochemistry of the Chandalar Area, Brooks Range, Alaska*, p. 5.

[274] Letter from Eskil Anderson to James A. Williams, March 17, 1959, Little Squaw Gold Mining Company archives; Kevin Malone, Phil R. Holdsworth and Ruth Robotham, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1960*, Volume III, *Area Reports*, (Washington, D.C.: U.S. Government Printing Office, 1961), p.96; Kevin Malone, Phil R. Holdsworth and Norma J. Fox, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1961*, Volume III, *Area Reports*, (Washington, D.C.: U.S. Government Printing Office, 1962), p.100; Kevin Malone, Phil R. Holds-worth and Holly G. O'Brien, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1962*, Volume III, *Area Reports.* (Washington, D.C.: U.S. Government Printing Office, 1963), p.100; Robert H. Saunders, "Report on Exploration in the Chandalar District, 1962," (College: Alaska Division of Mines and Minerals, 1963), pp. 1-3; Kevin Malone and Phil R. Holdsworth, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1963*, Volume III, *Area Reports.* (Washington, D.C.: U.S. Government Printing Office, 1964), p. 98; T.K. Bundtzen, G.R. Eakins and C. N. Conwell, *Review of Alaska's Mineral Resources*, (College, Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, 1982), p.19.

[275] Earl H.Beistline, "Review of Information About the Chandalar Property, Alaska controlled by the Little Squaw Gold Mining Company, April 7, 1968," Fairbanks; telephone interview with Hugh Matheson, Boulder Colorado, July 28, 2006; interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006.

[Chandalar Mining, Continued] While Eskil Anderson developed his lode claims, Ellis Anderson placer mined benches on Tobin Creek in the early 1960s (Figure 43). In 1968, Frank Birch (Figure 44) quit working for Eskil Anderson. Birch and four partners raised $300,000 and started Chandalar Gold Mining and Milling Company (CGM&MC). He leased lode claims from Eskil Anderson, constructed a new ball mill, an assay shop and housing, and mined the Mikado lode. Birch also purchased Ellis Anderson's placer claims on Tobin Creek for $10,000, drilled the placer ground with an old Fairbanks-Morris drill and placer mined to raise money to do lode development. CGM&MC processed up to 100 tons of lode ore per day at its mill, but this work ended when Birch died in a plane crash at Tobin Creek on May 13, 1971. The Little Squaw Gold Mining Company (LSGMC, Eskil Anderson's group) acquired Birch's company and the two outfits merged in 1972.[276]

Figure 43. Eskil Anderson and Ellis Anderson (both at upper left) at the latter's bench placer operation on Tobin Creek, 1961. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

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[276] Kevin Malone, Donald P. Blasko, and Phil R. Holdsworth, "The Mineral Industry of Alaska," in U.S. Department of the Interior, Bureau of Mines, *Minerals Yearbook, 1966*, Volume III, *Area Reports: Domestic*. (Washington, D.C.: U.S. Government Printing Office, 1967), p. 88; Bundtzen, Eakins and Conwell, *Review of Alaska's Mineral Resources*, p.19; G.R. Eakins, T.K. Bundtzen, M.S. Robinson, J.G. Clough, C.B. Green, K.H. Clautice, and M.A. Albanese, *Alaska's Mineral Industry, 1982,* (College, Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, 1983), p. 10; interview with Chris Birch at Anchorage by Rolfe G. Buzzell and Christopher Chambers, July 12, 2006; Chipp, *Geology and Geochemistry of the Chandalar Area,*

[Transportation in the 1960s and early 1970s] From 1959 to the early 1970s, miners in the Slate Creek drainage and the Chandalar used aircraft to access and supply their mining operations. Miners on Slate and Myrtle Creek landed their supplies in single engine aircraft on short airfields near their mining camps. In the Chandalar, Eskil Anderson and Frank Birch often flew in small single engine aircraft, but depended on larger multi-engine aircraft, such as C-82 Flying Boxcars, to carry the heaviest equipment, supplies, and bulk fuel. For heavy loads carried in multi-engine aircraft, the miners used bulldozers to clear a winter landing strip on the ice at Chandalar Lake (Figure 45), then freighted supplies and equipment by cat-train up the Tobin Creek Trail to their mining camps (Figure 46). During April and May of 1968, Birch spent $38,708 on air freight to have 730,000 pounds of mill and camp equipment and supplies flown to and landed on the lake (approximately 5.3 cents per pound). The materials included six house trailers flown in with adjoining storage sheds and outbuildings, and materials for three Garco steel buildings(an assay lab and office, a mine dry and a shop building) that were erected at the mill site. All the heavy equipment, including a ball crusher for the mill, was flown by C-82 Box Car aircraft and landed on frozen Chandalar Lake.[277]

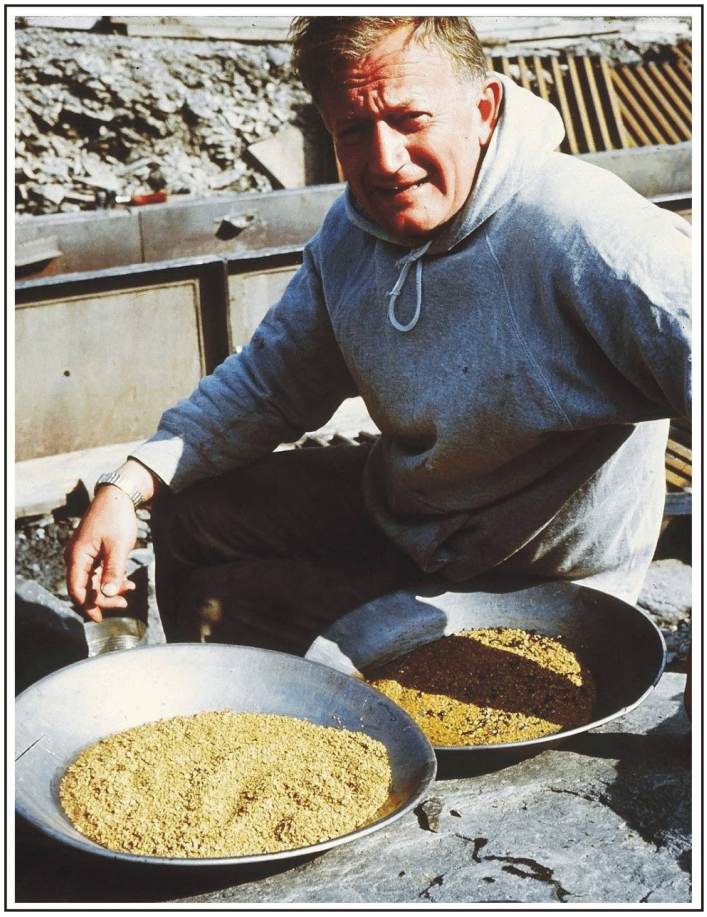

Figure 44. Miner Frank Birch with gold nuggets from mining in the Chandalar, 1965. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

[Improving Airfields] Eskil Anderson's development strategy included improving air transport to the Chandalar and building roads linking the local airstrips, mines and camps. In 1959

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pp. 3, 5, 17; Little Squaw Gold Mining Company, "Chandalar Mining District History," 2004; The Little Squaw Mining Company changed its name to the Little Squaw Gold Mining Company (LSGMC) in 1968.

[277] Interview with Chris Birch at Anchorage by Rolfe G. Buzzell and Christopher Chambers, July 12, 2006; Interview with Halver Englestad at Wasilla, Alaska, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006; Frank Birch, "1968 Work Report," Chandalar Gold Mining and Milling Company, Chandalar Mining District, Alaska, LSGMC archives.

Figure 45. Off-loading a trailer for Frank Birch on the ice at Chandalar Lake, May 1959. Frank Birch Collection, courtesy of Chris Birch, Anchorage.

Figure 46. A cat-train hauling equipment from Chandalar Lake to the Chandalar mines, spring 1961. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

and early 1960, he lobbied the State Legislature and the Department of Public Works to obtain assistance to improve Chandalar airfields and local roads. The existing airfields were too short to accommodate aircraft capable of transporting the heavy equipment Anderson needed to develop his lode properties. At his behest, the Division of Aviation included the Chandalar Lake airfield in its National Airport Plan in 1960. The Chandalar Development Company, owned by Ed Toussaint of Fort Yukon, lengthened the Chandalar Lake airfield to 4,000 feet in August 1961. Toussaint obtained a grant of $18,000 provided by the State Division of Aviation's Pioneer Airport Program and donated $10,000 worth of his own equipment and crew time to lengthen the airfield. After the initial work was completed, Jim Moody, Chief Engineer for the State Division of Aviation, stated that the improvements at the airfield should encourage development of the mineral industry in the area.[278] However, state funding did not provide enough support to finish the job and less than half of the field was usable. Anderson requested an additional $15,000 in assistance to bring the airfield up to year-round capability for multi-engine planes that would also be available for hunters and tourists.[279] When he did not get the money, he used his crew to extend the Chandalar Lake airfield to 4,500 feet in length. These later improvements made it possible for multi-engine C-46 and C-82 cargo planes to land on the field.[280]

[Improving Local Chandalar Roads] Eskil Anderson's other goal was to build a road that connected the Chandalar Lake airfield with the mines and mining camps in the area. In 1960, the Alaska State Legislature passed a new law (Chapter 154) authorizing the expenditure of State funds to construct, relocate, or repair pioneering access roads into and within areas rich in natural resources or mining prospects which were, at that time, inaccessible to truck haulage. The Legislature appropriated $1 million for the fiscal year to the State Dept of Public Works, leaving it to the Commissioner of Natural Resources to allocate the funds to proposed access roads.[281] Anderson lobbied the Department of Natural Resources for funding to help him build local roads in the district. In June 1961, Eskil Anderson's crews, using D-8 and TD-18 tractors purchased from Hugh Matheson, started building a road linking the Chandalar Lake airfield with the mining camps, Toussaint's airport on Big Creek, the Summit Lake and Mikado lode claims, and the Little Squaw mill.[282] The miners built 11 miles of jeep roads in 1962 (Figure 47). The following year, the State provided $21,000 under the Pioneer Access Road Program to the miners that helped them to com-

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278 "State Aviation Department Completes Work on Strips at Minto, Chandalar Lake," *Vessen's Weekly* (Fairbanks), August 1961.

279 Letter from Eskil Anderson to Floyd Guertin, Alaska Commissioner of Administration, December 14, 1962, LSGMC archives.

280 Little Squaw Mining Company, "1963 Chandlar Progress Report," LSGMC archives, Spokane, Washington.

281 "Access Roads Information," *Mines Bulletin*, Vol. VIII, No. 5 (May 1960), Department of Natural Resources, Division of Mines and Minerals, p. 2.

282 Letter from Eskil Anderson, Spokane, Washington, to James A. Williams, Director of the Division of Mines and Minerals, Juneau, January 23, 1961, LSGMC archives, Spokane, Washington.

Figure 47. Hauling equipment by cat-train up Tobin Creek Trail, spring 1962. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

plete five miles of road from the Lake airfield toward the mine.[283] Local miners used their own resources to improve that section of the road the rest of the way up to the Big Creek-Little Squaw pass. In 1970, the Chandalar Gold Mining and Milling Company used a large airstrip on upper Tobin Creek, two short airstrips on upper Big Creek, and the winter trail from the airfield at Chandalar Lake to the mining camp to construct its 100-ton per day mill and carry on placer and lode mining in the district.[284]

[Recent Mining on Slate Creek] In the 1970s, the U.S. Government deregulated the price of gold. Gold rose quickly in value from $33 to $700 per ounce, prompting a resurgence in mining in Alaska. George Lounsbury and Fred Heflinger prospected on Boulder Creek in the early 1970s

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[283] Contract between D.A. McKinnon, Commissioner of Highways and Eskil Anderson, June 1, 1963; Little Squaw Mining Company, "1963 Chandalar Progress Report," LSGMC archives, Spokane, Washington.

[284] Chipp, *Geology and Geochemistry of the Chandalar Area,* pp. 3, 5, 17.

and began mining on Boulder Creek in 1975.[285] Mitch Fleming mined on Myrtle Creek from 1974 to 2000. Lloyd Swenson, operating as Slate Creek Mining Company, started mining on Slate Creek above the confluence with Myrtle Creek during 1983. He has continued placer mining on Slate Creek since that time. Myrtle Creek Mining Company placer mined on Myrtle Creek from 1992 to 1995 using hydraulic methods. In 1997, gold prices began a dramatic plunge, dropping over $100 per ounce within two years. This greatly affected the economics of mining in the Koyukuk District. The number of active mining operations in the district dropped from 13 in 1999 to five in 2000. In recent years, miners have attempted to mine bench gravels with considerable overburden on the east side and mid-way up Myrtle Creek. In 1998, miners used a small wash plant to test ground mid-way up the creek. In 2000, a miner used a suction dredge to mine bedrock potholes in the narrows, approximately 1.4 miles upstream from Slate Creek. High runoff during the spring of 1998 destroyed many mine access roads in the Koyukuk district and miners spent most of the summer reconstructing them.[286] Mitchell Fleming operated an open pit placer mine on Myrtle Creek in 2000 and 2001, and Lloyd Swenson operated an open pit placer mine on Slate Creek. Katherine Brandon operated an open pit mine on Myrtle Creek during 2002, and Lloyd Swenson operated on Slate Creek.[287]

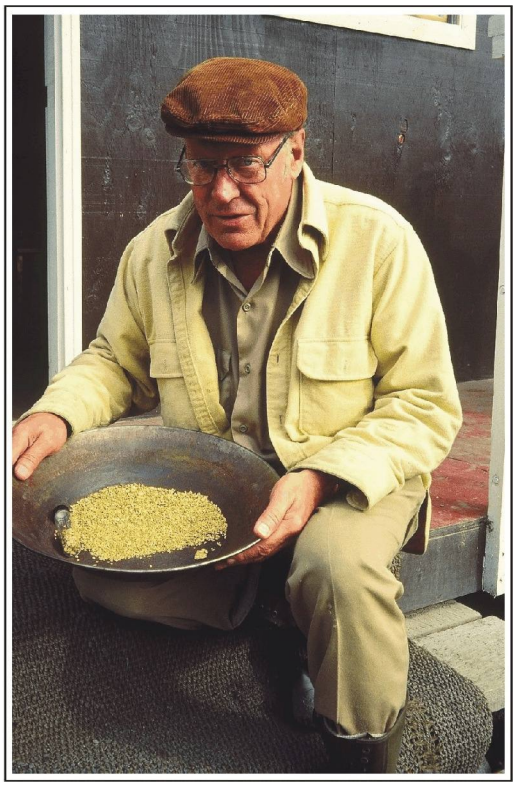

Figure 48. Eskil Anderson, July 1981. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

[Chandalar Mining in the 1970s] During the 1970s, Eskil Anderson (Figure 48), through his company, LSGMC, acquired all of the lode claims in the Chandalar except four unpatented state claims and all of

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[285] Telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006.

[286] R.C. Swainbank, T. K. Bundtzen, A.H. Clough, E.W. Hansen, and M.G. Nelson, *Alaska's Mineral Industry, 1992* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 47, 1993), pp. 26-27; Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska*, Volume I, (2002), pp. 13, C-195, C-196; Kurtak, *Mineral Investigations in the Koyukuk Mining District, Northern Alaska: Progress Report*, (1999), pp. 9-10.

[287] D. J. Szumigala, R.C. Swainbank, M.W. Henning and F.M. Pillifant, *Alaska's Mineral Industry, 2000,* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 55, 2001), p. 19; R.C. Swainbank, D. J. Szumigala, M.W. Henning and F.M. Pillifant, *Alaska's Mineral Industry, 2001,* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 56, 2002), pp. 22-23; D. J. Szumigala, R.C. Swainbank, M.W. Henning and F.M. Pillifant, *Alaska's Mineral Industry, 2002,* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 57, 2003), p. 20.

of the placer claims.[288] In 1974, Noranda Corporation leased LSGMC lode claims, did exploration work, ran several mill tests on ore from the claims (Figure 49), and did test placer mining on Tobin Creek. Noranda gave up the leases after the 1975 season because of high operating costs. Meadowlark Mining Company leased LSGMC claims in the late 1970s and did development on the Mikado lode vein and placer mined on Tobin Creek.[289]

[Chandalar Mining in the 1980s] Chandalar Development Company (CDC) leased LSGMC claims in the Chandalar from 1979 to 1983 and employed as many as 50 men a season. CDC did development work on lode claims, added flotation and cyanide-leaching units to the Birch mill, and processed ore in the mill. The company recovered 8,169 ounces of gold from the Mikado and Summit lodes through 1983, before losing its lease in litigation. A Canadian company, Jan Drew Holdings, Ltd., leased LSGMC placer claims and mined from 1980 through 1987. Jan Drew crews built new bunkhouses and dining facilities, did some underground development and engaged in placer mining

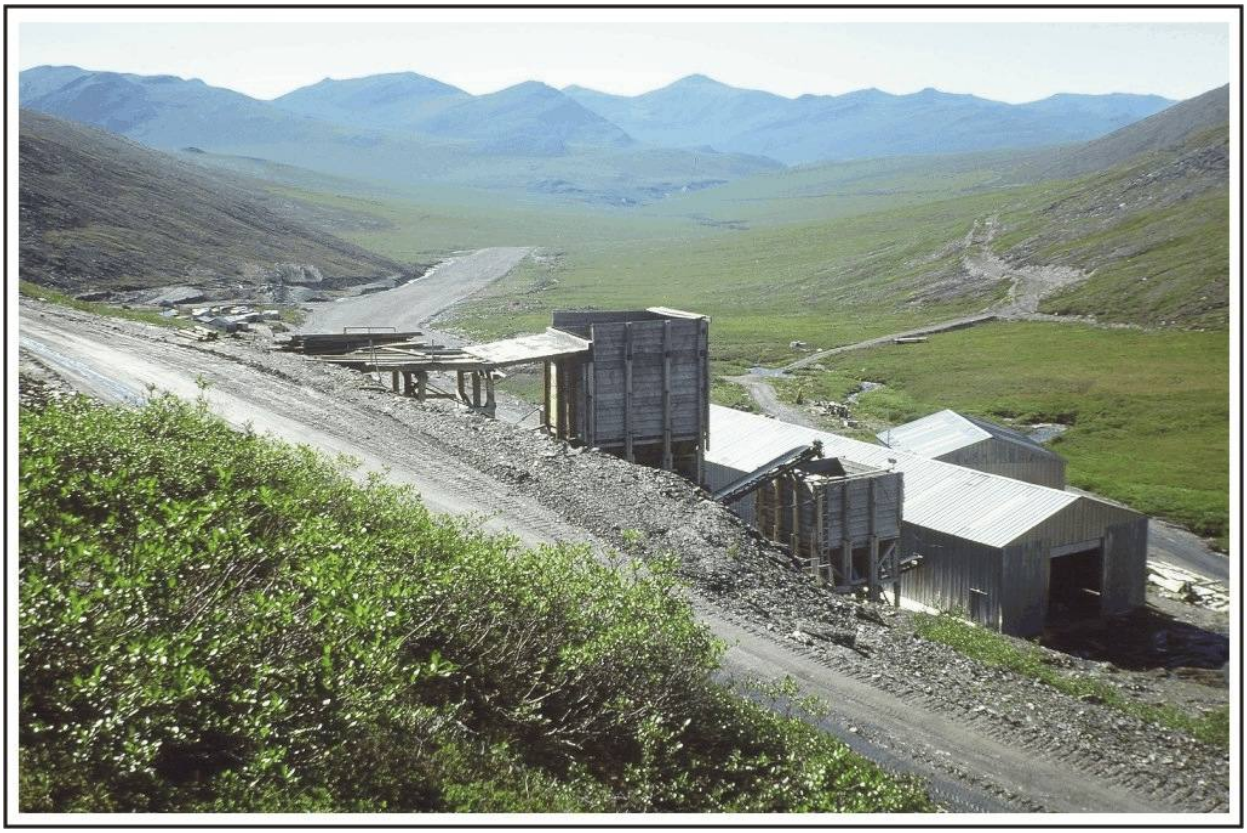

Figure 49. Frank Birch's mill on Tobin Creek, August 1976. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

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[288] "Annual Report of the Little Squaw Gold Mining Company for Fiscal Year ending December 31, 2004," p. 5, LSGMC archives, Spokane, Washington.

[289] Telephone interview with Paul Gavinavitch, Anchorage Alaska, by Rolfe G. Buzzell, August 9, 2006; Bundtzen, Eakins and Conwell, *Review of Alaska's Mineral Resources*, p.19.

on Tobin (Figure 50), Big, St. Mary's, Little Squaw and Big Squaw creeks.[290] During the mid-1980s, Wild River Ventures staked claims and operated an underground drift mine on Lake Creek, northeast of Chandalar Lake. The outfit was the only producing drift-mining operation in Alaska at the time. It used mechanized equipment to hoist high-grade gravel and loose bedrock to the surface, where they were stockpiled for summer sluicing.[291] After CDC and Jan Drew operations ceased, LSGMC did sampling and trenching on its lode claims in 1988 and 1989. Tobin Creek Mining Company placer

Figure 50. A crew from Jan Drew Holding sluicing with loaders, backhoes and a cat on Tobin Creek, August 1984. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

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290 "Canadian Company Predicts No Mining Slowdown," *ALASKA from the INSIDE*, June 16, 1982, p. 2; Bundtzen, Eakins and Conwell, *Review of Alaska's Mineral Resources*, p. 20; Eakins, Bundtzen, Robinson, Clough, Green, Clautice, and Albanese, *Alaska's Mineral Industry, 1982,* pp. 10, 21; telephone interview with Larry C. Hoffman, Butte Montana, by Rolfe G. Buzzell, August 2, 2006; telephone interview with Mike Garverich, Butte Montana, by Rolfe G. Buzzell, August 9, 2006; LSGMC, "Chandalar Mining District History," 2004.

291 T.K. Bundtzen, G.R. Eakins, C.B. Green and L.L. Lueck, *Alaska's Mineral Industry, 1985* (Alaska Division of Geological and Geophysical Surveys, Special Report 39, Fairbanks,1986), p. 22.

mined on Tobin Creek during the same two years, but operations were drastically reduced in scope after the owner, Tom Walker died of a heart attack on Tobin Creek in June 1989.[292]

[Haul Road Re-Opens Trails] In the early 1970s, the State of Alaska began constructing an all-weather gravel road that extended north from Fairbanks, crossed the Yukon River and extended to the North Slope. When completed in 1974, the "Haul Road," as it was initially known, extended from the Elliott Highway near Livengood to the Yukon River, then roughly followed the old Dall Creek Trail from the Fort Hamlin area on the Yukon River north to Coldfoot, up the Middle Fork of the Koyukuk past Wiseman, and over Dietrich Pass to the North Slope. The road was built to support construction of the trans-Alaska oil pipeline, which parallels the road. Several pipeline construction camps, including one at Coldfoot, were built along the gravel road.[293] Completion of the Haul Road in 1975 improved access to placer mines along the Middle Fork of the Koyukuk River and the Chandalar district.[294] The construction of the James Dalton Highway, as the Haul Road is now known, significantly reduced freighting costs for mining operations on Myrtle, Slate, and Boulder creeks in the Koyukuk District and brought the Chandalar District closer to the state-wide road system. The Haul Road was the last major overland transportation innovation in the Upper Koyukuk and Chandalar districts. When it was finally opened to public transportation, the road ended the Upper Koyukuk's isolation.[295]

[State Recognizes Historic Trails] At the same time the Haul Road was being built, the State Department of Highway put together an inventory of remote trails. In 1973, the Caro-Coldfoot Trail was identified in the "Alaska Existing Trail System" on Map 123 (Chandalar Quadrangle) as trail segments #40, #41, and #42, and on Map 124 (Wiseman Quadrangle) as trail segment #41. The Coldfoot-Chandalar Trail was shown on Map 123 as trail segments #40 and #41 and on Map 124 as trail segment #41.[296] Proposed State extensions of the road system in 1973 included a route that would have connected Arctic Village with the Haul Road. That route would have followed the old Caro-Coldfoot route from the pipeline road at Coldfoot to the West Fork of the Chandalar, then over a divide into the East Fork of the Chandalar drainage,[297] but the proposed route was never built.

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[292] C.B. Green, T.K. Bundtzen, R.J. Peterson, A.F. Seward, J.R. Deagen and J.E. Burton, *Alaska's Mineral Industry, 1988* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 43, 1989), pp. 6, 32; T.K. Bundtzen, R.C. Swainbank, J.R. Deagen, and J.L Moore, *Alaska's Mineral Industry, 1989* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 44, 1990), pp. 8, 31).

[293] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, pp. 147-148.

[294] Kurtak, Joseph C. et al "Mineral Investigations in the Koyukuk Mining District, Northern Alaska," Volume I, C-188 to C-200.

[295] Robin Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements,* pp. 21-22.

[296] Alaska Department of Highways, Existing Trails System, Inventory Maps (Juneau, 1973).

[297] Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 160.

[Federal Publications Include Trails Maps] Several federal government agencies also included the Caro-Coldfoot and Coldfoot-Chandalar trails on maps in their publications in the 1970s. The Bureau of Outdoor Recreation, an agency of the Department of the Interior, included both trails in its 1977 map of Koyukuk-Chandalar historic trail routes (Figure 51), although the map incorrectly shows the main trail as the lower route rather than the upper route. In 1970, U.S. Geological Survey geologists W.P. Brosge and H. N. Reiser published a report analyzing stream sediment samples in the Chandalar and Wiseman quadrangles.[298] Brosge and Reiser compiled and mapped the data in 1967 and 1968 using a 1956 USGS Map. The map in their report (Figure 52) included the Coldfoot-Chandalar and Caro-Coldfoot trails, along with other trails in the area.

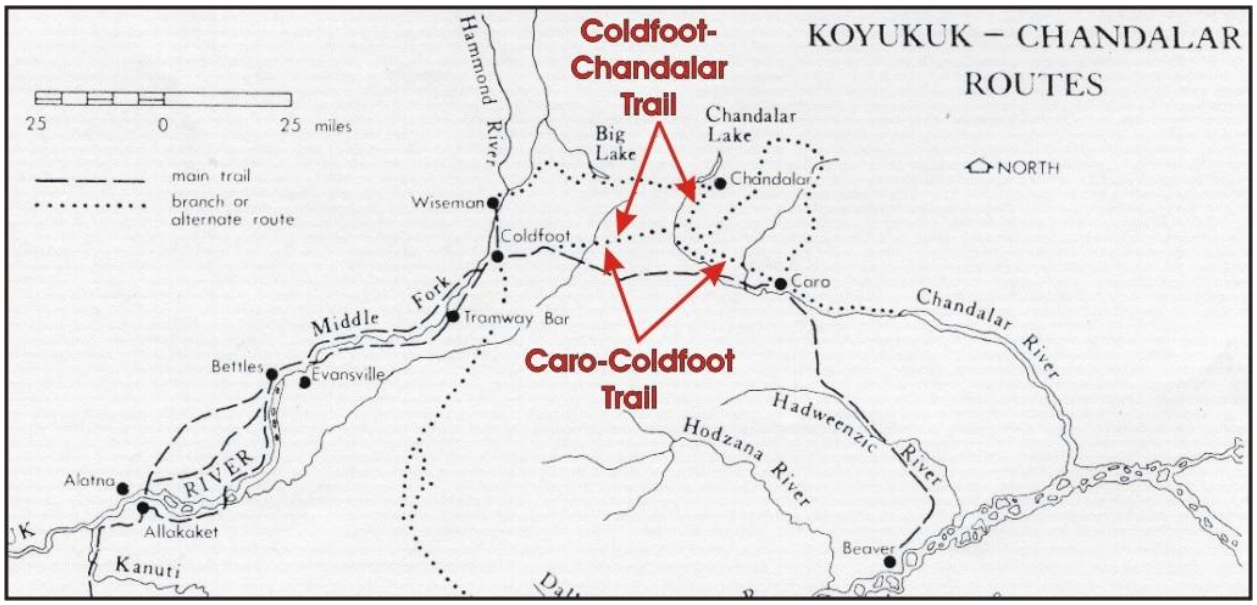

Figure 51. Map of historic trails in the Koyukuk-Chandalar area in 1977, showing the Coldfoot-Chandalar and Caro-Coldfoot Trails. Reprinted from *The Iditarod Trail (Seward-Nome Route) and Other Alaskan Gold Rush Trails*, U.S. Bureau of Outdoor Recreation (1977), p. 143.

[Slate Creek Miners Use The Trail] Initially, the Haul Road was closed to the public and non-pipeline related businesses. After it was opened to miners in 1976, the trail dramatically reduced the cost of freighting to remote mining camps on the upper Koyukuk River. During the early 1970s, George Lounsbury and Fred Heflinger used the western end of the Coldfoot-Chandalar and Caro-Coldfoot trail to access their claims on Boulder Creek from Coldfoot. Lounsbury and Heflinger were not allowed to use the Haul Road in 1975, the year that it opened, so they flew heavy equipment to Bettles, walked it overland by cat-train to Coldfoot, then up the Coldfoot-Chandalar Trail to Boulder

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[298] W.P. Brosge and H.N. Reiser, *Chemical Analyses of Stream Sediment Samples from the Chandalar and Eastern Wiseman Quadrangles, Alaska.* U.S. Geological Survey Open-File Report. (Washington, D.C.: U.S. Department of the Interior, 1970).

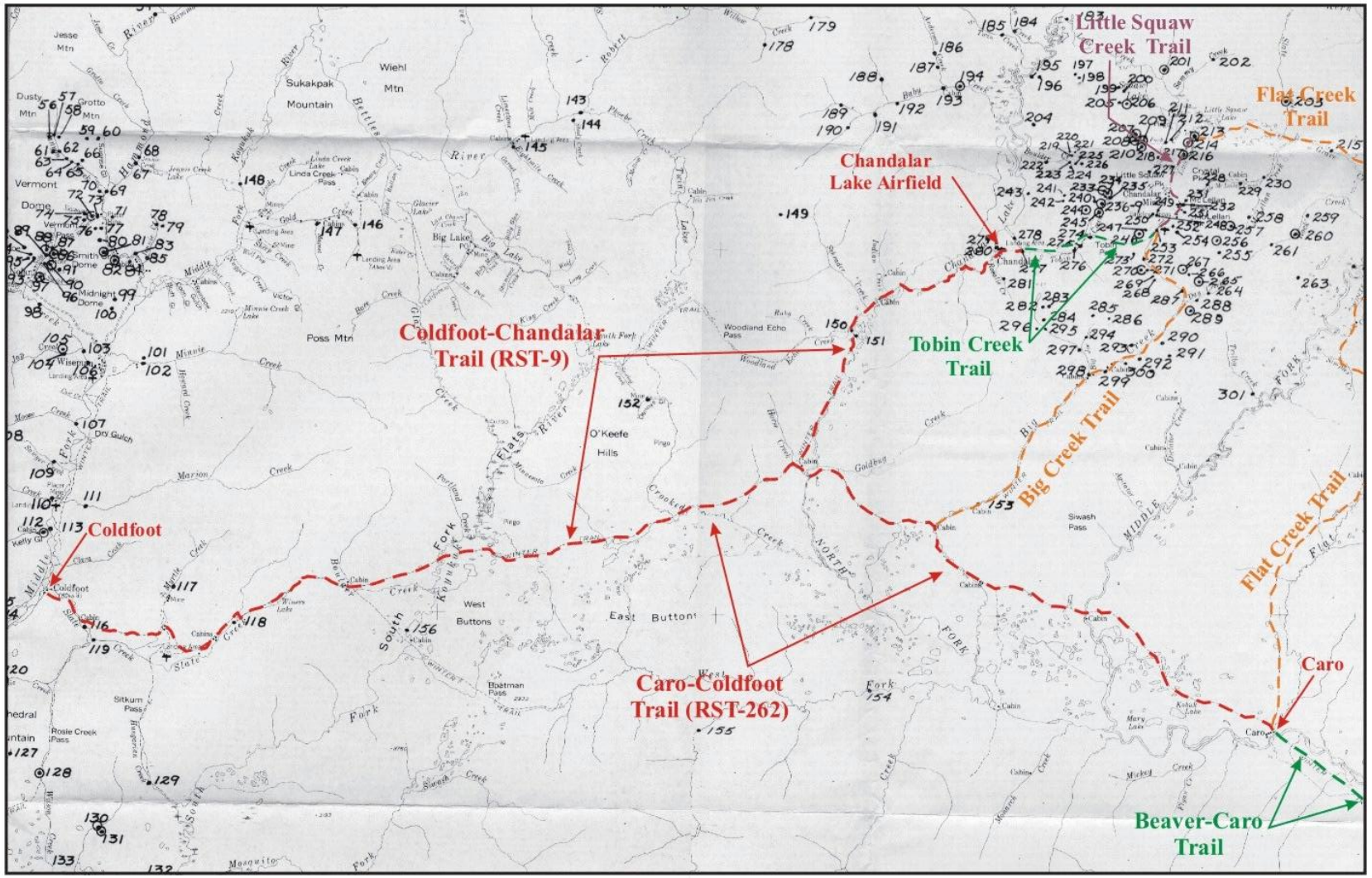

Figure 52. Portion of map from the 1970 report by W.P. Brosge and H.N. Reiser, showing sites where chemical analyses of stream sediment samples were taken in the Chandalar and Wiseman areas. The data was compiled and mapped on January 30, 1968 by USGS using a 1956 USGS map of the Chandalar and Wiseman areas. The Coldfoot-Chandalar (RST-9) and Caro-Coldfoot (RST-262) trails are highlighted with red dashes.

Creek. After 1975, the State of Alaska allowed miners to use the Haul Road. Lounsbury and Heflinger brought equipment up the Haul Road from Fairbanks to Coldfoot in 1976 and 1977, and then hauled it over the Coldfoot-Chandalar and Caro-Coldfoot trail to Boulder Creek. Since that time, other miners on Slate, Myrtle and Boulder creeks have used the Haul Road to stage equipment at Coldfoot, then carry equipment and supplies over the Coldfoot-Chandalar Trail to their mining camps.[299]

[CDC and Jan Drew Use Coldfoot-Chandalar Trail] In the late 1970s, miners in the Chandalar began using cat-trains to haul heavy equipment during the winter over the Coldfoot-Chandalar Trail to their mines.[300] While they continued to fly personnel and some supplies to the Chandalar, they hauled heavy equipment up the Haul Road and staged it at Coldfoot. In the spring of 1979 and 1980, Patrick Whelan, of Whelan Mining and Exploration, Inc. of Fairbanks, and several men drove tractors pulling sleds with heavy equipment from Coldfoot to the Chandalar for CDC and Jan Drew Holdings, Inc. One of those years he drove a Komatsu D-155 tractor pulling several sleds. The second year he drove a D-65 Komatsu tractor pulling several sleds. The sleds were loaded with equipment for placer mining and trailers to be used as living quarters.[301] Whelan supervised CDC and Jan Drew mining operations. Larry Hoffman succeeded Whelan and ran the two operations from 1981 through 1983. Each year, his crews drove heavy equipment over the Coldfoot-Chandalar Trail. One year, Hoffman and two Jan Drew employees drove a D-8 Caterpillar tractor (Model H) over the Coldfoot-Chandalar Trail. They strapped a large fuel tank holding 300 gallons of fuel to the back of the D-8 for the two day journey. During other years, they took in a large crawler tractor (HD-21), an excavator, and a loader. The two companies flew the rest of their equipment and supplies into the Chandalar using Nenana Air, Alaska Air and Northern Air Cargo.[302]

[Others Use the Coldfoot-Chandalar Trail in 1980s] During 1981, an employee for Viking Exploration of Denver, Colorado, drove heavy equipment over the Coldfoot-Chandalar Trail to Big Creek. He traveled too late in the spring and tore up the trail across the tundra, creating a scar across the landscape. Another outfit brought in heavy equipment over the Coldfoot-Chandalar Trail to mine

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[299] Telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006.

[300] According to Richard Walters, LSGMC, since its inception in 1959, and its leasees used the winter trail (RST 9) from Coldfoot to the state airstrip on Chandalar Lake to transport heavy equipment for their mining operations. Letter from Richard R. Walters, President and Director, LSGMC, to Governor Frank Murkowski, July 28, 2003, LSGMC archives, Spokane, Washington..

[301] A mining news article includes a photo of the cat train, but it is poor in quality. Patrick Whelan, "Whelan's 1979 Lode Mining & Milling Operations in the Chandalar Mining District of Alaska," paper presented in Fairbanks, October 10, 1979, p. 3; "Whelan Has Little Squaw Property Ready for Production," *Western Mining News* (Spokane, Washington), Volume 11, No. 29, June 1, 1979, p. 1; Telephone interview with Larry C. Hoffman, Butte Montana, by Rolfe G. Buzzell, August 2, 2006.

[302] Larry Hoffman, "1982 Report of Operations, CDC Partners, Inc., Chandalar District, Alaska," LSGMC archives, Spokane, Washington; "Canadian Company Predicts No Mining Slowdown," *ALASKA from the INSIDE*, June 16, 1982, p. 2; telephone interview with Larry C. Hoffman, Butte Montana, by Rolfe G. Buzzell, August 2, 2006; telephone interview with Mike Garverich, Butte Montana, by Rolfe G. Buzzell, August 9, 2006.

on Big Creek in 1982 or 1983 . They got a late start in the spring and had difficulty crossing the Chandalar River just below Chandalar Lake because the ice was melting.[303] In the early 1980s, Walt Lanigan worked for Placer Oil on Cleary Summit, outside Fairbanks. He obtained some mining claims in the Chandalar from Placer Oil, so he went up the Coldfoot-Chandalar Trail to do development work on the claims. Lanigan recalled that in 1982-1984 "you could drive a pickup all the way to Tobin Creek from Coldfoot."[304]

[Use of the Caro-Coldfoot Trail] In the late 1970s or early 1980s, Jules Wright of Tundra Contractors in Fairbanks took heavy equipment, including three D-9 caterpillar tractors, a D-4, a D-8, three scrapers, a road grader and a small crusher over the Caro-Coldfoot Trail to Arctic Village. The equipment that Wright transported over the trail was used to build or improve an airfield at Arctic Village.[305] About 1984 or 1985, Jerry Coghill, Jerry Parker and Mark Rife hauled heavy equipment over the Caro-Coldfoot Trail from Arctic Village to Venetie. The three men, working for Nenana Fuel Company, used a D-7 Caterpillar pulling a trailer and a Nodwell tractor to make the five-week trip during late February and March. They began at Coldfoot and went over the western portion of the Caro-Coldfoot Trail to Horse Creek. They used the D-7 to plow snow on the trail to create a temporary road bed. They planned to follow the Coldfoot-Chandalar trail to Chandalar Lake to examine some equipment near the lake for a bank, but their progress upstream was interrupted after a mile or two along the North Fork of the Chandalar by ice overflows. They headed down the North Fork of the Chandalar River following the Caro-Chandalar Trail past Caro, then went up the East Fork of the Chandalar River to Arctic Village. They loaded up a D-9 Caterpillar tractor and a loader that had been used to build the airfield in Arctic Village and carried them down the East Fork and the main branch of the Chandalar River to Venetie for a Native village corporation. They were supposed to carry another D-9 tractor with them to Coldfoot, but the tractor had been stripped of parts to keep the first D-9 running. After unloading at Venetie, they drove back up the Chandalar River and along the Caro-Coldfoot Trail back to Coldfoot.[306]

[Chandalar Mining since 1990] In late 1989, Delbert Ackels, operating under the name Gold Dust Mines, Inc., leased placer claims on three of four creeks held by LSGMC. Starting in 1990, Ackels used heavy mechanized equipment to placer mine on Tobin and Big creeks. From 1990 to 1992, Gold Dust Mines was the largest gold producer in the northern region. Ackels used a dry-

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[303] Telephone interview with Larry C. Hoffman, Butte Montana, by Rolfe G. Buzzell, August 2, 2006; telephone interview with Mike Garverich, of Butte Montana, by Rolfe G. Buzzell, August 9, 2006.

[304] Telephone interview with Walt Lanigan telephone in Fairbanks, by Rolfe G. Buzzell, August 2, 2006. Lanigan gave the claims up, but acquired more claims in the Chandalar area two decades later.

[305] Telephone interview with Jerry Coghill, Fairbanks, by Rolfe G. Buzzell, August 14, 2006; telephone interview with Jerry Parker, Fairbanks, by Rolfe G. Buzzell, August 14, 2006; telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006; telephone interview with Jack Reakoff, in Wiseman, by Rolfe G. Buzzell, August 16, 2006.

[306] Telephone interview with Jerry Coghill, Fairbanks, by Rolfe G. Buzzell, August 14, 2006; telephone interview with Jerry Parker, Fairbanks, by Rolfe G. Buzzell, August 14, 2006.

land jig recovery plant (Figure 53), similar to those installed aboard modern dredges.[307] Ackels moved his equipment to Big and St. Mary's creeks in late 1993 and concentrated his placer operations on those two creeks through 1999. Hamlyn Estates staked a block of hardrock claims in 1994 and 1995 in the Chandalar and B and B Mining Company also prospected in the area.[308] LSGMC leased placer claims on Tobin, Big and Little Squaw creeks to Day Creek Mining Company in 1997. Day Creek Mining did exploratory drilling, but lacked funding to do further work and gave up the lease the following year. In the late 1990s, LSGMC let some of its claims lapse on Big and

Figure 53. Del Ackels' dry-land jig recovery plant at his placer mine on Tobin Creek, 1991. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

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[307] T.K. Bundtzen, R.C. Swainbank, John Wood, and A.H. Clough *Alaska's Mineral Industry, 1991* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 46, 1992), pp. 6-7, 28-29; Swainbank, Bundtzen, Clough, Hansen, and Nelson, *Alaska's Mineral Industry, 1992*, pp. 26-27).

[308] R.C. Swainbank, Tom K. Bundtzen, A.H. Clough, M.W. Henning and E.W. Hansen, *Alaska's Mineral Industry, 1994* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 49, 1995), pp. 4, 25; T. K. Bundtzen, R.C. Swainbank, A.H. Clough, M.W. Henning and K.M. Charlie, *Alaska's Mineral Industry, 1995,* (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 50, 1996), pp. 7, 23.

Little Squaw Creek for lack of funds to do the assessment work. LSGMC terminated Gold Dust Mines' placer mining lease in 2000 after Ackels failed to pay annual payments and royalties. No placer mining occurred in the area during 2000-2003. Ackels located state mining claims on his own behalf in July 2003 in the areas vacated by the Little Squaw Gold Mining Company. During the same year, Eskil Anderson sold his interest in LSGMC to Richard Walters and other investors. The company staked additional mining claims in the following two years, increasing the company's Chandalar property to 9,830 acres (15.4 square miles).[309] Walt Lanigan began placer mining on Big Creek in 2003 and has continued mining every year since. Del Ackels has also placer mining on Big Creek every year since 2003.[310]

[Coldfoot-Chandalar Trail Use in the 1990s] Del Ackels, who started placer mining as Gold Dust Mines on claims leased from LSGMC in 1989, began using the Coldfoot-Chandalar trail to freight equipment and supplies to the Chandalar. Ackels has used the trail every year since 1989.[311] Some years he hired freight companies to do the hauling for him; other years he did the hauling himself. In early 1989, Mervin Gilbertson, of Big State Logistics in Fairbanks, hauled mining equipment and fuel for Ackels over the Coldfoot-Chandalar Trail. Gilbertson was the first freight carrier to use semi-trucks on the trail. He used a caterpillar to plow a road over the frozen trail, then took in a convoy of 5 trucks every three days for three weeks. The convoy made 6-8 trips that spring. The semi-trucks pulled lowboys, flatbeds and tankers, hauling a dragline, loaders, caterpillar tractors, fuel, and sluice boxes (Figure 54). Gilbertson recalled that the trail was obvious in most places, even though it was covered with snow.[312] During spring 1990, Ackels transported 500 tons of heavy equipment valued at $2.6 million to the Chandalar over the Coldfoot-Chandalar Trail. The machinery included an IHC-Holland wash plant (Figure 55), a Bucyrus-Erie dragline, two big Caterpillar tractors, front end loaders, a churn drill and other placer mining equipment.[313] A year later, Gilbertson made a re-supply trip for Ackels, again using semi-trucks pulling flat bed and tanker trailers. Paul Manuel, of Paul and Company of Fairbanks, did the freighting after 1991 for a few years, then Del Ackels did his own freighting over the trail to supply his operation.[314] Manuel made

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[309] "Annual Report of the Little Squaw Gold Mining Company for Fiscal Year ending December 31, 2004," p. 5; LSGMC, "Chandalar Mining District History," 2004.

[310] Telephone interview with Walt Lanigan, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

[311] Telephone interview with Richard Walters, in Fairbanks, by Rolfe G. Buzzell, July 25, 2006.

[312] Telephone interview with Mervin Gilbertson, Fairbanks, by Rolfe G. Buzzell, August 14, 2006; telephone interview with Walt Lanigan, Fairbanks, August 2, 2006.

[313] "Annual Report of the Little Squaw Gold Mining Company for Fiscal Year ending December 31, 2004," p. 5, LSGMC archives, Spokane, Washington; LSGMC, "Chandalar Mining District History," 2004; R.C. Swainbank, T. K. Bundtzen, and John Wood *Alaska's Mineral Industry, 1990*, (Fairbanks: Alaska Division of Geological and Geophysical Surveys, Special Report 45, 1991), pp. 9, 26, 27; Bundtzen, Swainbank, Wood, and Clough, *Alaska's Mineral Industry, 1991*, pp. 6-7, 28-29.

[314] Telephone interview with Mervin Gilbertson, Fairbanks, by Rolfe G. Buzzell, August 14, 2006.

Figure 54. Semi-trucks (below) at the staging area for Gold Dust Mines on Tobin Creek, 1990. Photograph by Bruce Campbell and reproduced from *Alaska's Mineral Industry, 1990* (1991), p. 27.

Figure 55. Del Ackels and Odin Strandberg, Jr. standing in front of Ackels' IHC dry-land jig plant on Tobin Creek, June 9, 1990. This equipment was freighted over the Coldfoot-Chandalar Trail during the winter of 1990-1991. Eskil Anderson Collection, courtesy of Richard Walters, LSGMC, Spokane.

a trip two years in a row, each during the months of February and March. On the first trip, he hauled equipment for Ackels from Coldfoot to Tobin Creek by way of Chandalar Lake. On the return, he hauled some other equipment from Chandalar back to Coldfoot. A year later, Manuel drove four empty semi-trucks over the Coldfoot-Chandalar Trail to pick up and transport Ackel's separation plant from Tobin Creek. Manuel hauled the separation plant back to Coldfoot and Fairbanks where Ackels sold it to a miner out-of state. On both trips, Manuel used tractors to clear the trail and used semi-trucks and tankers to haul heavy equipment and fuel over the frozen ground.[315]

[Coldfoot-Chandalar Trail in 2000s] Ackels and other miners have used the Coldfoot-Chandalar Trail throughout the 2000s. Ackels has used a Nodwell (Figure 56) and a D-8 Caterpillar tractor pulling a truck trailer when he transports equipment over the Coldfoot-Chandalar Trail.[316] Tim Kiehl, owner of Remote Transport Services of Fairbanks, made at least one trip a year over the Coldfoot-Chandalar Trail every spring from 1999 through 2005 using dozers, skids and Nodwells. He made one trip a year during 1999-2002, four trips in 2003, two trips in 2004 and one trip in 2005. He hauled freight, mostly for miners in the Chandalar area. He also has hauled freight for people with cabins around Chandalar Lake. He has hauled tractors, boats, fuel, and mining equipment. During 2002, he made a trip over the Coldfoot-Chandalar Trail during September in a Nodwell 150 tracked

Figure 56. A Nodwell 110 tracked vehicle, similar to those used for hauling freight on the Coldfoot-Chandalar Trail and for oil exploration on the North Slope. Photo courtesy of Formost Industries LP.

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315 Telephone interview with Paul Manuel, Fairbanks, by Rolfe G. Buzzell, August 9, 2006; telephone interview with Walt Lanigan, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

316 Telephone interview with Walt Lanigan, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

vehicle. The trip was for moose hunting and he traveled from Coldfoot to a point about 6 miles short of Chandalar Lake. Tim Keihl mined on Boulder Creek from 2000 to 2002 and made dozens of trips over the 22-mile road from Coldfoot to his placer mine on Boulder Creek.[317] Walt Lanigan brought heavy equipment, including D-6 and D-7 Caterpillar tractors and several 160-Nodwells (flat-bed tractors) over the Coldfoot-Chandalar Trail during the spring of 2004 and 2005. During the winter of 2006, Lanigan accessed his property and claims at the Chandalar from Coldfoot by snowmachine. Lanigan described the Coldfoot-Chandalar trail as "our life line."[318] Little Squaw Gold Mining Company hauled nearly half a million dollars worth of machinery, camp construction materials and supplies by cat train over the Coldfoot-Chandalar Trail to its camp in the vicinity of Chandalar Lake during March 2006. The company trucked the equipment to Coldfoot on the Dalton Highway, then used bulldozers, snow cats and sleds to move 67 tons of cargo 70 miles over the historic trail. "This operation was a major logistical accomplishment," Chandalar project manager Jim Barker stated, "moving so much gear and equipment overland in arctic winter conditions – but we managed it virtually without incident."[319]

[Miners Request Trail Easements] As use of the Coldfoot-Chandalar Trail in the 1980s became a critical factor in supplying Chandalar mining camps, miners petitioned federal and state agencies to preserve easements along the route. Eskil Anderson wrote to the Bureau of Land Management in June 1983 that he had been actively mining in the Chandalar since 1946 and had known all of the old timers. The Coldfoot-Chandalar winter trail, he wrote, was clearly shown on USGS maps in the Wiseman and Chandalar Quads and had been in use "since the early 1900s." Anderson added that "we and our leasees have used that corridor for fleets of bulldozers and all types of heavy equipment ... since construction of the pipeline (Haul) road" in the 1970s. "Large bulldozers and loaders and supplies were freighted into our mining operations again this year in March and April [1983] and are expected to do so annually."[320] In November 1993, Anderson wrote to the Alaska Department of Natural Resources that freighting of heavy earth moving equipment on the Coldfoot-Chandalar Trail, which began in the 1950s, increased "substantially after the construction of the Prudhoe Bay (Haul) Road."[321] Edward O. Strandberg, Jr., a mining engineer hired by Eskil Anderson to analyze mining data on the Chandalar District, also lobbied for trail easements to the Chandalar. "Miners moved heavy mining machinery into the Chandalar along the Coldfoot-Chandalar trail after construction of the Dalton Highway in 1975," Strandberg wrote. The most recent use of the trail, he added, was in 1990-1992, when Chandalar Mines, Inc. and Gold Dust Mines, Inc. moved a large

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317 Telephone interview with Tim Kiehl, Fairbanks, by Rolfe G. Buzzell, August 9, 2006.

318 Telephone interview with Walt Lanigan, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

319 Press Release 4-06, LSGMC, April 3, 2006, Spokane, Washington.

320 Letter from Eskil Anderson, President of LSGMC, Spokane, to Chief of Branch of Easement Identification, Bureau of Land Management, Anchorage, June 9, 1983, Eskil Anderson Collection, Box 6, Alaska and Polar Regions Department, Elmer E. Rasmuson Library, University of Alaska, Fairbanks.

321 Eskil Anderson to the Department of Natural Resources, Division of Lands, Northern Region, Fairbanks, November 12, 1993.

placer mining outfit and mining supplies into the district. A second primary access route in the Chandalar extended from Beaver on the Yukon River, to Caro on the Chandalar River, then into the Chandalar District. This route, Strandberg wrote, included the Caro-Coldfoot Trail, which connected with the Coldfoot-Chandalar Trail at Horse Creek.[322]

[Trail Conditions] In the 1970s, miner George Lounsbury recalled that the portion of the Coldfoot-Chandalar and Caro-Coldfoot trails that continued east of Boulder Creek was a well-marked feature on the landscape.[323] Later In the 1970s, a miner named Black took heavy equipment across the Coldfoot-Chandalar Trail too late in the spring. He rolled up the tundra by traveling across it with tractors, leaving a scar on the landscape.[324] During a flyover of the Coldfoot-Chandalar Trail in May 1995, Robert Layne of the Alaska Department of Natural Resources noted the trail split in places into two or more separate routes before coming together again. While at Chandalar Lake, local resident Jack McManus told Layne that the trail had been used in the summer in recent years to haul ore from a mine near Chandalar Lake via semi-truck to Coldfoot. This was feasible, Layne concluded, as the trail was quite dry in many places. "The trail(s) obviously has been used by a number of different parties; active mining operations along the route use it currently."[325]

[Other users of the trails] In addition to miners, other people have used the Coldfoot-Chandalar and Caro-Coldfoot trails. During the early and mid-twentieth century, several trappers who sought martin furs had cabins in the Chandalar Lake area. The ruins of an old trapper cabin on the North Fork of the Chandalar River just downstream from Chandalar Lake is evidence of early trappers using the Coldfoot-Chandalar Trail.[326] Red Adney, who prospected in the Chandalar, also trapped in the Chandalar area, but martin fur prices crashed about 1946. The prices came back in the 1970s, then started declining in the 1980s and nose dived in the early 1990s. Adney, ran a big game guiding business from his cabin at Chandalar Lake in the 1960s. His clients arrived by air and he took them on hunts for bears, wolves, dahl sheep and caribou during the fall.[327] Another hunting guide set up camp on Little Squaw Creek during 1996, operating out of some old mine buildings. An influx

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[322] Edward O. Strandberg, Jr. to Joseph P. Sullivan, Alaska Department of Natural Resources, Division of Land and Water Management, Fairbanks, April 9, 1993, Alaska Department of Natural Resources RS 2477 Case File RST9.

[323] Telephone interview with George Lounsbury in Fairbanks by Rolfe G. Buzzell, August 22, 2006.

[324] Telephone interview with Jack Kerin, Department of Natural Resources, Division of Mining, Land & Water, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

[325] Memorandum on "Trail Inspection," by Robert Layne, Natural Resources Officer, to File, May 30, 1995, Alaska Department of Natural Resources RS 2477 Case File RST9.

[326] Frederick J. Kent, *Genes De Large: An Alaskan Diary and Memoir* (Philadelphia: Xlibris Corporation, 2005), p.212.

[327] Telephone interview with Jack Reakoff, in Wiseman, by Rolfe G. Buzzell, August 16, 2006; interview with Chris Birch at Anchorage by Rolfe G. Buzzell and Christopher Chambers, July 12, 2006; interview with Halver Englestad at Wasilla, by Rolfe G. Buzzell and Christopher Chambers, July 11, 2006.

of people building recreational cabins began in the 1980s. By 1994, Chandalar Lake had two year-round residents and about 6 seasonal residents. During the winter of 1994, one seasonal resident, Jack McManus, purchased two second-hand all-terrain Nodwells, vehicles that oil companies use for winter travel on snow. McManus and two other people made the trip in the Nodwells over the 80-mile trail from Coldfoot to Chandalar in two days. In March 1994, a four-man construction crew drove their equipment from Coldfoot to Chandalar to work on a $1.5 million dollar reconstruction of the Chandalar Lake airfield. It took the crew 24 days for a trip over the trail that usually took three days, as they had to plow through snow storms and whiteouts. In the late 1990s, commercial lodge and cabin owners at Chandalar Lake started bringing building materials and supplies over the Coldfoot-Chandalar Trail for construction of new buildings. Previous to that time, most supplies and building materials had been brought in by aircraft.[328]

[328] Kent, *Genes De Large: An Alaskan Diary and Memoir*, pp. 52, 103, 140, 147, 205, 377; telephone interview with Walt Lanigan, Fairbanks, by Rolfe G. Buzzell, August 2, 2006.

VIII. CONCLUSIONS

[Challenges and Hardships] The Slate Creek drainage and the Chandalar have been mined for a century and the latter contained some of the highest grade gold lodes in the Interior.[329] Placer gold production on Myrtle Creek, from 1900 to 1955, was 16,952 ounces, including all but 14 years in which the amount of gold produced is missing. Placer gold production in the Chandalar was 76,636 ounces and lode gold production was 9,039 ounces, for a total of 85,675 ounces, although actual historic production was probably greater than the recorded production.[330] The Koyukuk and Chandalar mining districts presented some of the greatest challenges and hardships for gold seekers in Alaska and the Yukon region. The remoteness and severe environment were major obstacles to prospecting and working claims. The Slate and Myrtle creek mines in the Koyukuk and the Chandalar mines were more than 200 air miles north of Fairbanks and 80 air miles north of the Arctic Circle. The long overland distances involved contributed to the high cost of transporting equipment and supplies to the Koyukuk and Chandalar districts. These two districts were among the highest in Alaska in terms of operating costs, which reduced profits from gold production by 50 percent. The trails to these two districts were the most northerly continuous trail connections in Alaska. The Coldfoot-Chandalar (RST 9) and Caro-Coldfoot (RST 262) trails were two of a series of trails that provided access to the Slate Creek drainage and the Chandalar. The miners, freighters, mail carriers and others who traveled these lonely trails, with temperatures of -40° to -60° Fahrenheit in the winter, demonstrated a rare determination and ability to survive incredible hardships.[331]

[Transportation Affects Mining] Profitable mining depends on low cost and efficient transportation. The economics of mining is largely controlled by transportation, as the latter is the "primary influence on determining the relation of the mining cost to production, and the difficulty or ease with which a particular locality may be supplied."[332] The high costs of road building was an obstacle to the development of adequate overland routes to the remote Koyukuk and Chandalar districts, delaying the introduction of mechanical and large-scale technologies. No roads, seasonal or otherwise, were built linking the Upper Koyukuk and Chandalar with Alaska's rail and road system until the early 1970s when the Dalton Highway was built for the Trans-Alaska Pipeline from Livengood to the Yukon River, then north past Coldfoot and Wiseman to Prudhoe Bay.[333]

[Continued Use] Historic trails in the Slate Creek drainage and Chandalar area continued to be used long after the gold rush era by people hiking and using pack horses, dog teams, horse-

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329 E.R. Chipp, *Geology and Geochemistry of the Chandalar Area,* p. 3.

330 Hansen, *Mining Activity along Coldfoot to Chandalar Lake Trail (RST 9) and Caro to Coldfoot Trail (RST 262), 1898-1968*, p. 7; "Annual Report of the Little Squaw Gold Mining Company for Fiscal Year ending December 31, 2004," pp. 5-6.

331 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 157.

332 Madden, "The Koyukuk-Chandalar Gold Region," p. 265.

333 Mills, *Historical Archaeology of Alaskan Placer Gold Mining Settlements,* p. 20.

drawn wagons and sleds, tractors, all-terrain vehicles (ATVs), snow machines and semi-trucks. The Caro-Coldfoot and Coldfoot-Chandalar trails are still very visible on the landscape. They have been traveled in recent years by caterpillar tractors and other vehicles. Cleared stretches through trees and brush are clearly evident on sections of both trails. Most of the historic travel along these was during the winter months. Low-lying brush and tundra vegetation forms the bed of most of these trails, which stand out against the surrounding landscape. Ruins of shelter cabins along the Caro-Coldfoot Trail were still visible in the 1970s, as were old buildings at the deserted camp of Caro.[334] The Caro-Coldfoot and Coldfoot-Chandalar trails were part of a system of roads and trails during the territorial period that were constructed by miners, improved and maintained by the ARC using federal and territorial money, and later maintained by the miners who continued to use them. After 100 years, miners are still using these trails to access mining claims in the Slate Creek drainage and the Chandalar region. The State of Alaska maintains that a right-of-way still exits in the name of the State along such roads and trails pursuant to Revised Statute 2477 authorized by Congress in 1866. The Caro-Coldfoot and Coldfoot-Chandalar trails are not currently being publicly maintained as trails. Many of the segments, which are located along the rivers within very broad valleys, continue to be used and are discernable and passable over large sections. Summer vehicular and pedestrian use is sometimes limited due to the presence of low brush, tussocks, muskeg and marshy areas, stream crossings and other obstacles.[335]

[Trail Conditions Changed Over Time] The overland trails to Slate and Myrtle creeks in the Koyukuk District and the mines in the Chandalar District were traveled "very lightly, even during boom years." These two districts were the most important north of the Arctic Circle, but were modest in terms of numbers of stampeders, miners, freight carriers and the amount of production in comparison to other gold districts in Alaska.[336] Aerial maps from July 1955 and from the 1970s and 1980s show clear evidence of the Coldfoot-Chandalar and Caro-Coldfoot trails on the landscape. In some cases, there are multiple trails in a given area, showing summer and winter routes, or diversions of the trail due to changing conditions or mining activity. The use of tracked vehicles and all-terrain vehicles has, in some cases, substantially changed the character of the route in the area of these historic trails. Changes include enlarged trail width, the cutting, knocking down, or scraping of vegetation, "cat" tracks, and other signs of mechanized travel during the last 50 years. Mining continues in the Slate Creek drainage and Chandalar Lake areas and the historic routes are occasionally traversed by tractors, other heavy equipment and ATVs used in mining operations and supplying field camps.[337]

[Caro-Coldfoot Trail] Miners created the Caro-Coldfoot Trail (RST-262) and several hundred people used it from 1899 through 1906 to access the upper Koyukuk from Fort Yukon by way of the Chandalar River and over the pass to Coldfoot. The Caro-Coldfoot Trail was part of the

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334 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, pp. 153-155.

335 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 157.

336 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, p. 162.

337 Bureau of Outdoor Recreation, *The Iditarod Trail ... and Other Alaskan Gold Rush Trails*, pp. 158, 160.

winter mail route between Fort Yukon and the upper Koyukuk River mining camps until 1906. It was also used during the 1906-1908 Chandalar Rush by miners from Coldfoot, Fort Yukon and other places who staked claims on the south side of the Chandalar River. Use after 1908 was intermittent through the early 1930s. The U.S. Army spent money surveying the trail in 1904 and the ARC conducted its own survey of the route in 1909-1910. The ARC made improvements to the trail in 1924-1926 to bring it up to winter sled trail standards. The improvements included construction of shelter cabins and aerial tram crossings of rivers with funds provided by the TBRC. The route was a summer pack trail and winter dog sled trail during the 1910s and 1920s and was lightly used after 1926 as there was little traffic between Caro and Coldfoot. The western end of the trail was used continuously by prospectors and miners who came up the Middle Fork of the Koyukuk River to stake and work mining claims in the Slate Creek drainage from 1898 to1968. Coldfoot served as the supply center for the Slate Creek drainage until that community was abandoned about 1908. Thereafter, it served as the staging area and starting point for miners traveling the trail overland to Slate, Myrtle and Boulder creeks. The eastern end of the Caro-Coldfoot Trail was used and improved from 1906 to the 1930s to provide access to the Caro-Big Creek Trail. Miners who accessed the area from Beaver (on the Yukon), took the Beaver-Caro wagon road north, traveled the eastern portion of the Caro-Coldfoot Trail to the mouth of Big Creek, then took the Big Creek Trail north to Chandalar camp. This eastern-most section of the Caro-Coldfoot Trail was used intermittently in the 1940s and at least once by miners driving tractors in 1954.

[Coldfoot-Chandalar Trail] Several hundred people used the Coldfoot-Chandalar Trail (RST-9) during the rush from the Upper Koyukuk to the Chandalar in 1906-1908. After that, use of the trail declined. The primary route to the Chandalar during 1908-1909 was up the Chandalar River from Fort Yukon. Miners used poling boats to carry their equipment and supplies up the Chandalar River as far as it was navigable, then packed or sledded their supplies up to their mining claims. In 1909, the ARC began building a trail from Beaver on the Yukon to Caro. Miners and freighters used this trail, then used their own trails up Big Creek or Flat and Graves creeks to their claims. The ARC put most of its limited resources for the area into improving the route from Beaver to Caro, which was designated a wagon road in the 1920s. The routes from Caro to Chandalar by way of Big and Flat creeks were never improved to more than summer pack trails and winter sled trails. The ARC made significant improvements to the Beaver-Caro route between 1909 to 1933, and continued to perform maintenance on the route through 1939. The route served as the primary overland route to the Chandalar from1910 to 1940, and the first tractor reached the Chandalar by that route in 1923. The ARC maintained the western portion of the Coldfoot-Chandalar Trail, which overlaps the western portion of the Caro-Coldfoot Trail, through 1925. The ARC did not make improvements to the portion of the Coldfoot-Chandalar Trail between Horse Creek and Chandalar Lake. Miners used the Coldfoot-Chandalar Trail infrequently after 1910.

[Postwar Changes] The introduction of aircraft and evolving government priorities changed how miners and their supplies traveled to the Slate Creek drainage and the Chandalar area. The ARC suspended maintenance of most remote mining trails in Alaska, including those in the Slate Creek drainage and the Chandalar area, with the onset of World War II. During and after the war, the ARC changed its priority, from the pre-war policy of linking communities and mining camps to rail and river landings, to a Cold War era policy of focusing on building and improving highways and feeder roads that linked population centers with military installations. The ARC continued to list remote

mining trails on their inventories, but maintenance of remote trails fell to the Koyukuk and Chandalar miners who continued to used them to transport heavy equipment to their camps. Miners continued to use the far western end of the Coldfoot-Chandalar Trail during the postwar years to access claims in the Slate Creek drainage. In the 1950s, miners in the Chandalar District drove caterpillar tractors pulling heavily loaded sleds over the Beaver-Caro, the Caro-Big Creek and the Flat Creek trails to their camps. Most miners and geologists traveled and transported their light-weight supplies by aircraft. While the ARC and its successor, the Bureau of Public Roads, did not maintain the trails in the Slate Creek and Chandalar areas, they kept them on their inventory list of active territorial trails. After 1959, the State of Alaska selected lands, many with mineral potential in remote areas, based on the assumption that those lands would be accessible by historic trails. The Legislature created a pioneer roads program in the 1960s to support the upgrade and maintenance of remote mining roads. The Department of Highways also created an inventory of historic roads and trails in the early 1970s, which included the Coldfoot-Chandalar and Caro-Coldfoot routes. It was not until the mid-1970s, when the Haul Road was completed, that it became economically viable for miners to begin using the Coldfoot-Chandalar and Caro-Chandalar trails again. They used cat trains to move heavy equipment to their mining camps.

[Mining Claim Activity, Slate Creek Drainage] One form of historic evidence for trail use is the large volume of recorded documents in the mining records. Table 18 indicates mining activity on Slate Creek and its tributaries from 1898 to 1968, as reflected in documents filed by miners when they recorded newly located claims and filed annual assessment work affidavits. Table 18 represents a compilation of the information included in Tables 1, 4, 7, 10, 13, 15 and 16. A total of 748 new mining claims were located between 1898 and 1968. Miners filed new mining claims in every decade except the 1950s. Miners in the Slate Creek drainage also filed 1,221 assessment work affidavits during the same period.

Time Period	Claims Located	Assessments Filed	Exemptions Filed	Total
1904-1906	357	82	0	439
1907-1915	115	74	0	189
1916-1929	44	29	25	98
1930-1941	167	35	0	202
1942-1944	10	0	2	2
1945-1949	45	335	88	468
1950-1959	0	362	0	362
1960-1968	10	304	0	314
Total	748	1,221	333	2,302

Table 18. Mining activity as reflected by the number of claims located, annual assessment work documents filed, and exemptions to assessment documents filed on Slate Creek and its tributaries, 1898-1968.

[Mining Claim Activity, Chandalar District] Table 19 indicates mining activity in the Chandalar Mining District from 1904 to 1968, as reflected in documents filed by miners when they recorded newly located claims and filed annual assessment work affidavits. Table 19 represents a compilation of the data included in Tables 2, 5, 8, 11, 12, 14 and 17. A total of 624 new mining claims were located between 1904 and 1968, including both placer and lode claims. Miners in the Chandalar also filed 630 assessment work affidavits during the same period.

Time Period	Claims Located	Assessments Filed	Exemptions Filed	Total
1904-1906	506	9	0	515
1907-1915	29	2	0	31
1916-1929	1	0	0	1
1930-1941	6	0	0	6
1942-1944	0	0	2	2
1945-1949	43	212	0	255
1950-1959	6	145	0	151
1960-1968	33	262	0	295
Total	624	630	2	1,246

Table 19. Mining activity as reflected by the number of claims located, annual assessment work documents filed, and exemptions to assessment documents filed on creek in the Chandalar District, 1904-1968.

[Documenting Trail Use] There is abundant documentary evidence of an intermittent pattern of use of the Caro-Coldfoot Trail since 1898 and the Coldfoot-Chandalar Trail since 1904. The evidence consists of government reports and documents, newspapers accounts, historic and aerial photographs, mining records, and interviews with people who used the trail in the past. Most of the miners, freight carriers and visitors to the Slate Creek drainage accessed the area by the western portion of the Caro-Chandalar and Coldfoot-Chandalar trails, starting at Coldfoot. It is the estimate of this author that 400-500 people--including prospectors, claim holders and their crews that worked the claims, freight and mail carriers, and other visitors--used the western portion of the Coldfoot-Chandalar and Caro-Coldfoot trails to access the Slate Creek drainage from Coldfoot. Anecdotal estimates, provided by geologists who visited the area at the time, put the number of stampeders accessing the Slate Creek drainage from the east, over the Caro-Coldfoot Trail, at two hundred. During the Chandalar Rush of 1904-1906, several hundred stampeders rushed from the Coldfoot area over the Coldfoot-Chandalar Trail to the new diggings at Little Squaw and Big creeks. After 1906, the number of people traveling and carrying freight over the trail diminished as mining activity fell off. Miners and freight carriers also developed other routes to the mining camps by way of Beaver and Caro. It is the estimate of this author that about 300 people used the Coldfoot-Chandalar Trail in the years 1904 to 1939. The most intensive use of the Caro-Coldfoot and Coldfoot-Chandalar trails occurred during the gold rush era. Traffic that traveled

these two trails diminished in the 1910s, 1920s and 1930s as the level of mining activity declined and other routes, including air transport, were developed that were easier to use. These two trails were seldom used in the postwar era until completion of the Haul Road provided a direct connection to Alaska's road system. The State of Alaska, which selected two million acres of land in the Chandalar area as part of its statehood entitlement, included these two trails in its 1970s inventory of access routes to the area. In the years after 1974, miners have used the Coldfoot-Chandalar Trail as the primary overland access route to supply their mines. People owning recreational cabins at Chandalar Lake have also used the trail in recent years. Freight carriers have used the Caro-Coldfoot Trail to haul heavy equipment between Coldfoot and Arctic Village and Venetie.

[Conclusions] The Coldfoot-Chandalar and Caro-Coldfoot trails are typical of remote mining trails in Alaska located in rough terrain and used primarily in the winter. The routes changed periodically, depending on the time of year and impacts from glaciation, floods, and mining activity in the flood plain. The miners created the trails as foot paths and dog sled trails. The federal government improved the trails and did periodic maintenance starting in 1909 and ending in the 1930s. After that, miners maintained the trails that were their overland supply lines. Physical evidence of the trails, including ruts, cat tracks and distinctive changes in vegetation, remain along portions of the trails that were not completely covered with snow when used. The remains of ancillary facilities, such as aerial trams at river crossings and shelter cabins and barns, are still located along the trail corridor.[338] While the character, quality, and location of the routes have changed over time, there has been a pattern of intermittent use of the Caro-Coldfoot Trail from 1898 and the Coldfoot-Chandalar Trail from 1904 through the 1930s. The trails were rarely used in the 1940s, 1950s and 1960s, but have been used by miners and freight haulers since completion of the Haul Road in 1974.

[338] Telephone interview with Jack Reakoff in Wiseman, by Rolfe G. Buzzell, August 16, 2006.

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