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The Copper River and Northwestern

Alaska's Bonanza Railway

Once Alaska's longest and most important railway, the Copper River and Northwestern (CR&NW) is now largely forgotten. Following its closure in 1938, its running stock was sold, its track was salvaged, and much of its roadbed was reclaimed by nature. Nevertheless, the CR&NW remains one of the region's more significant historic features. Not only did this line facilitate the development of the Kennecott copper property, Alaska's single most valuable mineral deposit, but it also helped focus a national debate over the control of natural resources which ultimately changed the very course of the country.[1]

Few Americans reached the Wrangell Mountain region until the late 1890s, when the international publicity surrounding the Klondike discovery lured thousands of prospectors to the north. While primarily attracted by gold, some also searched for other metals.

Jack Smith and Clarence Warner made Alaska's most important copper discovery while exploring the Kennicott Valley in 1900. Pausing for lunch near the mouth of National Creek, the partners noticed a green outcrop high on a distant hillside. When they scrambled up to the spot, they found a fabulously rich deposit, which they accurately dubbed the "bonanza."[2]

Trestle construction in precipitous Wood Canyon. Hegg Collection, PCA 124-66, courtesy Alaska State Library, Juneau, Alaska.

A young mining engineer named Stephen Birch soon purchased a controlling interest in the property and established the Alaska Copper and Coal Company to develop it. After transferring control of his firm to the Alaska Syndicate, largely financed by the Guggenheim family and J. Pierpont Morgan, Birch reorganized as the Kennecott Mines Company, the predecessor of the Kennecott Copper Corporation.[3]

Pack horses and sleds were able to haul sufficient materials to build and equip the mine and mill site, but a railway was necessary to move the ore. One would have to be built.

The Alaska Syndicate considered four possible routes from tidewater into the Copper Basin. The two beginning in Valdez planned to use either Thompson or Marshall Pass to reach lower tributaries of the Copper River. Both, however, possessed steep grades. Two more direct routes up the Copper started in Eyak (soon renamed Cordova), and Katalla.

The company initially rejected the Cordova route because it required bridging the Copper River between two glaciers and laying track across several miles of shifting, rubble-covered ice. A route from Katalla looked promising, particularly as it would provide the easiest access to the Bering River coalfields. Katalla, however, was situated on an unprotected beach rather than a sheltered, deepwater bay like both Valdez and Cordova.

Construction first started from Valdez, but company officers eventually moved their operation to Katalla. Engineers were certain they could build a breakwater to shelter ships and a wharf sturdy enough to withstand the violent squalls which regularly swept the north Pacific.[4]

Michael Heney showed better judgment. More familiar with Alaska conditions due to his earlier experience building the White Pass and Yukon Railway, he recognized the advantages of the Cordova route and started his own line there. He also claimed the only feasible passage up the Copper River.[5]

Recognizing its error, the Syndicate bought Heney's holdings in 1906, but continued working from its original site until November 1907, when a massive storm destroyed most of its facilities at Katalla. The company subsequently relocated to Cordova and hired Heney to construct its grade.[6]

Although only 195 miles long, the CR&NW was an engineering marvel. On a scale similar to the later Alaska Highway and Trans-Alaska Pipeline, the project took a peak crew of 6,000 men nearly five years to complete and cost the then staggering sum of $23,500,000.[7]

To overcome the valley's precipitous terrain, the CR&NW elevated much of its track, placing about 15 percent on either bridges or trestles. While many such structures still stand, three are especially striking monuments to the skill of their builders.

The Miles Glacier Bridge, often called the "million-dollar" bridge despite the fact that it actually cost nearly a million and a half to complete, was the route's single most ambitious feature. Located between the termini of the Miles and Childs Glaciers, this 1,550-foot-long, four-span, steel structure not only had to withstand the Copper River's eight-mile-per-hour current, but an endless barrage of floating icebergs.

In order to save time and money, the contractor built this bridge during the winter of 1909-10 on a wooden falsework, erected on top of the frozen river. As the third span neared completion that spring, the temperature rose and so did the water, causing the ice to drift downstream. Faced with losing their whole season's labor, the steelworkers managed to drag the 450-foot section back into position and bolt it permanently into place. They finished just in time. One hour later, the ice went out, taking all of their scaffolding with it.[8]

The CR&NW overcame another serious obstacle 17 miles east of Chitina when it successfully spanned the canyon of the Kuskulana River. Built in two months during the bitter winter of 1910, this 525-foot-long, 238-foot-high structure was, on completion, the seventh highest bridge in the United States.[9]

By comparison, erecting the wooden trestle over the Gilahina River probably seemed downright easy. Despite requiring over a half-million board feet of lumber, this massive, 880-foot-long and 90-foot-high structure was completed in just eight days.[10]

The Syndicate initially planned to extend the CR&NW all the way to Fairbanks, often referring to its Chitina-Kennecott section as only a spur. That effort, however, relied on it gaining access to the Bering River coalfield, which the company meant to develop as an inexpensive source of fuel. Unfortunately, the government had imposed a 160-acre limitation on coal claims and, when large concerns like the Syndicate tried to circumvent the law by consolidating groups of individual holdings, President Theodore Roosevelt withdrew all Alaskan coal lands from entry. This development, of course, was a major blow to the company, which consequently shelved its entire expansion plan.

In 1910, Richard Ballinger, the Interior Secretary appointed by Roosevelt's successor, William H. Taft, attempted to reopen several of the coal tracts that had earlier been withdrawn. Ballinger's action angered conservationists, particularly Gifford Pinchot, the nation's chief forester. Pinchot took his objections to the press, publicly accusing Ballinger of conspiring with the Syndicate to steal Alaska's wealth. Taft responded by firing Pinchot, an action which so riled Roosevelt that he attempted to unseat Taft in the Republican primary, and, when he lost, challenged the incumbent as an independent. Needless to say, this split the Republican vote and ultimately led to the election of Democrat Woodrow Wilson.[11]

Little remains of the CR&NW today. The Miles Glacier Bridge still crosses the Copper River, although its northern section partially collapsed during the great Alaska earthquake of 1964. Current plans favor converting this part of the route into a scenic bike path.

The Kuskulana Bridge still stands as well. Now adapted for automobiles, it is part of the state of Alaska's Chitina-McCarthy Road, which follows that portion of the abandoned railway grade and provides the main vehicular access into Wrangell-St. Elias National Park and Preserve.

The original Gilahina Trestle burned in 1916, but was quickly rebuilt. While now derelict, its looming presence just north of the McCarthy Road adds tremendous character to the route and

provides an ideal site from which to interpret the remarkable story of Alaska's bonanza railway.

Notes

1 For a more thorough analysis of the railway's regional impact, see Lone E. Janson, The Copper Spike (Anchorage: Alaska Northwest Publishing Company, 1975). For more on its construction, see Alfred O. Quinn, Iron Rails to Alaska Copper (Wilmington, NY: D'Aloquin Publishing Company, 1997).

2 William Douglass, "A History of the Kennecott Mines," typescript, Douglass Collection, University of Alaska-Fairbanks, 4. The Kennicott River was named for Robert Kennicott, one of the first Americans to explore Alaska. Kennicott's name was eventually given to the region's largest copper producer as well, but was spelled "Kennecott," the style later adopted by the Kennecott Copper Corporation.

3 Elizabeth A. Tower, Ghosts of Kennecott: The Story of Stephen Birch (Anchorage: Elizabeth Tower, 1990).

4 Woodrow Johansen, "The Copper River and Northwestern Railroad," Northern Engineer 7:2 (N.d.): 20; William R. Hunt, Mountain Wilderness. Historic Resource Study for Wrangell-St. Elias National Park and Preserve (Anchorage: National Park Service, 1991), 140-41.

5 Hunt, 141; Elizabeth A. Tower, Big Mike Heney. Irish Prince of the Iron Trails (Anchorage: Elizabeth Tower, 1988), 32-35.

6 Tower, 35-37.

7 Howard Clifford, Rails North. The Railroads of Alaska and the Yukon (Seattle: Superior Publishing Company, 1981), 148.

8 E. E. Swergal, "History of Alaska's Longest Railway," Alaska-Yukon Magazine 11: 2 (March 1911): 17-18; Johansen, 30.

9 William Alley, "Steel Rails and Ice: Alaska's Copper River and Northwestern Railway," Railroad History 168 (Spring 1993): 65.

10 Ibid., 67.

11 George E. Mowry, The Era of Theodore Roosevelt and the Birth of Modern America (New York: Harper Torchbooks, 1962) 250-57. A later, more complete, and better-reasoned examination of the issue in the 1940s cleared Ballinger of any wrongdoing.

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Frontiers in Transportation

Denali and the Alaska Railroad

Denali National Park and Preserve is one of the oldest units in the national park system in Alaska, having been designated in 1917 as Mount McKinley National Park. Renamed Denali National Park and Preserve in 1980, the park is located in Interior Alaska and encompasses a large section of the Alaska Range, including Mt. McKinley, North America's highest peak at 20,320 feet.

Transportation and communication have always been among the biggest challenges facing Alaska. The geography and climate of the state are major impediments to the development of transportation and communications systems. Overland travel is extremely difficult in Alaska, with its rugged, mountainous terrain, deep river gorges, glaciers, permafrost, tundra and marshlands. Subzero temperatures and the deep snow of winter compound the geographic obstacles. Due to these conditions, it was not until the early 1900s, when interest in resource development was on the rise, that any effort was made to improve transportation into interior Alaska and the Mount McKinley region.

The Act of 1912 granting Alaska full territorial status also authorized President Taft to appoint a commission to "examine railroad routes from the seaboard to the coal fields and to the interior and navigable waterways…which will develop the country and the resources…." The Alaska Railroad Commission (ARC) was appointed by the President to conduct this initial survey, and Secretary of the Interior Franklin Lane established the Alaska Engineering Commission (AEC) to select the final route.

Based on the information provided by the AEC, the route would run from the coastal town of Seward to the south and terminate at the mining community of Fairbanks in Interior Alaska; as it passed through the Alaska Range, its route paralleled the eastern boundary of the present-day park. Several railroads, running short distances, were already in existence along this route and