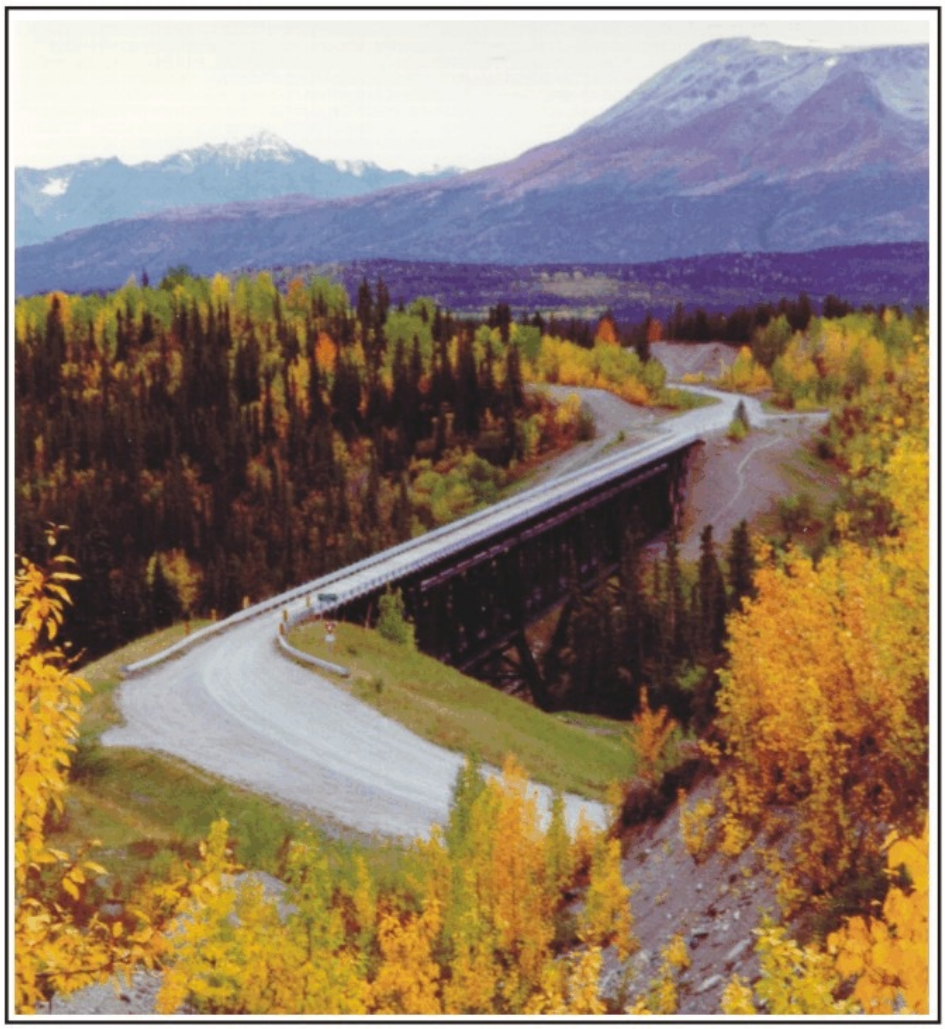
CULTURAL RESOURCES SURVEY REPORT FOR THE RELOCATION OF McCARTHY ROAD (Project No. 66008)



Rolfe G. Buzzell, Ph.D.

June 2005

OFFICE OF HISTORY AND ARCHAEOLOGY REPORT NUMBER 107

Division of Parks and Outdoor Recreation
Alaska Department of Natural Resources

Frank H. Murkowski, *Governor*
State of Alaska

Thomas E. Irwin, *Commissioner*
Department of Natural Resources

Richard LeFebvre, *Acting Director*
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Cover: The Kuskulana Bridge (VAL-207), September 10, 1966. The view is looking southeast. Photo by Rolfe G. Buzzell.

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by

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June 2005

Office of History & Archaeology
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ABSTRACT

Between August 18 and September 29, 2003, investigators from OHA conducted a cultural resources survey for the proposed reconstruction and widening of McCarthy Road in southcentral Alaska. OHA staff conducted the survey under Reimbursable Services Agreement #2542006 with the Northern Region of ADOT&PF. The purpose of the survey was to identify cultural resources and provide recommendations to ADOT&PF for FHWA consideration is issuing determinations of eligibility and subsequent determinations of effect.

Previous archaeological research in the project area has focused on late prehistoric and historic sites considered to be ancestral to the Ahtna Athabaskan. The "lower Ahtna" occupied the lower Copper River and the Chitina River drainages in late prehistoric and historic times. The discovery of the world's richest commercial copper deposit near Kennicott Glacier in 1899 prompted the Alaska Syndicate to build a 196-mile railroad from Cordova up the Copper and Chitina rivers to develop the Kennecott Mine. Construction of the Copper River and Northwestern Railway (CR&NW) was completed in 1911. It became part of the principal overland link between Prince William Sound and the interior of Alaska until 1923. Additional prospecting, mineral development and settlement occurred along the rail line between Chitina and McCarthy. After the CR&NW closed in 1938, the population along the abandoned railway declined until the 1950s, when homesteading and tourism prompted a resurgence of interest in the area. Locals and visitors used the rail line as a public tramway and winter sled trail until the late 1960s, when the State of Alaska began converting the railbed into the narrow two-lane gravel road known as McCarthy Road.

During cultural resource surveys in 1994, 1995 and 2003, OHA investigators located and documented a total of 188 buildings, structures, objects and sites along the McCarthy Road. The investigators evaluated 133 properties located within the zone of potential impact and made recommendations as to which properties meet the eligibility criteria for the National Register of Historic Places (NRHP). Properties evaluated were 9 traditional Ahtna sites, 83 properties associated with the CR&NW, and 41 properties associated with exploration, prospecting and settlement along the railway since the beginning of the twentieth century. Of the 133 properties, one **(VAL-310, Chitina Bunkhouse and Messhouse)** was listed on the NRHP in 2002, one (**VAL-207, Kuskulana Bridge**) was determined eligible by ADOT&PF and the SHPO in 1978, and the investigators recommend that 29 meet the criteria for eligibility for the NRHP.

The Investigators recommend five of the nine Native sites (**VAL-011**, **VAL-260**, **VAL-261**, **VAL-346**, and **XMC-217**) in the zone of possible impact meet NRHP eligibility criteria. Of the 83 CR&NW properties, **VAL-310** is listed on the NRHP, **VAL-207** has been determined eligible, and the investigators recommend that 17 additional properties meet NRHP eligibility criteria. The 17 properties are two railbed features (**VAL-359**, **VAL-325**); one erosion-control feature (**XMC-282**); six wood culverts (**VAL-481**, **VAL-354**, **XMC-197**, **XMC-230**, **XMC-432**, and **XMC-435**); one trestle bridge (**XMC-031**); and four trail segments (**VAL-355 at Miles 18.25-18.35**, **XMC-178 at Miles 18.35-18.50**), **XMC-178 at Mile 26.60**, and **XMC-226**); three operations and maintenance facilities (**VAL-366**, **XMC-002** and **XMC-214**). There is not a concentration or grouping of properties remaining along the corridor to convey the presence of the CR&NW as a historic district. Due to changes in the appearance of land forms along the corridor and loss of integrity of CR&NW buildings and structures, McCarthy Road does not meet the eligibility criteria for a NRHP historic landscape district. Of 41 settlement properties, the investigators recommend that seven (**VAL-357**, **XMC-191**, **XMC-192**, **XMC-217, XMC-234**, **XMC-241**, and **XMC-253**) meet eligibility criteria.

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I. INTRODUCTION

Project Description

From August 18 to September 29, 2003, investigators from OHA, Division of Parks and Outdoor Recreation (DPOR), Alaska Department of Natural Resources (ADNR), conducted a cultural resources survey to identify, document and evaluate prehistoric sites and historic buildings and structures along the McCarthy Road in southcentral Alaska. OHA staff conducted the survey under Reimbursable Services Agreement No. 2542006 with ADOT&PF. The purpose of the survey was to identify cultural resources and provide recommendations to ADOT&PF for FHWA consideration is issuing determinations of eligibility and subsequent determinations of effect.

This survey was conducted in conjunction with ADOT&PF Project No. 66008, a proposed transportation enhancement project for the reconstruction and widening of the McCarthy Road, a 59-mile travel corridor between Chitina and McCarthy. The McCarthy Road was built in the 1960s and 1970s over the top of the old Copper River and Northwestern Railway (CR&NW) route between Chitina and McCarthy. The road is an east-west route extending up the north side of the Chitina River drainage. The route connects the town of McCarthy with the state highway system at Chitina. Access to the McCarthy Road is by the Edgerton Highway, which extends 33 miles southeast from Mile 91 of the Richardson Highway to Chitina (Figure 1). The State Department of Highways built highway bridges across the Kennicott River, but the bridges washed out in the mid-1970s. As a result, the road ends on the west bank of the Kennicott River. A foot bridge built over the Kennicott River in the mid-1990s provides pedestrian access to the town of McCarthy. A privately owned bridge just downstream from the foot bridge provides limited vehicle access across the river to some local residents. McCarthy Road is maintained during the summer by ADOT&PF, which also maintains the west end of the road during the winter. A private contractor maintains the road at the McCarthy end of the corridor (Lance Moffit, personal communication, September 21, 2003).

The proposed road improvements would upgrade the entire length of the existing substandard gravel road to a uniform two-lane standard. The existing road is between 12 and 16 feet wide, only slightly wider than the original railbed. Short stretches of this rough road are barely wide enough for two vehicles to pass. Upgrade plans include clearing, grading, and widening to 24 feet; improving drainage; reducing curvature of sharp curves; installing signage, and re-vegetation of disturbed area at the completion of the project. Scenic turn-outs, public waysides and campgrounds, and other traveler amenities may also be included as part of the project. ADOT&PF is considering alternatives such as gravel surface or paving, and alignment designs suitable for speeds up of to 35 miles per hour (mph) or 50 mph.

McCarthy Road is surrounded by the Chugach, Wrangell and Saint Elias mountain ranges and within America's largest national park, the 13-million-acre Wrangell-St. Elias National Park and Preserve. Most of the road (the 45 miles at the west end) passes through private inholdings, including Native regional and village corporation lands and state-owned lands within the boundaries of Wrangell-St. Elias National Preserve. Approximately 15 miles of the road at the west end are located within the boundaries of the national park, in an area that includes significant private and state-owned inholdings. The project corridor is a scenic landscape (Figure 2), offering views of

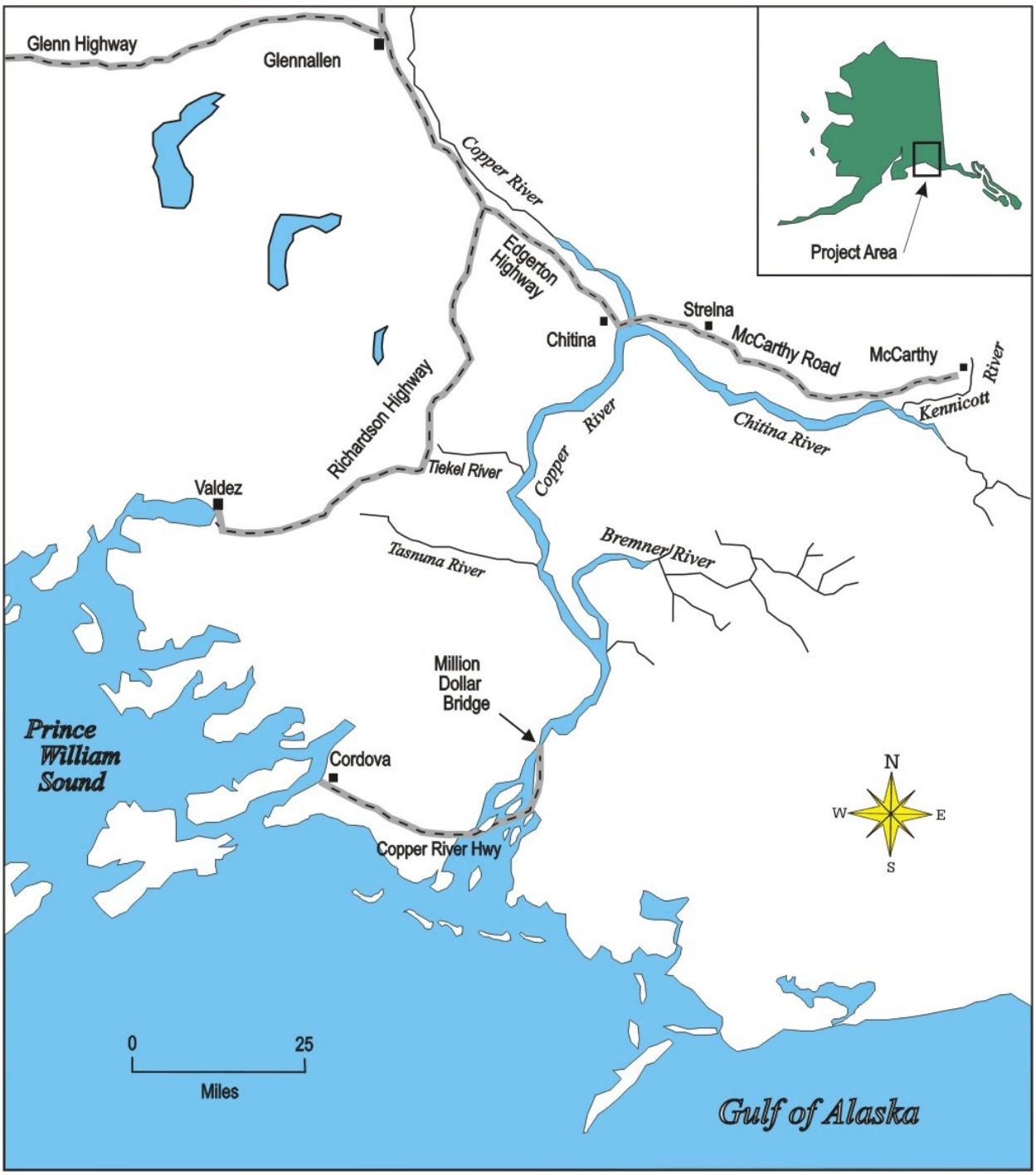

Figure 1. Regional map of the project area, showing the McCarthy Road, and the Glenn, Richardson and Edgerton highways.

mountain scenery, steep canyons, cascading streams, deep river gorges, vegetation and wildlife, geologic features, and historic transportation, mining and settlement sites.

Figure 2. The McCarthy Road at the east end of the Copper River Bridge. The view is looking west towards the town of Chitina. Photo by Rolfe G. Buzzell, August 23, 2003.

The McCarthy Road is one of only two roads providing access into Wrangell-St. Elias National Park and Preserve. Road improvements would provide better access to McCarthy for residents and private landowners along the road. It would also increase tourism and access to Wrangell St. Elias National Park and Preserve, including the historic town of McCarthy and the Kennecott Mine historic site located 4.5 miles north of McCarthy. Visitation surveys conducted by the National Park Service indicate a steady increase in visitation to the park and preserve in recent years. Visitation has increased from 14,871 in 1982 to 43,331 during 2003. Eighty percent of park visitors use the McCarthy Road, and the primary tourism destinations are the historic communities of McCarthy and Kennecott (ADOT&PF 1994:5-6; Devi Sharp, personal communication, March 12, 2004).

Environmental Setting

The project area is located in southcentral Alaska within United States Geological Survey (USGS) Valdez Quadrangles B-1, C-1 and C-2, and McCarthy Quadrangles B-6, B-7 and B-8. The project is located on the southern flank of the Wrangell Mountains, which are active volcanic

peaks. The highest mountains range from 12,010 to 16,390 feet above sea level. Mt. Wrangell (14,163 feet) is an active volcano. Peaks above 8,000 feet are mantled by glaciers, some of which flow down to an elevation of 4,000 feet. The major rivers are the Copper and the Chitina. The Chitina River Valley runs in a northwest direction and merges with the Copper River basin. The Chitina River drains the glaciers and ice fields on the south side of the Wrangell Mountain Range and the north side of the Chugach Mountain Range. Glacier-fed streams and rivers empty into the Chitina River before draining into the Copper River.

The McCarthy Road follows the upland terraces between the Wrangell Mountains and the Chitina River, from the Copper River to the Kennicott Glacier near McCarthy. The road begins at an elevation of 500 feet at Chitina and gradually climbs to an elevation of 1,650 feet just east of Tractor Creek, from which it descends to 1,500 feet at McCarthy. The Chitina Glacier carved the valley, created numerous shallow lake depressions, and deposited moraines and various materials, which are the basis for the present variable patterns of soils and vegetation (ADOT&PF 1989:4).

The geology of the Chitina River valley reflects its creation and alteration by glacial action. Soils on the upper and middle slopes are predominately loamy, poorly drained and underlain with permafrost. The lower areas contain predominately well-drained, shallow silt loam overlying gravelly moraines and terraces. Associated with these moraines and terraces are well-drained stony and gravelly soils on lower slopes and wet soils with permafrost in depressions (Selkregg 1976:I-121). There are a few areas of alluvial sands and gravels, such as the Kotsina River flats, around Strelna Creek, Chokosna River, Lakina River and across the Kennicott River flats. The road crosses a series of alluvial fans from the Gilahina River almost to the Lakina River. Bedrock is exposed on some ridges along the route. Permafrost is present through much of the valley, especially in the silty soils (ADOT&PF 1989:13). Most of the large trees and denser vegetation occurs in areas with well-drained soils. Extensive stands of white spruce and balsam poplar are common along the river bottoms. These species also occur with a mixture of birch and aspen in upland areas. Alpine tundra and barren ground also occur in the uplands (Selkregg 1976:I-129).

The project area is located in the continental climate zone. The weather is severe, characterized by long, cold winters and short, hot summers. Temperatures in Chitina average 44° to 67° Fahrenheit (F) in the summer and -14° to 38° F in the winter, with extremes of -58° to 88° F. Annual precipitation averages 12 inches, including 52 inches of snow. Temperatures in McCarthy average 38° to 74° F in the summer and -30° to 38° F in winter, with extremes of -57° to 87° F. Annual precipitation averages 16 inches, including 68 inches of snow (Selkregg 1976:I-11). Annual precipitation in the Chitina River Valley at lower elevations is between 10 and 12 inches. At higher elevations, annual precipitation levels as high as 80 inches support the abundant glaciers, yielding much of the water and suspended sediment that clouds stream waters of the region. These headwater sources dominate the annual runoff pattern.

Large mammals include brown and black bears, moose, sheep, goats, bison and nearly all types of Alaskan fur-bearing mammals. Whitefish, suckers, lake trout, rainbow trout, cutthroat trout, burbot and grayling are found in the Chitina drainage. The Copper River and most of its larger tributaries are migratory routes for sockeye, coho, chum and chinook salmon. Birds include ptarmigan, spruce grouse, eagles, peregrine falcons, various hawks, owls, waterfowl, including trumpeter swans, and numerous songbirds.

The project area is rural and sparsely populated. The two largest communities are Chitina and McCarthy, which anchor each end of the road corridor. During the year 2003, Chitina had a year-round population of 123 and McCarthy had 53 residents. Employment in Chitina is primarily with the village council, the village corporation and the National Park Service. Several stores and a bar employ locals. During the summer a handful of tourism businesses, including gift shops and bed and breakfasts, provide employment. In McCarthy, the economy is limited and seasonal. Local businesses include lodges, bed and breakfasts, a small store, a gift shop, guiding services and a museum (Alaska Department of Community and Economic Development 2004). A few year-round residents are scattered along the corridor, most of whom live at or near Strelna, Chokosna, Crystal Lake, Long Lake, and the area on the west side of the Kennicott River. During the summer, the number of people living seasonally in Chitina, McCarthy and the area in between increases significantly.

Survey Goals and Project Personnel

The scope of work for the survey project called for a pedestrian reconnaissance of the existing and proposed alternatives along the route. The purpose of the survey was to locate, identify and evaluate for significance any archaeological sites and historic buildings, structures, and sites along the proposed alignments of McCarthy Road. Prior to commencing field work, the OHA investigators consulted the Alaska Heritage Resources Survey (AHRS) database and conducted a search of published literature and archival collections to aid in identifying sites. During the field work, specific tasks included locating, recording, mapping, photographing, and evaluating historic buildings, structures and features. Since OHA staff had conducted two reconnaissance surveys of the same corridor in 1994 and 1995, the investigators conducting the 2003 survey walked those parts of the corridor where previous cultural resources had been found and walked realignments and potential material sites not previously identified by ADOT&PF. Sites located during the 1994 and 1995 surveys were revisited and checked for changes in condition. The investigators walked a zig-zag pattern on both sides of the road in areas the investigators perceived as having high probability for cultural resources, extending up to 200 feet from the center line of existing and proposed alignments. They also examined eight proposed material sites along the road corridor. During the 2003 season, the investigators found 30 new sites while re-surveying parts of the corridor and examining proposed material sites. They also interviewed local residents and other people in Alaska knowledgeable about the local history and used historic photographs to aid in identifying cultural resources found in the field. The investigators evaluated the buildings, structures, and sites in the vicinity of the proposed road project to determine their significance. Determining significance included evaluating the buildings, structures and sites for significance using the eligibility criteria for the National Register of Historic Places (NRHP) under 36 CFR 60.4.

Field activities were supervised by personnel meeting the Professional Qualifications Standards for archaeology or history as outlined in 36 CFR 61 [*Federal Register* 48 (190)]. Field activities were divided into investigations of historical and archaeological resources. The OHA personnel participating in the 2003 field work and write up of the report on the historical resources included Rolfe G. Buzzell, Ph.D. (historian, field and research coordinator, and principal author of

the report), Alan DePew, M.A. (archaeologist), Daniel Thompson, B.A. (archaeologist), Sylvia H. Elliott, M.S. (historian, Alaska Conservation Corps), Annie Clinton (archaeologist, Alaska Conservation Corps), and William Schneider, B.A. (archaeologist, Alaska Conservation Corps).

Legal Mandates and Guidelines

Because the ADOT&PF will use both federal and state funding for the proposed widening and realignment of the McCarthy Road, the project must comply with state and federal laws and regulations for identification and evaluation of cultural resources. State of Alaska legislation governing historic preservation and the management of historical and archaeological sites is set forth in the Alaska Historic Preservation Act of 1971 (as amended in 1974) and its implementing regulations (11 AAC 16).

The most significant federal laws pertaining to cultural resource management are the Antiquities Act of 1906 (Public Law [PL] 59-209); the Historic Sites Act of 1935 (PL 74-292); the Reservoir Salvage Act of 1960 (PL 86-523); the Department of Transportation Act of 1966 (PL 89-670); the National Historic Preservation Act of 1966 (PL 89-665, as amended in 1976, 1980 and 1992); the National Environmental Policy Act of 1969 (PL 91-190); the Archeological and Historic Preservation Act of 1974 (PL 93-291); the Archaeological Resources Protection Act of 1979 (PL 96-95); and the Native American Graves Protection and Repatriation Act of 1990 (PL 101-601). Federal regulations most pertinent to field investigations pertaining to this project are **36 CFR 60** which authorizes the National Register of Historic Places, and **36 CFR 800** which implements **Section 106** of the National Historic Preservation Act. 36 CFR 800 establishes the review process for dealing with cultural resources affected by federal management, funding, or permits.

The ADOT&PF is acting as the agent for the Federal Highway Administration, the lead federal agency for the McCarthy Road improvement project. Responsibilities for the identification and evaluation of archaeological and historic properties which could be affected by federally funded projects are mandated by Section 106 of NHPA, which:

> ... requires a Federal agency head with jurisdiction over a Federal, federally assisted, or federally licensed undertaking to take into account the effects of the agency's undertakings on properties included in or eligible for the National Register of Historic Places, and, prior to approval of an undertaking, to afford the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking.

The initial steps of the Section 106 review process required by 36 CFR 800 are: 1) identification and evaluation of historic properties, and 2) assessment of the effects the undertaking will have on the historic properties. Those actions lead to consultation on the appropriate treatment of cultural resources and an opportunity for the public and for the Advisory Council on Historic Preservation to comment on the federal undertaking as it relates to cultural resources. The Archaeological Survey Unit of OHA collected and analyzed data and made recommendations to ADOT&PF for use by FHWA in carrying out the requirements of steps 1 and 2.

II. PREHISTORY AND ETHNOHISTORIC OVERVIEWS

Prehistory

The majority of identified archaeological sites in the Copper River basin are late prehistoric and historic sites considered ancestral to the Ahtna Athabaskan. Due to a general lack of research attention and a corresponding paucity of data, the earliest prehistory of the region is largely based upon work done in adjacent areas of Alaska and Canada, as well as current knowledge of the regional glacial history. Some of the earliest known sites in interior Alaska (*ca.* 11,000-12,000 years old) are located on bluffs along the upper Nenana and Tanana river valleys, which were ice-free during the last glacial period. Multi-component sites in the Nenana drainage with evidence of human occupation spanning the Holocene include Dry Creek (Holmes 1974; Powers and Hamilton 1978; Powers *et al.* 1983), Walker Road (Powers *et al.* 1990), Panguingue Creek (Maxwell 1986), and Moose Creek (Hoffecker 1985). More recent investigations have been conducted at the Broken Mammoth, Mead, and Swan Point Sites in the Shaw Creek drainage, a tributary of the Tanana (Holmes 1990, 2001; Holmes and Yesner 1992; Yesner *et al.* 1992). Artifact assemblages from these sites are ascribed to the Nenana complex and include small triangular points, larger lanceolate points, retouched blade-like flakes, stone perforators, large bifacial scrapers, and endscrapers. Fluted projectile points ascribed to the Northern Paleoindian tradition have been found at a small number of sites in western Canada and Interior Alaska (Dixon 1993:15-18). These sites, dated between *ca.* 10,000 to 7,000 years ago, may represent an extension of Clovis technology from the Great Plains area into the Subarctic via an ice-free corridor along the western Canadian Cordillera. Other artifact assemblages, represented at the Mesa Site, Healy Lake, Engigstiack, and a later component at the Broken Mammoth Site, have been assigned to the Northern Cordilleran group. Assemblages characterized by lanceolate-shaped bifacial projectile points, wedge-shaped cores, microblades, and large polyhedral cores are generally ascribed to the American Paleoarctic tradition (Clark 1991:33-36; Harritt 1994:41-45). These assemblages (*ca.* 10,000 - 5,000 years ago) are believed to be closely related to the 'Dykutai' culture of northeast Asia and Siberia (Vanderhoek 2004:2; West 1996:543; Holmes 2001:156). Subsumed within the larger American Paleoarctic Tradition is a distinctive core and blade technology known as the *Denali Complex* (West 1967). Components of this complex have been identified at Donnelly Ridge, Dry Creek (Component II), Long Lake, Landmark Gap (XMH-289), and the Village Site at Healy Lake (Dixon 1985:54; West 1996:547; Workman 1996:41; Reger 1996).

During the Wisconsin Glaciation (*ca.* 70,000 - 10,000 years ago) glaciers in southcentral Alaska did not extend far enough to cover the entire Copper River lowland. For at least a portion of that time, ice blocked all the exits from the basin, producing an extensive lake (Lake Ahtna) which occupied the area for thousands of years (Pewe 1975:118-119). Some early archaeological occupations are found along stranded shorelines and terraces above former proglacial lake basins (Jangala and Keating 2004:8). Between 11,500 and 9,400 years ago, the area drained in a catastrophic flood event (Reger and Pinney 1993; Jangala and Keating 2004:5). Ice-choked corridors between the Tanana Valley and the south side of the Alaska Range are thought to have opened during the early Holocene, which allowed human migration into the Copper River Basin. By about 8,000 years ago, Tahneta Pass and the Matanuska Valley were opened, allowing east-west migration

between the Copper River and Susitna River drainages (Reger and Pinney 1993). Based on the area's glacial history, the Copper River basin could potentially yield evidence of human occupation as early as 9,500 years ago, and could yield evidence of sustained influences from Cook Inlet via the Susitna River drainage as early as 8,000 years ago.

The oldest identified archaeological sites of the immediate region are ascribed to the Denali Complex (roughly 10,000 to 8,000 years before present) and are clustered in the Tangle Lakes region of the Copper River highlands (Vandehoek 2004:2; Holmes 2001:156). Archaeological and paleobotanical data suggests that these early food-foraging cultures probably hunted large ungulates, such as caribou or moose (Jangala and Keating 2004:5). Research in the Shaw Creek Flats of the Tanana Valley has shed new light on these early Holocene peoples, and suggests a diversified subsistence economy with particular focus upon bird and fish resources (Holmes 2001:157). Few early-mid Holocene sites have been found south and east of the Tangle Lakes and Ampitheater Mountain region. Jangala and Keating (2004) suggest that the focus of archaeologists looking for very early prehistoric sites, as opposed to sites from 8,000 to 5,000 years before present, may partially account for this bias in the archaeological record. So far, the Copper River basin has produced little evidence of early occupation. An isolated microblade core, possibly attributable to the American Paleoarctic Tradition, was recovered near the Little Tolsona River during an archaeological survey along the Trans-Alaska Pipeline system (Clark 1974). However, microblade technology in some areas, such as the southwest MacKenzie River in western Canada, continued until as late as 2,000 years ago (Clark 1991:55; Harritt 1994:45).

Artifacts from the mid-Holocene period in Alaska (*ca.* 6,000 - 4,000 years ago) are included in the Northern Archaic Tradition. Assemblages include asymmetrical side-notched projectile points, large unifacial flake knives, and unifacial endscrapers (Harritt 1994:46). The Northern Archaic Tradition is regarded as a technological phenomenon that cross-cut different cultural and possible linguistic groups (Clark 1992; Harritt 1994:46). Prehistoric sites throughout the Copper River Basin are well-represented after 2,000 years ago, and may pertain to the development of Northern Athabaskan culture. In adjacent areas of Alaska and Canada, these late prehistoric sites are believed to have been derived from the Northern Archaic/Northern Cordilleran traditions (Clark 1991:48-49; Harritt 1994:48). The inhabitants of these late prehistoric sites, as with historic Athabaskan groups, focused on hunting large game, but supplemented large game with small game, fish, and plant foods. Artifact assemblages preceding the introduction of European goods are exemplified by that of the Aishihik phase (*ca.* 1,600 - 150 years ago) of the southwest Yukon Territory. Aishihik phase assemblages include a geometric point form, a notched point type, multi-barbed bone points, stone wedges, bolder spalls, two types of endscrapers, flake blade cores, and blunted discoids, rolled sheets of native copper, points with incipient stems, bipoints, pointed implement tips, and rolled tubes (Workman 1974:562-602; Harritt 1994:51-52). Assemblages from the Ringling Site (GUL-077) on the Gulkana river are roughly similar. Material sourcing and preliminary analysis of obsidian and copper tools from GUL-077 suggests a wide trade network that stretched from the North Gulf coast to the *Batza Tena* lithic source of the upper Koyukuk River (Hanson 1999:63, 80). The prehistoric ancestors of the historic Ahtna and Upper Tanana Athabaskans are believed to have origins in the Bennett Lake phase of the southwest Yukon Territory and the antecedent Aishihik phase (Harritt 1994:55).

The McCarthy Road corridor is within the area traditionally inhabited by Athabaskans speaking the Ahtna dialect (Figure 3). They referred to themselves as "Ahtna" or "people of the great river," which white men called the Copper River. The suffix "na" in the local dialect means "river" (Lethcoe and Lethcoe 1996:75). The inhabitants of the lower Copper River and Chitina River drainage have been termed "lower Ahtna" (de Laguna and McClellan 1981:643) on the basis

Figure 3. Map of the lower Copper River area at the time of Euro-American contact, 1800-1899, showing the territory of the Ahtna, Chugach and Eyak and their villages.

of speech. Captain William R. Abercrombie of the U.S. Army called those living in near the confluence of the Chitina and Copper River "Chettyna" (de Laguna and McClellan 1981:662). In general, Alaskan Athabaskan populations were sparse (1 to 1.4 persons per 100 square miles) due to a limited resource base (Hosely 1981:534; McKennan 1981:563). They relied heavily on hunting, making extensive use of snares for both large and small game. Local bands often cooperated in the construction of caribou fences along migration routes and in the construction of fish weirs. A widely scattered resource base contributed to nomadism, frequent travel over great distances, and the use of several types of houses (Hosely 1981:538-539). During the nineteenth century, Ahtna territory included all of the Copper River Valley except the delta, which was occupied by the Eyak (de Laguna and McClellan 1981:641). A number of autonomous local groups were within the Ahtna territory. The Western Ahtna were closely linked to and on friendly terms with the Tanaina Athabaskan inhabitants of Knik Arm and the Susitna River Valley. The primary enemy of the Ahtna were the Chugach Eskimo, who occasionally traveled up the Copper River from the coast to raid (de Laguna and McClellan 1981:642-643).

Ahtna settlements consisted of permanent winter villages and seasonal hunting and fishing camps. Winter villages were small and dispersed, with a maximum size of about nine multifamily houses. Each settlement was under a local "chief," who might have been an important rich man or the head of an extended household, subordinate to a leading chief. Ahtna winter houses were large rectangular semi-subterranean structures with gable or hip roofs and central fireplaces. The walls were constructed of vertical poles and planks, and heavily insulated with moss and spruce bark. An entry area provided a storage area for food, water and dishes as well as a living and working area for those of low status. Lining the walls of the main living area were platforms raised approximately four feet off the ground. The space beneath these platforms was divided into family areas where the women and children slept and where the men visited their wives. Married men slept on the top of the platforms, which also provided a sitting area for the men while the women worked below. The hearth, located in the center of the structure, was the heart of family activities. Cooking was done at the hearth and rocks heated to warm family areas and the sweatbath. As many as six nuclear families inhabited such a dwelling, which included a number of private cubicles separated by bark walls. Sweatbaths were often attached to the back of the main structures. This low rectangular area was connected to the main house by a small circular doorway. The flat roof often had a piece of stretched bear gut that created a type of skylight, which could be removed in good weather. Rocks were passed from the central hearth through the circular doorway. Water poured onto the rocks created steam. Young adults often slept in the sweatbath during colder times of the year. Families gathered in the sweatbath at the end of the day for story telling and socializing. Other structures in a village included pit caches, tree caches, and small shelters for menstruating women and those who had recently given birth (de Laguna and McClellan 1981:645).

Also associated with villages or scattered in more remote hunting locations were smaller "moss houses." These structures were made of horizontally split logs that were stacked and insulated with moss. They had shed roofs covered with sod and moss. Temporary shelters included the double lean-to. The family carried sheets of sewn bark used to construct these shelters. Heavy poles would hold the brush walls, bark roof and sides in place. Some hunters made simple brush shelters while wealthier men covered domed frames with moose hides (Figure 4), often decorated with feathers and beads (de Laguna and McClellan 1981:645).

Figure 4. A Copper River Native family at a temporary summer camp, 1902. Miles Brothers photograph #905, Valdez Museum and Archives.

The Ahtna relied heavily on riverine and terrestrial food resources, which dictated the seasonal movement of the people and their daily survival. The Ahtna seasonal round varied depending on the area where they lived, but generally was as follows. They stocked their caches in summer and fall with fish and game meats, berries and roots in preparation for the onset of winter. With little game available during the winter, supplies often ran out before the winter was over. In January and February, families in winter villages broke into smaller groups in an attempt to find freshwater fish and small game. In March and April, they lived in temporary houses in the forest, taking whatever small game they could find while anxiously awaiting the arrival of the season's first salmon. In late spring, they moved to their salmon camps where they caught and ate fresh fish, and split, dried and cached large amounts for future use. Families moved into the mountains in mid-summer to hunt sheep, which was dressed and dried at mountain camps. They transported the dried

meat back to their winter villages (Workman 1976:5). During the fall, families moved back along the rivers to catch the last run of fish, and to hunt and trap for meat and the furs essential for warm clothing and bones needed for the manufacture of tools. With full caches , the dark days of winter were given over to singing, dancing and gift giving. Children were taught about the universe and man's place in it and his responsibility to the beings of the universe through story telling and riddles (de Laguna and McClellan 1981:646).

Red and king salmon were the most important food resources of the Ahtna, and were taken in the summer and fall with hook and line and various types of funnel and dip nets made of spruce saplings. Funnel traps were used mainly in clear water streams. Once caught, the fish were split through the backbone with the tail left intact and the head removed. Thin cuts made through the flesh ensured that the fish would dry quickly and thoroughly on an open drying rack. The Ahtna used smudge pots to keep insects away from the drying fish, but many fish were lost to insects and inclement weather. Wasps of late summer made drying fish too dangerous at that time of year. Once dried, the fish were put into bundles for winter storage. The heads were soaked in water to extract the oil, which was stored in fish-skin bags. Silver salmon became more important after the introduction of the fishwheel in the Copper River around 1910 (de Laguna and McClellan 1981:646-647). Each local Ahtna group fished a segment of the Copper River and nearby tributaries and lakes.

The Ahtna spent the rest of the year pursuing other subsistence activities. The Ahtna hunted moose, goat, caribou and a variety of small game, including birds. They took game for meat, grease, and fur, and for antler and horn which they used for tools and dishes. Game was hunted with bows and arrows, spears, snares, deadfalls, pitfalls, and fences until late in the nineteenth century. The drag pole snares or a set of snares were set two or three hundred feet apart. Caribou and moose fences and corrals were constructed and maintained by men under the direction of the local chief. Caribou fences were usually built above timberline, while moose fences were built in the forest and often ran for 7 or 8 miles. Corrals constructed of brush were used during the spring and fall migration to pen caribou driven into them by the Natives where they were speared, shot with arrows or entangled in snares. Black and brown bears were killed using snares, spiked deadfalls or stabbed with copper blades. Wolverine, fox, lynx and small game such as rabbit, porcupine and mountain squirrels were caught in snares and deadfalls. The Ahtna snared duck, geese and spruce hen with poles in the tall grass where they nested, while ptarmigan were caught with loop snares in the willows where they fed. Unlike other Ahtna groups, the Lower Ahtna supplemented their hunting of game with sheep from the Chugach Mountains. They collected Indian potatoes, wild rhubarb, various greens, the inner bark of the poplar tree and ten varieties of berries, which they stored or ate fresh. Berries were mixed with caribou meat and grease for winter storage and for use at potlatches. Grease and oil from both fish and game added much-needed calories to the Ahtna winter diet. The Ahtna cooked food by roasting it on a spit or by boiling it in watertight spruce baskets with hot stones (de Laguna and McClellan 1981:648).

The Ahtna held a prominent position in a widespread trade network which involved the Eskimo, Eyak, Tlingit, other Athabaskan groups, and possibly the Siberian Chukchi. The Lower Ahtna, in particular, served as nineteenth century (or earlier) middlemen between the interior Athabaskan groups and the Russians in Prince William Sound. One of the most prominent nineteenth century Ahtna leaders was Chief Nicolai of the village of *Taral*, who held a monopoly on the trade of copper down the river to the Eyak and Tlingit. He was known as the "Proprietor of

Taral" as well as the "tyone of Chittyna" (Ketz 1983:56). Although Nicolai had been chief for only a short time when Lt. Allen's 1885 expedition entered his territory, he was already well known for his control of the copper trade with the Eyak and Tlingit. He was known as the principal trader among the Natives and shared authority and leadership with Conaquanta, a chief on the middle Copper River (Ketz 1983:57). Copper nuggets which could be used to manufacture tools were an important item in Ahtna trade with other Natives. The Ahtna controlled placer copper deposits in the Wrangell and Chugach Mountains from the early part of the second millennium A.D. (Franklin *et al.* 1981:1). Copper probably was not heavily traded on an inter-regional level until the late prehistoric period and the time of Russian contact. After that time the Ahtna descended the Copper River to Alaganik where they traded copper, furs and other goods. They also traded with Athabaskans in the upper Tanana River region for guns, which were introduced into the area through trade with the British Hudson's Bay Company (Birket-Smith and de Laguna 1938:150-151).

The Ahtna had three trade routes to the coast over the Chugach Mountains, and several routes to other Athabaskan people to the north and west. One route headed east from *Taral*, through the Hanagita Valley and then south through the Tana River drainage to the coast. Another route followed the Klutina River and Valdez Glacier, the same route used later by prospectors. This overland route was used until 1868 when the hostilities broke out between the Chugach and the Ahtna. The latter were blamed for sending an epidemic to the Chugach for revenge. After 1868, Ahtna traders used the Copper River in March, when the river was frozen, and in May and September, when the water was low, to trade with the Eyak (de Laguna and McClellan 1981:651).

The Ahtna made clothing out of tanned caribou or moose hides. Both men and women wore trousers with attached moccasins, as well as fringed shirts. The women decorated both leggings and shirts using quill and feather spine embroidery. After European contact, the Ahtna used beadwork, pearl buttons and dentalia as accents on the clothing. They also wore loose shirts made of mountain squirrel skins and robes of corded rabbit fur. Men wore fur hats and women collared hoods. Both sexes wore nose and ear ornaments. On days of importance, they painted their faces. They carried large copper daggers with double spiraled handles in beaded sheathes. Wealthy men had bandoliers, necklaces and ammunition pouches embellished with glass beads and dentalia. Dmitrii Tarkhanov reported in his journal that the Ahtna in 1797 practiced tattooing (Grinev 1997: 12). They used small needles to perforate the skin and rubbed charcoal into the design.

Socially, the Ahtna are composed of eight to ten matrilineal clans equally divided into two exogamous moieties: the Raven and Sea Gull, from which the clans are descended. The terms "clan" and "tribe" are used interchangeably by Ahtna elders to refer to a system of classifying people through and beyond familial relationships (Ainsworth *et al.* 2002:58). Raven is the creator-trickster-transformer of legend, and Sea Gull appears as a minor figure in their mythology. The Raven moiety is comprised of the following clans: They Came Out Of Wood Canyon, They Came Down From The Sky, Cotton People, Single-Minded or Fierce People, and They Came Out Of The Water. The Sea Gull moiety is made up of the following clans: the Red Paint People, the Striped Painted People, Caribou People, Fish (Salmon) Tail People and Canyonberry People (de Laguna and McClellan 1981:653-654). These groups may be divided into smaller groups based on geography. The clan system created extended families and ensured that ties with distant villages were maintained. Clan affiliation determined who could marry whom. Marriages were between members of different clans and sometimes with members outside of the parent's territory. The number of clans changed over

time. Some clans merged as their population dwindled and others simply died out. The Ahtna belonged to a highly stratified society. The chiefs, their wives and children, and other close relatives formed the aristocracy of the clan (Pratt 1998:79). The aristocracy were distinguished by fine clothing, the best food, and seats of honor on formal occasions (Allen 1887:59). Poor dependants and slaves carried out menial tasks for the aristocracy. Some anthropologists believe that this high degree of social stratification was based primarily on property, with perhaps the most important aspect being access to copper or its sources.

The importance of copper to the Ahtna is evidenced by no less than nine place names for copper, *"tsedi."* The drainages around Chitina that appear to have been important to the Ahtna in the late nineteenth century include McCarthy Creek, the Hanagita, Tebay, Lakina, Nizina, Chakina, Tana and Kiagna Rivers. Seasonal settlements were located along these waterways. Each drainage was connected by traditional trail systems and many of the trails were associated with obtaining or trading copper (Pratt 1998:79). The Ahtna have been gathering and working copper nuggets since "the first half of the second millennium A.D.," approximately 1,000 years to 500 years ago (Workman 1977:31). Artifacts found in Ahtna sites include tanged points, awls, beads and ornaments, needles, knife blades and copper wire (Shinkwin 1979: 59-88; Workman 1976:51-72. "Sites such as *Dixthada*, *Dakah De'nin's* village and GUL-077 contain abundant evidence of native copper metallurgy in the form of tanged and stemmed arrow points; stemmed, single shouldered knives; single and bi-pointed perforators; rolled sheet cones and manufacturing by-products, including many small sheet fragments" (Franklin *et al.* 1981:1). The Ahtna gathered copper nuggets from stream beds and high-grade copper ores from surface outcroppings. It is unknown just how early copper was worked, but Ahtna technology may have included heating and pounding as well as the cold hammering techniques as suggested to Froelich Rainey in 1939 by an Upper Tanana elder Sam Thomas who had watched his father make copper tools (Rainey 1939; Pratt 1998:79-81).

Historic knowledge of the Native copper trade dates back to 1783 when a party led by Leonty Nagaev investigated the mouth of the Copper River. The party met a group of Chugach Eskimos and learned of the trade in Native copper and that the source of the copper was under the control of the Ahtna. The Ahtna acted as middlemen and traded copper successfully with the Eyak and Tlingit as well as interior groups. After the establishment of Konstantinovsky Redoubt (Nuchek) on Hinchinbrook Island in 1793, the Russians initiated trade relations with the Ahtna. The latter exchanged furs and copper for European goods at Konstantinovsky. The Ahtna also traveled down the Susitna River and Cook Inlet to trade with the Nikolaevsky Redoubt (Kenai) in the 1820s. The Lower Ahtna were not amenable to a Russian trading station above the Copper River delta, as they viewed Russian aspirations as a threat to their monopoly on copper source. Konstantine Galaktionov, during his expedition into Ahtna territory in 1803-1804, may have learned of one or more of the area's copper sources (Pratt 1998:81), but the Lower Ahtna killed Galaktionov and his interpreter on their return trip to Konstantine Redoubt. Additional Russian attempts to explore the Copper River were repulsed and the Lower Copper River Ahtna managed to retain full control over their copper resources for more than one hundred years after Europeans first learned that the Chitina region was rich with Copper (Pratt 1998:93).

Despite steadily increasing availability of European and American manufacturing goods after 1850, copper remained in common use as a trading commodity among the Lower Ahtna of the Chitina basin through the late 1890s. Copper was a marker of personal wealth and group identity

to the Lower Ahtna. The quantity of copper a given chief controlled was probably a major factor in establishing his status and rank relative to other chiefs. This explains the great influence that Nicolai, the chief who controlled the Chitina basin, had over his peers in the 1880s and 1890s (Pratt 1998:93-94).

The life of the Ahtna centered on the potlatch, a ceremonial feast in which the host paid respect and honored attendees with gifts. A potlatch hosted by a wealthy chief could include members from throughout Ahtna society. Distant villages were sometimes invited, ensuring that ties with these villages remained strong. When hosted by a wealthy chief, the event could last for a week. Potlatches were held for a variety of reasons, including to honor a deceased relative, celebrate a close relative's recovery from a serious illness, or to honor an accomplishment of a child. Every adult was expected to give several potlatches during his or her lifetime. Planning for these events often began a year in advance. Songs and dances were composed and rehearsed, costumes made and special foods gathered. The poorest members of a village sometimes joined together to host a potlatch. A potlatch could honor one or several deceased at the same time. The hosts of a potlatch for the deceased did not have to be from the same clan, but those being honored would be. Each host amassed his own pile of gifts to distribute and composed his own mourning songs. Even today, the Ahtna potlatch is the center of Native ceremonial life and serves to maintain political and economic bonds between communities (de Laguna and McClellan 1981:659). Most potlatches are held on behalf of a dead relative to repay funeral attendants and show respect.

Shamanism, a form of spiritualism, was part of the life of the Ahtna. A shaman's powers were based on knowledge acquired only by dreaming. Dreams contained images of magic items, which a shaman would then use to adorn himself. His hair could not be cut and he could not change his clothing. When a shaman died, he was never cremated. His tools were left on top of his grave unless he had willed them to someone. Although most stories are about male shaman, women shaman were believed to be more powerful. Shaman often specialized, some as healers of illness, such as soul loss or object intrusion, or they knew how to heal wounds because they had dreamed of the object that caused the wounds (axe or guns). Other shaman performed surgeries that left no marks. The Ahtna believed that a shaman's spirit could leave his body and go to other villages to fight another shaman. If his spirit lost the fight, it would return to him and tell him of his impending death. His spirit would also wander while he was asleep. He might become hungry during this time and would feast on what he thought was meat. Upon awakening he would realize that it was really the spirit of someone in a distant village and he would worry about who he had killed. The death was unintentional, driven by his hunger. Unexpected deaths were often blamed on the wandering soul of a shaman from another village. During his wanderings, a shaman could kill the soul of a moose and later tell a hunter where to find the animal.

Often close relatives of a shaman (children, siblings, nieces or nephews) inherited the role. A shaman could inherit the power and sometimes the name of up to eight different shaman. The tools of deceased shaman were often replicated from the dreams of the novice. Experiencing death of a close loved one or a crippling injury could give a shaman some his power, and often late in life many people were known for their ability to cure disease of some kind. Although the role of shaman was not actively sought out, it was not refused either. The dreams of a novice could last for a year and were not revealed to anyone. The novice would seclude himself for thirty days and avoid places where women walked. Through these dreams, the songs of deceased shaman were learned. These

songs transformed the novice into a healer and allowed his spirit to leave his body and wander scarring (de Laguna and McClellan 1981:660-661).

At the time of early contact with Euro-Americans, the lower Ahtna people lived in seasonal village sites concentrated along the salmon-rich Copper River near its confluence with the Kotsina and Chitina rivers. Small villages were located on the west side of the Copper River at Eskilida Creek, O'Brien Creek, Fox Creek, and the lower Tonsina River. Villages on the east side of the Copper River included *Taral* and *Tonslahti*, located on a bluff overlooking the south side of the mouth of the Kotsina River. The Ahtna concept of village covered a general area, not just a specific site. *Taral* village, for example, extended from *Taral* Creek north to *Tonslahti*, on the bluff overlooking the south side of the Kotsina River (Frank Billum 1992a; Ganley 1992). *Taral* was the hub or focal point of settlements in the vicinity during the nineteenth century. The Ahtna at *Taral* made round nets out of local river grass and used them to catch fish. The name *Taral* comes from the river grass used to make the nets (Eskilida 1994:4). In the early nineteenth century, three brothers each had a village on the Copper River. The brothers were *Taral-denen* (at *Taral*), *Taska-denen* (at O'Brien Creek), and *Akat-denen* (at Fox Creek). *Taska-denen* made knives from copper nuggets (Frank Billum 1992a:3). The village sites along the Copper River were occupied intermittently in the early period of contact with Euro-Americans. *Tonslahti*, for example, was occupied around the time the CR&NW built the Copper River bridge in 1910, but was abandoned shortly thereafter when the Natives in the area left their villages and started a new village near the railroad station at Chitina (Frank Billum 1992a:15-16; Eskilida 1992:1; 1994:4).

The lower Ahtna followed seasonal rounds, moving every few months to established hunting and fishing camps (Figure 5) to harvest resources (Eskilida 1994: 1). Some of their camps and harvest areas were located on the north side of the Chitina River. A chief named Lost Indian occupied a small hunting camp at the mouth of the Lakina River in the 1860s or 1870s. At the turn of the century and later, Chief Eskilida used the upper Lakina River

Figure 5. Two Copper River Ahtnas carrying packs, 1903. Miles Brothers photograph #916, Valdez Museum and Archives.

area for hunting. He had cabins in the area of the upper Lakina River (Johnny Billum 1992: 2). The Ahtna fished the Lakina River and had a seasonal fish camp at the outlet on the west end of Long Lake (XMC-224) called *C'elaxden*, which meant spawning place (Frank Billum 1992a:9, 12; 1992c:1; O'Leary 1994; Kari 1983:9). The lower Copper River Ahtna also had a fish camp at Crystal Lake (Lincoln Smith 1994), which also served as an area for hunters to gather before going into the mountains to hunt sheep and goats (Dan Stevens, personal communication, September 25, 2003). They trapped beaver and hunted moose, sheep, bear and caribou in the fall east of the Kuskulana River. They also hunted, trapped and picked berries in the Strelna, Kuskulana and Kotsina river drainages. The Ahtna also fished at Strelna, Sculpin and Silver lakes (Eskilida 1992:1; 1994:4-5; West 1973:10).

The Ahtna accessed the area north of the Chitina River by a system of trails and by traveling on the Chitina River. One trail ran north of and paralleled the rail route that the CR&NW later established. The trail began on the east side of the Copper River below the Tonsina River, went up the Kotsina drainage, ran east along the base of the Kuskulana and other glaciers to the Kennicott River, and on to Nicolai's seasonal camp in the Nizina drainage (Eskilida 1994:3; West, 1973:12). Prospectors and Oscar Rohn, the first government surveyor to visit the area, used this trail in the 1890s to explore the area north of the Chitina River (Kirchhoff 1993:19). Other trails accessed the area from various points along the Chitina River and its tributaries. The Ahtna used a system of trail signs incorporating poles, remnants of masculine and feminine apparel, and charcoal or lead pencil marks to telegraph news in considerable detail to other travelers about the presence and movement of outsiders in the region (Powell 1909:287-288; Pratt 1998:92).

Intensive Euro-American contact with the Ahtna occurred rather late in the nineteenth century, despite several attempts at exploration during the eighteenth and nineteenth centuries. On the eve of the gold rush, the number of Ahtna numbered about 300. The contact dramatically increased after gold was discovered in the Klondike in 1896 and miners sought an all-American route to the gold fields through Valdez and the Copper River Valley (Buzzell *et al.* 1993b:13). Most stampeders believed they would encounter hostile Indians, but the Ahtna were not a war-like people in the late nineteenth century (Pratt 1998:98). Rather, they were honest, hospitable and helpful to the thousands of gold seekers who ascended the Valdez Glacier and descended into the lower Copper River basin. Prospectors followed Native trails and hired the Ahtna as guides. They relied on the Ahtna for geographical information and news. The Ahtna traded them meat, fish and furs for manufactured goods. After successful hunts, Natives often shared the best cuts of meat. The Ahtna retrieved supplies from overturned boats on the Klutina River. They piled the supplies on the shore, sometimes walking miles out of their way to notify the owners. Native knowledge of the country, minerals and game played an essential role in the development of the mineral industry in the Chitina drainage. The Ahtna led prospectors to mineral deposits, including gold in the Chistochina area and copper in the Chitina River valley (Margeson 1898:70; Lethcoe and Lethcoe 1996:76-77; Pratt 1998:93).

When most of the unsuccessful gold seekers departed, they sold, gave away or abandoned the goods that they had hauled over the Valdez Glacier. This was a “windfall” for the Ahtna, who procured large quantities of clothing and food. Many photographs of them from this period show them wearing white man’s garments (Figure 6). The gold rush, however, left a tragic legacy for the Ahtna. The thousands of stampeders depleted fish and game in the area, set fire to the forests, and

Figure 6. A group of Copper River Natives near Copper Center, 1898. Note the preponderance of white man's clothing. Three non-Native are standing on the right. Barry Wulff Collection, Valdez Museum and Archives.

destroyed prime habitat. Fish traps set by salmon canneries in the channels near the mouth of the Copper River deprived the Natives of a major source of food. The Ahtna became increasingly dependent upon trade goods, and many died from white man's diseases or succumbed to the ravages of alcohol (Margeson 1898:81-82; Guiteau, 1941:27; Lethcoe and Lethcoe 1996:77-79). As many teetered on the threshold of starvation, they became dependent upon government aid (*Valdez News* October 8, 1904 and May 12 and 26, 1906). The gold rush disrupted their traditional ways of living and their contributions to the stampeders were often forgotten. One prospector recalled about the Ahtna: "They seemed to have no thought of retaliation, and always treated us in a manner which bespoke friendship for the white man" (Margeson 1898:70). During the early twentieth century, the lower Ahtna adopted the fish wheel and increased their consumption of trade goods. They spent more time at the Copper River before dispersing to upland areas for the winter (Shinkwin 1979:22). Led by Chief Eskalida (Figure 7), they moved to the outskirts of the white settlement of Chitina, where trade goods and employment opportunities were more abundant. Some established a village

on a bench just south of Chitina, where the Bureau of Indian Affairs opened a school for Natives in 1920 (West 1973:10).

During the early 1900s, the Ahtna clan from Mentasta descended the Copper River every summer to fish near the confluence of the Copper and Chitina rivers. They camped on the bluff overlooking the Copper River, just east of present day Chitina in an area (VAL-453) east of where Chief Eskilida built a camp (VAL-011) in the late 1910s at Mile 131.5 of the CR&NW (Mile 0.0 was the dock at Cordova). The Mentasta clan floated down the Copper River in rafts constructed using parts that they re-assembled into fish wheels. The Mentasta Ahtna fished and camped at this site (VAL-453) at the same time that Eskilida was using his nearby camp. Several forest fires during the early twentieth century destroyed much of the timber in the area, making wood scarce around the site used by the Mentasta people. While local timber was in short supply, the resources of the Copper River were plentiful as demonstrated by the co-operation between the Ahtna from Mentasta and Chitina (Dan Stevens, personal communication, September 23, 2003).

Figure 7. Chief Eskalida in Chitina, 1915. John William Bill Frame Collection, PCA 228-27, Alaska State Library, Juneau.

III. HISTORIC OVERVIEW

Exploration, Trade and Prospecting, 1741-1904

The Russians first learned about the Ahtna when Leontiy Nagaev, a lieutenant in the first party to explore Prince William Sound, discovered the mouth of the Copper River on August 20, 1783. Local Eyak Natives called the river *Illit* and told him that they traded with an interior people who lived 20 days travel up the river (Shinkwin 1979:29; Hanable 1982:16-17). The Russians attempted to explore and establish a fur trade in the Copper River basin, but for the most part were unsuccessful.

During the winter of 1797, Dmitrii Tarkanov of the Russian Mining Corps ascended the Copper River on snowshoes with three Tlingits from Yakutat. He traded with the Ahtna, whom he called the Mednovtsy, then returned to Yakutat (Grinev 1997:1-10). Later the same year, Konstantin Alekseevich Samoilov led a party in the employ of the Lebedev-Lastochkin Company up the Copper River. When one of his Ahtna guides dropped a tobacco case in the river, Samoilov ordered his crew to toss the guide into the water. The guide drowned and his Ahtna companions killed the Russians. During the winter of 1798-1799, *promyshlennik* Potochkin, led an expedition around Abercrombie Rapids to the mouth of the Chitina River. When he received word that upper river Ahtna wanted to kill him, Potochkin fled downriver (Hanable 1982:19-20). The next Russian expedition was in 1819 when the Creole Klimovski ascended the river and built the first Russian structure on the east bank of the Copper River just north of the confluence with the Chitina River. The cabin became a trading post in 1822, but the Ahtna undermined its significance by traveling to the Matanuska Valley and trading with the Russians at Kenai. The trading post later moved to the village of *Taral*, on the east bank of the Copper River, south of the confluence with the Chitina River. In 1843, Spiridon Grigorev explored the upper Copper River as far as the mouth of the Tazlina River (Sherwood 1992:106-107). Four years later, Ruf Serebrennikov led an expedition up the Copper River to Tazlina Lake, but his party was wiped out when Serebrennikov offended Goltsani, an upper river Ahtna chief (Hanable 1982:25, 27-29). In 1863, the Russian-American Company briefly considered searching for copper and gold in the Copper River area, but took no action.

Although the United States purchased Russian America in 1867, there was little contact between the Ahtna and Americans until the 1880s. Chief Nicolai of Taral (Figure 8), on the east side of the Copper River, was the leader of the lower Ahtna by that time. He controlled the source of copper nuggets that were so valuable in trade and he hunted in the south part of the Chitina River drainage. He and Bacille, an Ahtna who was educated by the Russians, descended the Copper River and traded furs with the Eyak at Alaganik near present day Cordova. Bacille drowned near Child's Glacier on one of these trading trips and was buried there (Eskilida 1992:1 and 1994:8). Nicolai died in 1899 or 1900, possibly from influenza (Pratt 1998:95). He was succeeded as chief by his brother, Hanagita, who hunted in the area between the Hanagita River valley and the Tana River (Johnny Billum 1992:3-4). When Hanagita died, a third brother, Eskilida, became chief. Eskilida had a fish camp on the on the west side of the Copper River at Eskilida Creek, and hunted and trapped in the Tebay River area. Eskilida died during the 1918 influenza which struck the Copper River Athabaskans hard (Frank Billum 1992b:2-4).

The first American explorer to travel up the Copper River was George Holt, who attempted to establish a trading post at *Taral* in 1882. He abandoned the location after a falling-out with the Ahtna. Three years later an Ahtna trading party murdered him at Knik (Hanable 1982:30-31, 35-36). In 1884, Lieutenant William R. Abercrombie of the U.S. Army led an expedition up the Copper River to the rapids that bear his name. The following year, Lieutenant Henry T. Allen led a party up the Copper River, down the Tanana River, overland to the headwaters of the Koyukuk River, and down the middle and lower Yukon River to St. Michael in a single season. Unlike previous explorers and traders, Allen developed good relations with the Ahtna at *Taral*. Nicolai, the Ahtna chief at *Taral*, took Allen up the Chitina River. Allen noted that the Ahtna made extensive use of copper tools, leading him to speculate that the region contained "great mineral wealth" (Allen 1887:160). Six years later, First Lieutenant Frederick Schwatka's party journeyed down the Copper River. Chief Nicolai, Allen's host at *Taral*, cared for Schwatka's party while it was in the area (Hanable 1982:38, 42-46, 49).

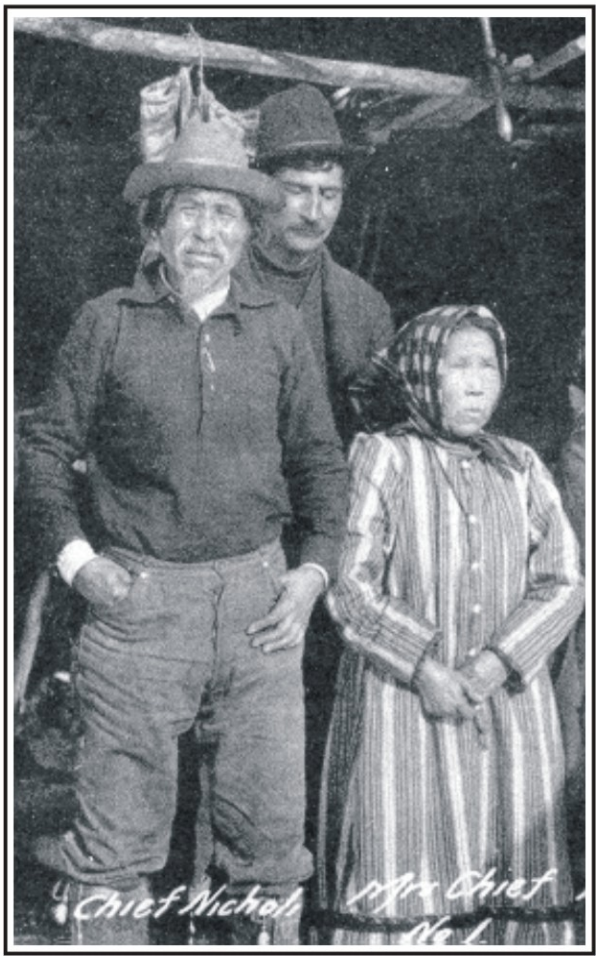

Figure 8. Chief Nicolai of Taral (left), about 1898-1899. His first wife is at right. The man in back is unidentified. Francis A. Pope Collection, 66-15-723, Rasmuson Library, University of Alaska Fairbanks.

The discovery of gold in 1896 on the Klondike River in the Yukon Territory of Canada touched off a huge stampede of prospectors to Alaska and the Yukon. Canadian control and regulation of travel over the Chilkoot Trail, the most direct route to the gold fields, prompted some American prospectors to search for an all-American route to the gold fields from Valdez through the Copper River Valley. Hundreds of prospectors journeyed to the Copper River basin, but few reached the Klondike. Many stayed, changing the area dramatically and disrupting the Ahtna way of life. While searching for minerals, prospectors drove game animals from the region and scorched much of the land with accidental forest fires (Hanable 1982:57). The federal government undertook a topographical survey in 1898, headed by Oscar Rohn. His expedition produced the first reliable map of the Chitina River valley, using Native names for the rivers and creeks.

The first promising mineral prospects in the Chitina River valley were discovered in 1899 on Elliott Creek in the Kotsina drainage. The deposits turned out to be the western end of a mineralized zone along a limestone-greenstone contact extending 75 miles on the north side of the Chitina River to the Chitistone River. In 1899, Nicolai provided a map and a Native guide in

exchange for a cache of food, to a group of prospectors who found his copper deposit on Nicolai Creek, a tributary of the Nizina River. Chief Nicolai was reportedly ill at the time and his people were facing starvation in part from increased competition for food resources. He never intended to give up his monopoly on copper, but his untimely death in 1899 or 1900 from influenza removed a formidable obstacle and greatly facilitated the unhindered exploitation by white men of the Chitina Basin copper riches. Nicolai was both a chief and a shaman. The Ahtna believed the spirits of the dead, especially of chiefs and shamans, visited their old hunting grounds. After Nicolai's death, his followers avoided his primary hunting ground, the Nizina Valley, for about 5 to 7 years. This was fortuitous for white mining activities in the region, which focused on the Nizina Valley (Pratt 1998:90, 93, 95).

In 1900, prospectors Clarence Warner and Jack Smith discovered copper ore on nearby Bonanza Ridge that turned out to be fabulously rich. This prospect became the Kennecott Mine (Spude and Faulkner 1987:3). At about the same time that copper was discovered on Bonanza Ridge, prospectors discovered gold on the Nizina and Bremner rivers (Hanable 1974:12). Another Ahtna named *Taral* Dan had a camp at the mouth of Dan Creek in the Nizina River drainage. He showed a prospector a gold nugget and the prospector traded him some food and a tent for the nugget and the location (Frank Billum 1992b:13). Other prospectors discovered gold on Chititu and surrounding creeks (Hunt 1991:225). Other potentially significant mineral discoveries were made at Nugget Creek in 1900, and at the Peavine and Berg-McDougall prospects in the Kuskulana River drainage in 1907.

Gold and copper discoveries in the Chitina River drainage brought hundreds of prospectors and miners to the area. Many of them accessed the country by crossing the Copper River at Lower Tonsina. A local Native, Doc Billum, operated a ferry, helping to transport men, supplies, and horses across the river (Taylor 1994:6). The miners also used Native trails and built cabins and camps at their mining sites. Most of these early prospectors and miners left the country at the end of the season, but a few built cabins at lower elevations to hunt and trap during the winter or to serve as base camps for mineral exploration. About 1908, Dick Gilleau, who prospected in the Kotsina drainage, built a cabin (VAL-332) on the south bluff overlooking the mouth of the Kotsina River (Spude *et al.* 1984:19). A mineral exploration company built a base camp (XMC-224) at the west end of Long Lake, probably on the site of an Ahtna hunting camp. The mining camp consisted of a warehouse, an office, a mess hall, a bunkhouse, and a barn (CR&NW 1909; Cliff Collins 1994). Mining development and settlement in the area remained sparse for the first decade after mineral discoveries, however, because of the area's inaccessibility. It was not until a railroad was built into the area that mineral development and settlement took place on a significant level.

Construction of the CR&NW Railway, 1905-1911

Discovery of the Bonanza Ridge copper deposit spawned years of litigation among the claim holders and their backers over ownership of the claim. In 1905, an enterprising mining engineer named Steven Burch organized the Alaska Syndicate which bought out the contending parties and enticed Daniel Guggenheim and J.P. Morgan to invest in a scheme to extract the copper ore. To bring the copper ore to market, the Alaska Syndicate decided to build a 195-mile railroad from

Prince William Sound up the Copper and Chitina river valleys to a mill site near the copper mines. The Alaska Syndicate also planned to develop the Bering River coal deposits just east of the mouth of the Copper River and built a smelter on the Copper River delta (*Cordova Daily Alaskan*, December 13, 1909; U.S. Department of Commerce, Interstate Commerce Commission, hereafter referred to as USDOC/ICC, 1940:109; *Cordova Daily Alaskan*, December 20, 1910; Janson 1975:130). While most Alaskans supported the proposed railroad, hoping it would also provide access to the Fairbanks and Fortymile gold districts and help Alaska's economy, the Alaska Syndicate's plans set off a national political debate as turn-of-the century reformers sought to regulate big business and conserve natural resources on public lands. The debate focused on the plans of the Syndicate and its extensive business holdings in Alaska. After President Theodore Roosevelt closed the Bering River coal fields to entry in 1906, new plans to develop Bering River coal ignited the Ballinger-Pinchot controversy, pitting forces favoring development versus those who sought to promote stewardship of federal lands. The Ballinger-Pinchot controversy helped split the Republican Party, resulting in the election of Woodrow Wilson as president in 1912. The Bering River coal fields were reopened in 1914 but were never developed, and the Interior Department gradually began to shift its emphasis from land disposal to land management (Hays 1959:170-174; Udall 1988:107; Smith 1966:121-122; Janson 1975:130).

After considering Valdez and Katalla, the Alaska Syndicate selected Cordova as the starting point for its railroad to the copper deposit near the Kennicott Glacier. Construction of the main line between Cordova and Chitina (Figure 9) began in 1908, using the route surveyed in 1905 by engineers working for Mike Heney, who had previously built the White Pass and Yukon Railway. From Cordova, the route headed east across the Copper River Delta, then north to the outlet of Miles Lake, just south of the intersection of Miles Glacier with the Copper River. The route then crossed the Copper River and extended north along the west bank to Chitina. The Chitina Branch of the line extended east from Chitina, crossed the Copper River, then ran along the north side of the Chitina River until it crossed the Kennicott River, then ran north for five miles to Kennecott .

Construction of the Copper River and Northwestern Railway was challenging because of the climate, topography, geology, and hydrology of the Copper River region. River crossings, rock outcroppings and canyons, river deltas and swampy low lands, and the moraines of the Baird and Heney glaciers presented formidable obstacles. Heney supervised construction of the railbed grade and wood trestles. The Katalla Corporation, overseen by Heney's former Chief Engineer, E.C. Hawkins, built the steel bridges. The rock work was done by sub-contracted groups of station men who were paid by the cubic yard of rock removed. Construction crews built 129 bridges with a combined length of 42,988 feet in the 130 miles between Cordova and Chitina. The Katalla Corporation built four steel bridges between Cordova and Chitina, including the Million Dollar Bridge, which spanned 1,500 feet in four sections and crossed the Copper River between Childs and Miles glaciers. Heney's crews built 124 wooden trestle bridges, which were less expensive than steel bridges, usually reliable, and easy to build and replace (*Cordova Daily Alaskan*, September 27, 1910; Steel 1911).

Railway construction workers tunneled through eight rock outcrops and cut roadbed in the rock walls of Abercrombie and Wood canyons. This work demanded enormous amounts of blasting and the heaviest rock work cost $220,000 per mile. In all, 5,680,000 cubic yards were excavated; 3,140,000 of this was bedrock (Johansen 1975:27-28; Janson 1975:72, 101; Steel 1911). One section man was killed when he didn't get clear of a blast in Wood Canyon (*Cordova Daily Alaskan*,

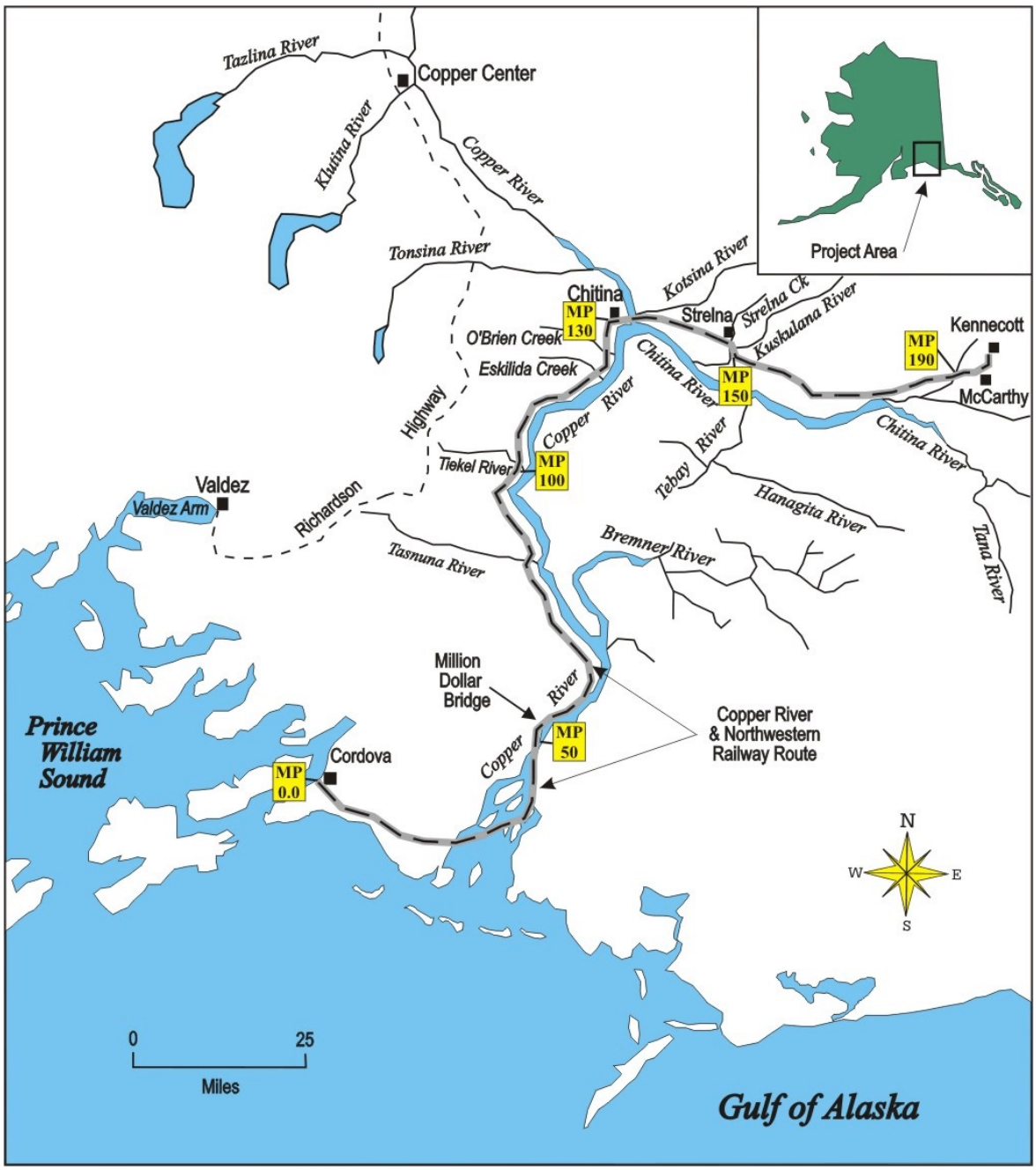

Figure 9. Map showing the route of the Copper River and Northwestern Railway from Cordova, up the Copper and Chitina rivers, to McCarthy and Kennecott.

May 8, 1910). On river deltas and flood plains, the railbed was built on causeways consisting of timber trestles backfilled with sand and gravel (Johansen 1975:24). These features sometimes alternated with sections of elevated railbed across river deltas. After 1911, many of the original trestles were backfilled, forming causeways.

The crews building the railway along the Copper River lived in temporary camps located near river boat landings. In summer, river boats operating north of Abercrombie Rapids delivered supplies beyond the railhead to facilitate construction at several localities simultaneously. Since the Abercrombie Rapids, just upstream from Childs Glacier, was impassible by river boats, four river boats were dismantled, transported in sections by horse-drawn sleds, and reassembled on the Copper River. Construction camps moved as construction progressed. During the winter, workers, supplies and building materials were moved on rails temporarily laid across gravel bars on ice and snow.

Construction reached Abercrombie Rapids, 51 miles east out of Cordova, by 1908. A year later the rails reached the Tiekel River at Mile 101. The most difficult stretch to build was between the Tiekel River and Chitina, during 1910. This section required 14 major trestles and an enormous amount of blasting to make four tunnels and cut a shelf into the wall of Wood Canyon. The railroad reached the new town of Chitina on September 15, 1910. In October, the principal mail route to the interior shifted from Valdez to Cordova. The CR&NW carried the mail inland to Chitina. The Orr Stagecoach line transported the mail from Chitina north to Fairbanks by wagon during summer and by sled during winter (*Cordova Daily Alaskan*, September 15 and November 24, 1910).

Construction of the Chitina Branch of the CR&NW began in September 1910 at Chitina and progressed towards the east (Figure 10). Survey and construction crews built a pack trail, known as the Heney Trail, along the route to facilitate construction. Segments of the trail (VAL-355 and XMC-178) were still identifiable in a few places along the McCarthy Road in 1994-1995. The Alaska Syndicate built a winter sled trail (XMC-226) from the Chitina River to Long Lake to transport building materials, equipment and supplies dropped off by sternwheeler boats on the Chitina River to Kennecott before the railroad was completed (Coats 1994a:8).

Figure 10. Construction crew laying track at Mile 135 east of the Copper River, 1911. Photo courtesy of Walter and Gloria Day, Valdez.

Construction of the railroad to the Kennecott Mill continued through the fall and winter. Crews blasted a tunnel between Chitina and the Copper River, then built the longest trestle bridge of the entire route, at 2,790 feet, over the Copper River. Crews built a steel truss bridge (VAL-207) 235 feet above the Kuskulana River in November and December 1910 in dark and extremely cold conditions (Cordova Daily Alaskan, September 27, 1910; Steel 1911). After completing the Kuskulana Bridge, work crews laid rail at the rate of one mile per day. They bridged the next major obstacle, the Gilahina River, in eight days with the highest trestle (90 feet) on the entire line (*Cordova Daily Alaskan*, September 27, 1910 and April 1, 1911). Construction of the CR&NW was completed on March 29, 1911 (Figure 11), and a copper spike was driven near Kennecott to commemorate the accomplishment. The cost of constructing the railway was $23.5 million, including $1.5 million for the Million Dollar Bridge, and $8.5 million in labor costs. During the summers when construction was at its peak, 6,000 men worked on the line (Swergal 1911:16-18; Clifford 1981:160).

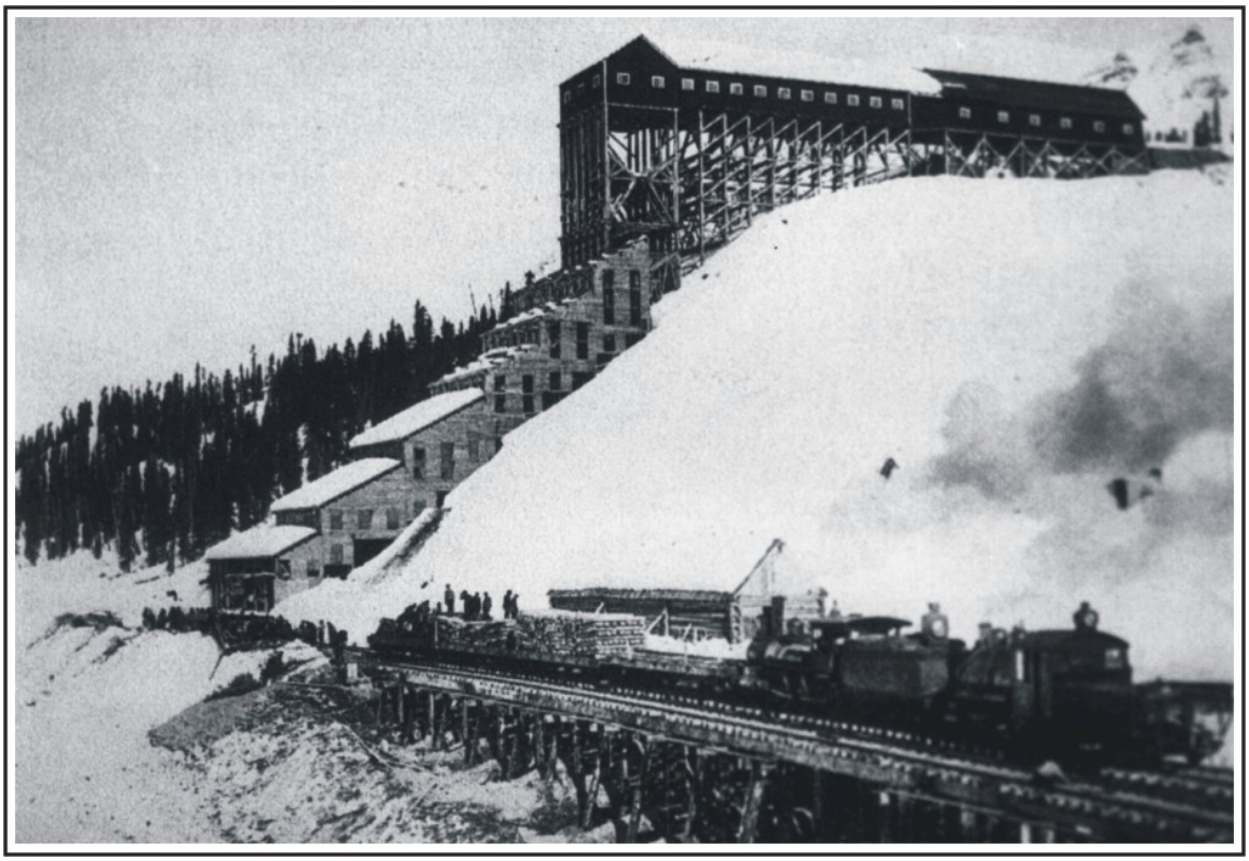

Figure 11. A construction crew laying rail at the end of the CR&NW line at Kennecott Mill, March 29, 1911. Photo courtesy of Alaska Historical Library, Juneau.

The CR&NW was as challenging to maintain and keep open as it was difficult to build because of the difficult terrain and extreme weather conditions. Snow and rock avalanches, glacial and earthquake activity, extreme wind and cold, forest fires, and flooding frequently closed the line for several months each year between 1909 and 1914. During the first years of its operations, the CR&NW virtually rebuilt the line. To contend with the natural elements, the CR&NW raised the railbed and built a network of structures and maintenance facilities along the route. The CR&NW employed a large year-round staff of men to repair the railroad and maintain the telephone lines running along the tracks (*McCarthy Weekly News*, May 1920). The crews operated a fleet of rolling stock to assist in rail upkeep. The CR&NW received special treatment from the federal government to help defray the cost of construction and maintenance in Alaska.

During the first years of operation, heavy snows and avalanches in Abercrombie Canyon and on Round Island in the Copper River delta stranded trains. The CR&NW built snow sheds and, in 1913, funded construction of seven new coaling facilities, line shacks (or section houses) at 5- to 7-mile intervals, and additional water towers for the locomotives (*Cordova Daily Alaskan*, November 21, June 20, and November 8, 1913). The railway also built stations with permanent housing, fueling and maintenance facilities at Abercrombie (Mile 52), Bremner (Mile 77.8), Cascade (Mile 88.6), Tiekel (Mile 101), Uranatina (Mile 113.5), Chitina (Mile 130.5), Strelna (Mile 145.5), and McCarthy (Mile 190). This helped to decrease closures of the magnitude experienced before 1914.

Wind, avalanches, and ice on the tracks made winter travel unreliable. Engineers switched the locomotives from oil to coal each fall because oil solidified at sub-zero temperatures (*Cordova Daily Alaskan*, November 8, 1913 and June 10, 1911). Winter winds drifted snow onto the freshly plowed railbed, requiring locomotives to use rotary plows between Cordova, Tiekel, and Chitina (Janson 1975:82, 86). Still, closures south of Chitina in the winter were common. Ice on the tracks south of Tiekel Station often closed the railroad during the winter (*Cordova Daily Alaskan*, November 14 and April 14, 1910; Johansen 1975:25-26; Wilson 1977:5).

Ice on the rivers, spring breakup, and flooding damaged wooden trestles (Figure 12) and seasonally closed the railroad. Ice on the Copper River took out the trestle bridge near Chitina every spring. After this occurred several years, maintenance crews pulled up the stringers, ties and rails each spring a few days before the ice broke. After the ice cleared, bridge maintenance crews drove new pilings and set the old stringers, ties and rails. This annual project meant that the line was out of commission three to four weeks each year. During periods when the bridge was out, railway crews carried passengers and mail across the river by ferry (*McCarthy Weekly News*, May 1920). In the 1930s, maintenance crews built an aerial tram across the Copper River which they used to make repairs when the bridge was out (McCracken 1961:11; Nicolet 1995). Maintaining the bridge was also dangerous and at least 15 lives were lost during repairs. In May 1932, five maintenance workers drowned when the trestle collapsed while a crew was repairing it. On another occasion, the center of the bridge collapsed just after the last car of a train crossed it (Taylor 1994:2; McCracken 1961:5).

Flooding and erosion also took their toll on a few bridges each year. In February 1909, a lake at Miles Glacier broke free and flooded 20 miles of track, washing out trestles and large segments of the new railbed. Each spring, a giant glacial lake at the Kennicott Glacier near McCarthy broke

Figure 12. The trestle bridge over the Copper River east of Chitina, damaged during flooding in August 1927. Photo courtesy of Malcolm Storey, Vancouver, Washington.

loose destroying some of the trestles across the Kennicott River (Johansen 1975:25; Janson 1975:82). As a result of these problems, particularly in the later years, trains usually stopped running in November and resumed operation in late spring after breakup (Taylor 1994:2). The CR&NW maintained a small fleet of Model-T Fords, modified for use on the rails (Figure 13), to inspect the rail line and bridges.

To contend with washouts, the crews cut ditches paralleling the railbed and installed extra wood culverts to divert run-off through the railbed. When trestles were destroyed by flooding, replacements were often built with double bents[1] to provide more protection from floods and erosion. Maintaining the railbed on the frozen terminal moraines of Heney and Baird (Allen) glaciers and on permafrost presented unique construction and maintenance problems. In places between miles 56 and 64, maintenance workers cut the railroad grade through gravel-covered ice. At stream crossings, water froze and thawed bent pilings in the ice. As the ice melted in the summers, the railbed shifted and sank. During summers, when subsidence of the ground under the rails and bents occurred, crews shimmed the trestles as the bents sank, added fill to the railbed, and replaced telegraph poles. In 1914, maintenance crews placed 400,000 cubic yards of fill in this section of the railbed. This work continued seasonally until the glacial ice melted in 1916 (McCracken 1961:4; Johansen 1975:28; Janson 1975:151). In areas east of Chitina, maintenance crews encountered extensive permafrost

[1] A bent is a set of vertical pilings that support a bridge span. Trestle bents consist of 5-10 vertical pilings tied together at the top with a horizontal timber called a cap. A double bent is two sets of pilings next to each other.

Figure 13. Two men from a CR&NW bridge inspection crew turning around Speeder No. 21 near Chitina. Date unknown. Photo courtesy of Miriam Renner, Seattle.

in the Strelna and Chokosna areas. The crews shored up the railbed under the ties and rails with compressed brush and gravel (Johansen 1975:26). One of the most dangerous hazards was the railway tunnel just east of Chitina. Tons of mud and rock sloughed off the ceiling, blocking the tracks. In August 1911, only three months after the tunnel was built, three maintenance men who were re-timbering the ceiling were killed when the roof collapsed (*Cordova Daily Alaskan*, August 7, 1911). Later, the CR&NW contracted with O. A. Nelson to remove the roof of the tunnel and convert the tunnel into a railroad cut.

CR&NW headquarters were located in Cordova, where the railway had a wharf, loading derrick, train yard, oil tanks, coal bunker, machine shops, warehouses, and company housing. The majority of the company's workers lived out on the line at stations and line shacks. Some commuted to work from Cordova on maintenance trains. After 1911, the number of workers out on the line diminished each year until 1916. After that date the CR&NW employed about 200 workers in the summer and 150 in the winter. The railway employed two permanent bridge crews to maintain its many spans (Douglass 1964:6; McCracken 1961:4; Alaska Department of Highways, hereafter referred to as ADOH, 1967:16). A trip on the train from Cordova to Kennecott and return took three days (Kenny Smith 1994). Locomotives were fueled with coal shipped in from Cordova (Marshall 1994). Operations were conducted without major interruptions, aside from those inflicted by nature, until the Great Depression. Prior to World War I, train service included three mixed passenger and freight trains per week and one ore train. During the 1920s, the CR&NW maintained service six days a week, hauling millions of dollars worth of copper to Cordova each month. In the 1930s, when copper prices and production declined, trains ran only twice a week from April 1 to December 1.

When train service was halted by a break in the line or winter closure, Kennecott stockpiled copper ore at the mine (McCracken 1961:6; USDOC/ICC 1940:112).

The Alaska Syndicate built the CR&NW specifically to transport copper ore from Kennecott to Cordova, but its investors initially hoped to haul coal from the Bering River and extend the main branch of the railway from Chitina to Fairbanks to open up the interior. They hoped the CR&NW would become the primary access route into the interior, a development that would make the railway profitable. However, the company was unwilling to pay to extend the line into the interior. The CR&NW lost money in its early years due to the high cost of maintenance. As the federal government became more interested in building a line into Alaska's interior in the early 1910s, the Syndicate tried unsuccessfully to sell the CR&NW to the government at cost (Wilson 1977:26; *Cordova Daily Alaskan*, May 1, 1912). On April 10, 1915, President Woodrow Wilson chose the Seward-Fairbanks route for the government-sponsored railroad, dashing the Syndicate's hopes of expanding to the north. The government's decision was based in part on the more reliable winter conditions for operation between Seward and Fairbanks and the route's proximity to the Matanuska coal fields. The decision was also based in part on prejudice against the Syndicate's extensive holdings in Alaska (McCracken 1961:3; Wilson 1977:24). Shortly after Wilson's announcement, the Alaska Syndicate reorganized its holdings into the Kennecott Corporation (*Cordova Daily Alaskan*, April 15, 1915).

Although the CR&NW was not able to develop enough non-Kennecott traffic to make the line self-supporting, the Kennecott Copper Corporation's argument for developing the region found sympathy in Congress (McCracken 1961:7, 9; USDOC/ICC 1940:112). The Kennecott Company lobbied Congress and received tax-free status for the railroad during its first ten years. It also received special treatment by the Interstate Commerce Commission (ICC), the federal agency which regulated train tariffs. The ICC set the CR&NW's tariff rates at 12.5 cents per mile for passengers and between 3.5 and 14.5 cents per mile for a ton of freight to help cover the high costs of construction and maintenance. Those rates compared with 2 to 4 cents per mile for passengers and one cent per mile for a ton of freight in the rest of the country (ADOH 1967:16). Copper prices boomed during World War I and the CR&NW made its first profits (*Cordova Daily Alaskan*, January 5, 1916).

After the war, the price of copper and other minerals slowly dropped, leading to a gradual decline in mine production, prospecting, and freighting activities along the CR&NW route. Copper prices crashed in the 1930s and the high cost of maintaining the line pushed the CR&NW back into the red. The Kennecott Mine closed between 1933 and 1934, but the trains operated occasionally to service Kennecott's facilities and other miners and settlers along the route. After the mine reopened, labor problems on the railway in 1935, 1936, and 1937, and longshoremen strikes from 1935 to 1937 interrupted deliveries of ore between Kennecott, Cordova, and the smelter in Tacoma, Washington. When the mines were closed during the height of the depression, all rail service was performed by speeders and the transfer across the Copper River near Chitina was made by ferry if the bridge was out (McCracken 1961:8). By 1934, airplanes were handling as much mail, freight and passengers to McCarthy as the railroad (USDOC/ICC 1940:111). After 1934, the CR&NW never resumed winter operations. The trains ran less frequently and each train pulled up to 10 cars instead of the 20 to 30 cars of the 1920s (Kirchhoff 1993:86; McCracken 1961:8). The CR&NW lost $2.8 million dollars in 1933-1934, and lost about $1.0 million annually after the mines reopened (USDOC/ICC 1940:112).

Settlement along the Chitina Branch of the CR&NW, 1908-1938

The importance of the CR&NW in opening the Copper River Basin to mineral development and settlement cannot be overemphasized. Before the railway was completed, miners laboriously carried their equipment and supplies into the area in the winter by sled at great expense and hardship. After the CR&NW was completed, prospectors and miners could ship equipment and supplies into the area inexpensively and virtually overnight (Kirchhoff 1993:34). The railway moved massive amounts of freight and supplies as a major boom in mining development occurred in the area right after 1911. One government official at the time called the completion of the CR&NW "the most important advance made in the history of Alaska transportation since steamboat service was established on the Yukon" (Brooks 1911:23). The CR&NW was the vital link in the development of the corridor on the north side of the Chitina River between the Copper River and Kennecott from 1910 until the late 1930s. Without the railway, the area would have remained isolated and considerably less mining development would have taken place in the area.

The first community to develop along the route was Chitina, located at the northern end of the main line of the railway and the west end of the Chitina Branch. The town began as a construction camp in 1910 and the CR&NW built a major station at Chitina. Railway facilities included a depot, a bunkhouse, a cookhouse, superintendent's residences, maintenance facilities and a siding that circled Trout Lake (Spude *et al.* 1984:27). All train crews changed at Chitina (McCracken 1961:7). These facilities and the station's strategic location drew people not directly associated with the railway to the site. In August 1910, the CR&NW offered townsite lots for sale and a U.S. Commissioner was appointed. Chitina (Figure 14) grew rapidly and became a regional hub for transportation, mining, trading, and guiding (Hunt 1991:176). The town was an important transshipment point between the CR&NW and road to the interior. In November 1910, the Alaska Road Commission (ARC) completed a road linking Chitina with the Richardson Highway. The Orr Stage Company used this route, known as the Chitina-Tonsina Road, to carry passengers, mail and freight from Chitina to the interior. Transportation by rail from Cordova to Chitina and then by wagon was the fastest route to Fairbanks from a year-round warm-water port until construction of the Alaska Railroad was completed in 1923.

Chitina prospered for nearly three decades. The 70-room Hotel Chitina, owned by Oscar Breedman, was completed in November 1910. It was considered to be one of the finest hostelries in early Alaska (Janson 1975:149; Spude *et al.* 1984:27). Chitina's most prominent citizen was Otto A. Nelson, who quit his job as a surveyor for the CR&NW to develop the town. He helped incorporate the town in 1918, built and operated the town's power plant and water aqueduct system, invested heavily in real estate, served as the U.S. Commissioner, and surveyed the Bureau of Indian Affairs school site and the Native village (Spude *et al.* 1984:28). Chitina's population grew to 171 in 1920, but dropped to 116 in 1930 (Orth 1971:214). The largest portion of the town's population were white residents who worked for the railroad or in local stores. Chitina's strategic location and employment opportunities drew a significant number of Natives who trapped and hunted or worked for wages doing manual labor or hauling (Hunt 1991:177). The Natives established a village just south of the town. A school for Natives opened at Chitina in 1920 (West 1973:10), prompting the final abandonment of villages at *Taral*, Tonsina and *Tonslahti.*

Near the end of the Chitina Branch, the CR&NW helped create the town of McCarthy and make it a transportation and supply hub for mining camps in the upper Chitina River drainage. In

Figure 14. Chitina during the 1920s. The CR&NW water tower, depot, and warehouse line the lake. The locomotive repair shed is the long building on the right. E.A. Hegg photo, Skinner Collection, Alaska State Library, Juneau.

1906, John Barrett staked a 296-acre homestead between Kennicott Glacier and McCarthy Creek. The CR&NW leased a right-of-way and a parcel of Barrett's land for a turnaround and station. Since Kennecott was a company town and closed to outsiders, the CR&NW station on Barrett's land became a magnet for prospectors and merchants. In 1911-1912, a tent city called McCarthy developed between Mile 191 and Mile 192. The settlers changed the name of the community to Blackburn and laid out a townsite north of the railway depot. A post office was established in 1912. The Chisana gold rush of 1913 doomed Blackburn because the trail to Nizina and the Chisana gold fields was south of the railway station. Prospectors got off the train and squatted on Barrett's homestead south of the station instead of going on to Blackburn. Responding to the squatters, Barrett established a townsite south of the railway depot and leased lots to the miners and merchants. This community became known as McCarthy (Figure 15). The copper boom at Kennecott and the Chisana gold rush brought rapid growth to the town and a school opened in 1915. The town had three barber shops, a steam bath, several stores, a sheet metal shop, several hotels and restaurants, a number of saloons, a red light district, and a resident attorney (Balcom 1965:23). The population peaked at 300 in 1917. McCarthy contrasted sharply with and benefitted from the rigidly controlled company town of Kennecott located five miles to the north. McCarthy developed a reputation as a

Figure 15. The town of McCarthy, also known at the time as Shushana Junction, 1920s. The CR&NW trestle bridge across the Kennicott River flood plain is in the foreground. Photo courtesy of the McCarthy-Kennecott Museum.

wild, wide-open town where everything, including alcohol, gambling and prostitutes, was available for the right price (Kirchhoff 1993:54). McCarthy's school teacher, referring to Kennecott's 500 miners and mill workers, noted that "everything that is outlawed on their private grounds thrives here in McCarthy, to the shame of the government" (Hunt 1991:172).

McCarthy's reputation persisted into the 1920s, even after a decline in copper prices brought hard times. Residents attempted to diversify the economic base through farming and tourism, but these ventures were largely unsuccessful and the town's population dwindled to 115 people by 1930 (Orth 1971:607). McCarthy remained the supply center for miners in the district. Moonshine, gambling and prostitution continued to define the town's character to many in the area. Further declines in copper prices and seasonal shutdowns of Kennecott and the CR&NW brought lean times to McCarthy in the early 1930s. When the number of students declined to two in 1931, the territory closed the local school (Hunt 1991:172). The reopening of Kennecott in 1935 and a resurgence of gold mining in the nearby Nizina district prompted a brief revival at McCarthy.

The Chitina Branch of the CR&NW also prompted settlement along the railway corridor between Chitina and McCarthy. The largest and most important settlement between the Copper and Kennicott rivers was at Strelna Creek, where the CR&NW built a railway station and operated a gravel pit. The station at Strelna was the outfitting point for mineral exploration and mining on tributaries of the Kuskulana and Kotsina rivers. Miners built a trail from Strelna up the west side

of the Kuskulana River to access prospects on Clear, Nugget, Berg, McDougall, Bonita, and Slatka creeks, and at the base of the Kuskulana Glacier. The Territorial Road Commission constructed a bridge across the upper Kuskulana River in 1917 to facilitate mineral development on the east side of the drainage (ARC 1918:3847). A trail from Strelna over Dixie Pass provided access to prospects on Copper and Rock creeks on the upper Kotsina drainage. The magnitude of the discoveries at Kennecott and the rise of copper prices to unprecedented heights during World War I spurred mineral exploration in the Kuskulana River Valley. The CR&NW surveyed the Kuskulana River drainage in 1918 for a spur line to the mining prospects, but did not build the line because of the high cost of construction. The mineral prospects were located on steep grades 5 to 25 miles from Strelna, and CR&NW officials decided that projected ore reserves and traffic on the spur line would not warrant the expense of building the spur (Coppess n.d.:2). Miners upgraded the road from Strelna north to the mines in the Kuskulana drainage and used Model T dump trucks to haul the concentrates from the mines to Strelna for transshipment by railway to Cordova and the states (Taylor 1994:6).

This mineral exploration transformed Strelna from a railway maintenance station into the staging area for mining in the Kuskulana drainage. Mine operators established camps and maintenance facilities near the railway station. B.J. Dwyer built a three-story combination hotel and store in Strelna in 1919 (Bell 1994:2, 4). The large wood frame building was located on the north side of the tracks just west of Strelna Creek (Figure 16). It served as the railway depot and post office, and was, from various accounts, a very busy place. Dwyer's Roadhouse was considered by many to be the finest building in that section of the country until it burned in 1925 (*McCarthy Weekly News*, May 1920; Kirchhoff 1993:121; Bell 1994:2, 4; Eskilida 1994:3; Coats 1994a:4). The

Figure 16. Dwyer's Inn at Strelna during the 1920s. Strelna Creek is behind the Inn and water tank. Photo courtesy of Candy Waugaman, Fairbanks.

post office operated from 1912 to 1925. The population peaked at about 100 people (Finnesand 1994:4) and residents built cabins around Dwyer's Hotel. Jack Walsh filed a homestead on land north of Strelna in 1917. After Walsh died, Bill Clark acquired the homestead. Clark stopped the CR&NW from extending its gravel pit onto his property. In the early 1930s, he sold the homestead to the Coats family (Coats 1994a:2, 5). For all of its amenities, however, Strelna was not a popular place with railway maintenance crews because it was known as the coldest spot on the line during winter (Coppess n.d.:3). The largest cemetery in the area was located at Strelna (VAL-339), south of the tracks across from the beginning of the Nugget Creek Trail (Coats 1994a:4).

Strelna also became home to a number of Native families after the railway was built. It is known that the lower Copper River Ahtna hunted and picked berries seasonally in the area at least by 1905 or 1908 (West 1973:10). The name Strelna comes from the Native *Staghael Na*. *Staghael* means "stick sweat house" and "people all died off," and *Na* means “river” (Kari 1983:7; Reckord 1983:105). Chief Eskilida moved his winter camp from Tebay to Strelna about 1911. He built a log cabin (VAL-346) south of the tracks on the east side of the creek and split his time between Strelna and his fish camp at Eskilida Creek on the Copper River. After Chief Eskilida died in 1927, his son Joe used the cabin seasonally in the 1920s and 1930s as a hunting site. Joe Eskilida's siblings were buried near the Eskilida House in the 1930s or earlier (Frank Billum 1992a:3; 1992b:2-3; Johnny Billum 1992:2; Eskilida 1992:2; Eskilida 1994:1-2; Bell 1994:2). In the late 1920s and 1930s, four Native families lived seasonally in the community on the east side of Strelna Creek (Figure 17). Joe and Margaret Eskilida, John Eskilida and his family, and the Phillips family lived south of the rail line and the Stevens family lived on the north side of the tracks. The Eskilida and Stevens families

Figure 17. The Eskilida family, other Athabaskans, and seven non-Natives at Strelna in 1915. B. Bragaw Collection, 85-108-165, University of Alaska, Fairbanks.

were the last Native families to live in Strelna. They dried fish at their camp near Chitina, hunted and trapped in the Strelna area from August to November, then traveled up the Kotsina Trail (VAL-356) to hunt moose and sheep before journeying late in the year to Hanagita Lake to trap and fish (Eskilida 1994:3).

When copper prices collapsed in the early 1920s, mineral development in less promising areas like the Kotsina and Kuskulana river valleys declined. Mineral development was very expensive in the area because the cost of shipping concentrates on the railroad and by steamship to the smelter in Tacoma ranged from $11.20 a ton on ore worth $25 a ton to $40.90 on ore worth $500 per ton. The managers of the CR&NW claimed they were not meeting expenses and could not afford lower shipping rates, and indeed the CR&NW consistently operated at a loss (Kennecott 1920:14). By 1925, mineral exploration and development had ceased at most prospects in the Strelna area (Sykes 1982:12-13). Railway freight and passengers traveling to and from Strelna dropped sharply, and the destruction of Dwyer's Roadhouse by fire in the mid-1920s punctuated the decline of the community.

A few people also settled at remote sites along the Chitina Branch during the years between 1911 and 1938. Dick Gilleau seasonally occupied a cabin (VAL-332) at Mile 133.5 in the 1910s and 1920s. Bill Clark lived in the cabin in the 1930s after Gilleau died. Clark worked for the ARC in the summer and trapped in the winter (Bell 1994:4). The railroad built a station at Chokosna at Mile 157 (Kirchhoff 1993:105), but mineral prospects in the immediate area did not develop as expected. Shortly after the railway was built, Charlie Rosell, a white man, built two trapping cabins (XMC-191 and XMC-192) on the east side of the Chokosna River south of the rail line. Rosell was the only person to settle near the Chokosna Station and he later abandoned the buildings (Bell 1994:1, 3). A small logging operation set up a sawmill at Crystal Lake at Mile 172 (Morrison 1994). A portable sawmill also operated near the rail crossing at the Lakina River at Mile 174 during the summer of 1913. The lumber was cut from the surrounding spruce stands and was used largely for building in McCarthy (Ellsworth and Davenport 1915:60).

The rich, well drained soil along the tracks between Lakina River and Long Lake attracted a number of homesteaders. Oscar N. Anderson built a cabin north of the tracks (Figure 18) in 1916. He homesteaded land on both sides of the railbed, growing grain and vegetables which he sold to Kennecott and the CR&NW (Phil Collins 1995; Cliff Collins 1995a; Taylor 1994:1). In 1918, Ed Mullins homesteaded land north of the tracks between Anderson's homestead and Long Lake. Mullins later sold his place to John Fagenberg, who also raised vegetables for the railroad. After the railroad shut down, Fagenberg died without getting title to the land (Cliff Collins 1994). George Flowers, a black man who worked part-time for the CR&NW, built a cabin (XMC-219) in 1920 on the east bank of the Lakina River south of the railbed. He built another cabin nearby in 1927 or 1928. He lived there several decades, growing and selling vegetables to the railway (Phil Collins 1995; Nicolet 1995).

Making moonshine, a widespread operation in the McCarthy area during Prohibition, took place in areas adjacent to the railway. Government attempts to suppress the manufacture and sale of alcohol prompted local entrepreneurs to set up stills at remote sites along the Chitina Branch of the CR&NW. One of these stills was located in the woods about a half mile from the CR&NW coaling station at Mile 182 (XMC-231). The bootleggers loaded their moonshine on east bound trains at the coaling station for the journey to McCarthy. Engineers on the locomotives blew a

Figure 18. Nick Jensen and Oscar N. Anderson (right) at Anderson's homestead at Mile 175 of the CR&NW between the Lakina River and Long Lake, about 1930. Oscar N. Anderson Collection, courtesy of Cliff Collins, Cordova.

special code on the train whistle when revenue agents were on board, warning bootleggers (Michals 1994; Kirchhoff 1993:68-69).

On the west side of the Kennicott River, homesteaders established farms and dairies in the 1920s on the Kennicott flood plain south of the railway. These homesteaders included Frank Iverson, Jimmy Peterson, Amil Isakison, Austin Trimm, and Olav Holtet. Pete Johnson and the Seltenreich family farmed in the uplands farther west along the railroad grade (Spude *et al.* 1984:178). The homesteaders grew vegetables and hay, and produced dairy products to supply the local market at McCarthy and Kennecott. The market was limited, however, and the farmers fell on hard times in the 1920s and 1930s as mining declined in the region.

The impact of the railway on Natives was mixed. Local Natives rode the railway free of charge and some used this privilege to facilitate hunting along the line (Eskilida 1994:3; Bell1994:2-3; Marshall 1994). The railway also hired Natives, who worked as dynamite men or did track maintenance. A few Natives, such as Cap Goodlataw, worked at Kennecott in the mines running a jack hammer (Marshall 1994; Bell 1994:2-3; Taylor 1994:4; Frank Billum 1992a:18). Overall, however, the onslaught of white culture, which was accelerated by the CR&NW, had negative impacts on the lower Copper River Ahtna, who had been hunting, fishing, and trapping in the Chitina

River Valley for generations before the coming of white men. The demand for meat and the slaughter of game during the 1913 Chisana gold rush effectively drove Natives out of the McCarthy area (Kirchhoff 1993:42). The Ahtna were forced into more remote hunting grounds as they had to compete with miners, homesteaders, and occasional big game hunters. They also had to adjust to a new economy that emphasized wages rather than subsistence, and a culture which undermined their connection to the land and its resources. Some Natives made this transition with less pain than others, but the clash of cultures together with increased exposure to communicable diseases took a heavy toll on the lower Copper River Ahtna (Mendenhall 1903:402; Kirchhoff 1993:44).

For the most part, life along the railway between Chitina and McCarthy was quiet and routine in the years between 1911 and 1938. CR&NW trains established a rhythm for the area and the railway served as a lifeline for most people. The Copper River trestle bridge near Chitina went out every spring. The trains ran from June through November and occasionally during the winter until breakup. During the rest of the year, pioneer aviator Harold Gillum delivered the mail and carried passengers to McCarthy (Taylor 1994:2). Winter travel along the rail line was mostly by trappers who traveled by dog sled or on foot. Neil Finnesand carried the mail by dog sled when bad weather prevented airplanes from delivering the mail during the winter (Smith 1994).

The Closing of the CR&NW, 1938-1945

The high cost of maintaining and operating the CR&NW doubled the cost of mining at Kennecott and ultimately resulted in the closing of both the mine and the railway. Despite federal tax breaks, lax regulation, and high tariffs, the CR&NW operated at a loss during most of its years. At the time it was built, the CR&NW hoped other mining interests along the route would develop to provide additional revenue for the railway. The additional traffic did not materialize to any appreciable extent, in part because the CR&NW refused to bear the high cost of building spur lines. Except when the mines were closed in the early 1930s, uses other than hauling copper for Kennecott made up only five percent of CR&NW business. In the end, the line depended almost entirely on revenues generated from the Kennecott Mine (USDOC/ICC 1940:24). Profits from Kennecott defrayed expenses on the CR&NW. The Copper River basin was only sparsely settled and its 4,000 residents could not support a railway.

Depressed copper prices, exhaustion of high-grade ore deposits, and the high cost of transportation made copper mining on Bonanza Ridge in the Wrangell Mountains unprofitable by 1938. The Kennecott Copper Company permanently closed the mines and mill at Kennecott in late 1938. Locomotive No. 74, making the last run over the CR&NW route (Figure 19), pulled into Cordova on November 11. Despite the enormous expenses involved with mining and shipping ore from Kennecott during those 27 years, the high grade ore mined from Bonanza Ridge made the enterprise very profitable. The Kennecott Corporation's profits have been estimated at $200,000,000 (Spude and Faulkner 1987:7). During its early years, the Kennecott Mine was the world's largest producer of copper (*Cordova Daily Alaskan*, January 8, 1916). The profits from the operation at Kennecott propelled the Kennecott Copper Corporation into a global mining giant.

At the time the CR&NW shut down permanently, the railway valued its equipment at $100,000 (USDOC/ICC 1940:110). Rolling stock included 22 locomotives, nine passenger cars, one

Figure 19. Locomotive No. 74, in Chitina en route to Kennecott, on the last run before the CR&NW was shut down on November 11, 1938. Photo courtesy of Robert Coats, Anchorage.

of which was formerly a dining car, a mail car, over 250 freight cars, and rotary plows, cabooses, speeders, hand cars, and steam shovels (Clifford 1981:162; McCracken 1961:5-7). The main line and the Chitina Branch had 25 stations and line shacks, 11 of which were isolated from settlements. The estimated cost of developing the CR&NW, including surveys, construction, maintenance, operations, and shut down, was $40,000,000. The value of the railroad at its closure was placed at $28,647,034 (USDOC/ICC 1940:110-111; Janson 1975:159), excluding trestles and bridges because salvage costs exceeded the value of the materials.

When the CR&NW abandoned the rail line, it left the railbed and related structures intact. The line between Chitina and McCarthy was vital to the people living and working in the Chitina River valley. In hearings during 1938 in Washington, D.C. on the CR&NW's plans to abandon the line, several people who mined along the route testified that abandonment of the line would cut them off from all supply networks and jeopardize their operations. They recommended that the government build a road in lieu of the railway and a light suspension bridge over the Copper River. The Interstate Commerce Commission had no jurisdiction to consider road building and took no action on the miners' requests (USDOC/ICC 1940:111). Citizens groups in Cordova, Chitina, and McCarthy campaigned to convert the railbed into an automobile road. Government agencies, however, were unresponsive. The Copper River bridge near Chitina went out with the spring flood of 1939, isolating 55 miles of track, McCarthy and other communities along the rail line east of the Copper River (Eder 1973:12).

In the face of this unsettling turn of events, people in the area adapted the Chitina Branch for their own use. O.A. Nelson began operating speeders between Chitina and Kennecott using equipment left by the CR&NW (Smith 1994). During the summer of 1939, Nelson operated a ten-passenger motor coach on flanged wheels to carry freight, mail and passengers (Figure 20). He and others used the CR&NW's 1,200-foot-long aerial tram to cross the Copper River near Chitina (USDOC/ICC 1940:111; McCracken 1961:11; Leitzell 1993). Nelson also ferried people and freight across the river by boat using 900 feet of 1-inch cable that had been used to build the Bonanza Tram at Kennecott.

Given the importance of the rail link in the area, the ARC moved quickly to maintain the railbed and related structures for public use as a tram road. In the spring of 1939, the ARC repaired the aerial tram across the Copper River, purchased a speeder and some push cars, and employed a crew of five during the summer to maintain the railbed and bridges of the Chitina Branch. In 1940, the ARC assumed formal maintenance responsibilities for the 60 miles of abandoned railbed between Chitina and McCarthy and the aerial tram across the Copper River (Richelsen 1939:3-4; USDOC/ICC 1940:111; ARC 1940:7; Kirchhoff 1993:89).

The public tram road between the Copper River and McCarthy enabled local residents, freighters, miners, trappers, hunters and fishermen to get in and out of the area. Mining operations at Dan and Chititu creeks in the Nizina district were pretty much unaffected by the closing of the railroad (Richelsen 1939:4). Speeder service was irregular and in 1943 the trestle bridge over the Kennicott River went out (Kirchhoff 1993:90). Wartime priorities prompted the ARC to close its

Figure 20. O.A. Nelson's "Chitina Auto Railer," 1940s. Nelson used this rig to carry passengers and freight between the Copper River (background) and McCarthy. Photo courtesy of Robert Coats, Anchorage.

offices in Chitina in 1942 (West 1973:10) and stop maintenance of the public tram road. During World War II, the U.S. Army operated speeders and later a locomotive on the CR&NW right-of-way from Cordova to Mile 13. Federal use of the line near Cordova encouraged Secretary of War Henry Stimson to pressure the Kennecott Corporation to formally abandon the right-of-way. In May 1945, the Kennecott Corporation formally turned over the CR&NW right-of-way to the Territory of Alaska (Fortas 1942; Johnson 1945).

The closing of the CR&NW heavily impacted those who lived along the Chitina Branch line. When the railway closed in 1938, 110 people lived in Chitina, 12 at Strelna, 12 at a camp at Mile 173 (Crystal Creek), three at Long Lake, and 75 at McCarthy (USDOC/ICC 1940:111). Chitina's population declined rapidly following the closing of the railway. The CR&NW had been the largest employer in the town and most CR&NW employees left after they lost their jobs. The Hotel Chitina closed and the building was dismantled in 1943. The Chitina railway depot was also dismantled (Figure 21). The ARC, which took over the Orr Stage Line facilities in the late 1910s, dismantled its buildings in Chitina and moved them to Copper Center in 1942 (Spude *et al.* 1984:27-28). Although greatly reduced in population, Chitina remained a regional hub for mining and guiding. The Chitina-Tonsina Road, now called the Edgerton Highway, provided a link to the Richardson Highway.

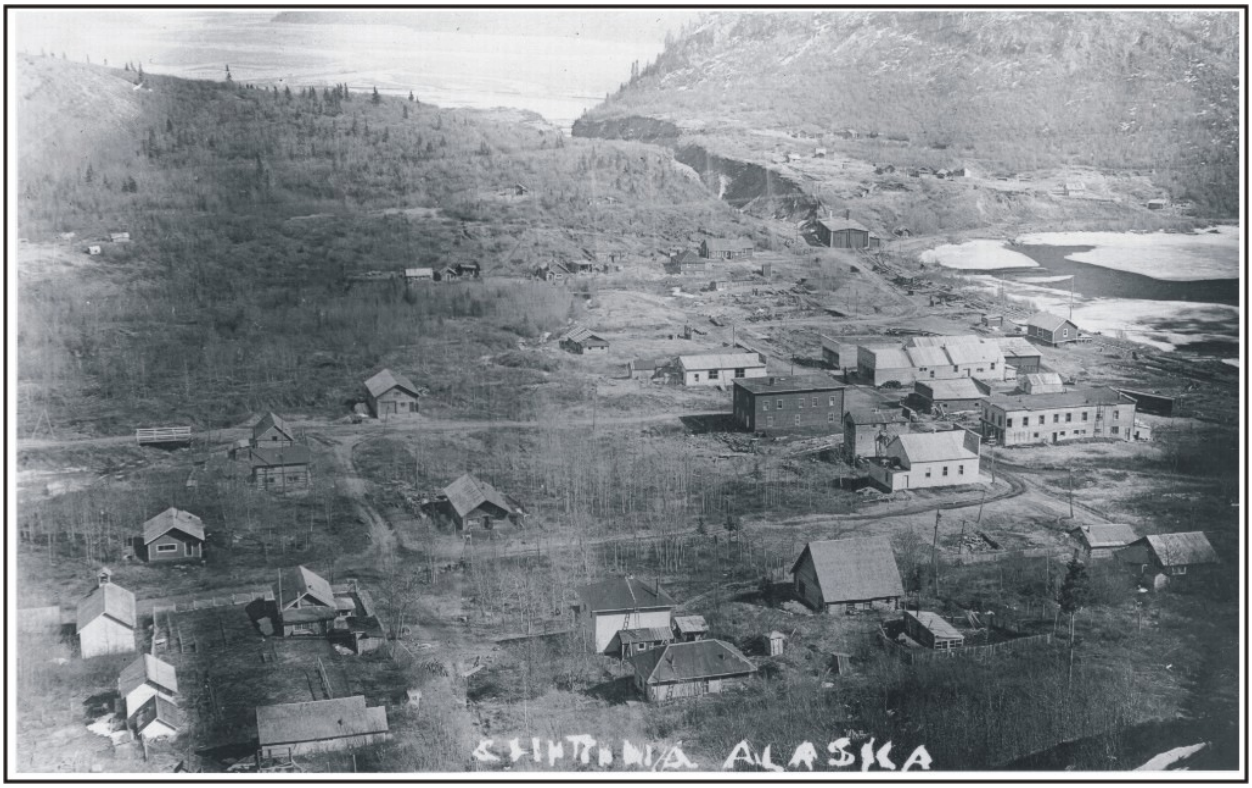

Figure 21. Downtown Chitina, as viewed from the west, sometime shortly after 1943. The CR&NW Depot and the Chitina Hotel have been demolished. Photo courtesy of Carla Hilgendorf, Chitina.

Within a year of the closing of Kennecott and the CR&NW, the population of McCarthy dropped to 49. The post office closed in 1943 (Orth 1971:607). The demise of the trestle bridges over the Copper and Kennicott rivers cut off the town from the outside world, except by airplane. A fire in 1940 burned a whole block of the McCarthy business district, killing one resident and destroying the Alaska Hotel, the McCarthy Drug Store, and the post office. John Barnett and other long-time residents left in the early 1940s. After World War II, only three or four residents remained in the town (Smith 1994; Kirchhoff 1993:90-91).

Abandonment of the CR&NW also impacted settlers living along the rail line. Strelna turned into a ghost town as railway employees stationed there left. A few homesteaders stayed, but Kennecott's formal abandonment of the railway and the deterioration of bridges along the line ended any hopes that local residents may have had that the railway would be resurrected.

The Post War Years, 1946-1965

During the years after World War II, the rail line remained an important link for people between the Cooper River and McCarthy. O.A. Nelson continued to provide speeder service from the east bank of the Copper River to McCarthy. He delivered groceries and supplies to the isolated residents living along the line and in McCarthy. He also carried sheep hunters bound for the Wrangell Mountains (McCracken 1961:11). Archie Poulin transported fuel along the line, but reportedly lost one-fifth of it due to bouncing around on the deteriorated tracks (Kirchhoff 1993:90). Bill Barry ran a speeder carrying passengers, mail and freight between Chitina and McCarthy in the 1950s after Nelson became too old to operate the speeder (Edwards 1994b). Other people also used gasoline-powered speeders (Figure 22) left by the CR&NW or small carts pulled by humans or dogs to travel along the abandoned rail line in the 1940s and 1950s (Finnesand 1994:4; Bell 1994:2). A few traveled the line on foot (Frank Billum 1992d:34). Nelson, Poulin, and Barry maintained the line as best they could with their limited resources until the railbed and track deteriorated in the 1950s to the point

Figure 22. A former CR&NW speeder and trailer crossing the trestle near Kotsina Siding at CR&NW Mile 139, July 8, 1958. Photo by Lynn Yehle, U.S. Geological Survey, Denver.

that it would not hold its gauge (Taylor 1994:3). Bears ripped up ties searching for grubs. Floods damaged and sometimes took out trestles, sometimes leaving only the rails hanging across creeks (Kirchhoff 1993:90; McCracken 1961:11). Hunters and trappers used the line in the fall and winter, staying in abandoned railway buildings and cars, and in buildings constructed of salvaged railroad timbers (McCracken 1961:11; Finnesand 1994:2-3).

Travelers crossed the Copper River near Chitina on the aerial tram, which the ARC maintained for a number of years (Leitzell 1993; McCracken 1961:9). The tram (Figure 23) was large enough to carry six oil drums standing on end or about eight people (Taylor 1994:4). A boat occasionally ferried people and equipment across the river. Telephone lines located alongside the cable enabled travelers to communicate through old hand-cranked, battery operated telephones with people on the other side of the river (Finnesand 1994:2).

Figure 23. The CR&NW aerial tram over the Copper River that was used for more than 25 years after the railway shut down. Photo by Lynn Yehle, August 24, 1956. U.S. Geological Survey, Denver.

The area attracted big-game and trophy hunters from other parts of Alaska and the lower 48 states, but most hunters and trappers who used the area lived in Chitina or Copper Center and were of Native descent. Neil Finnesand and his son, Martin, trapped around Strelna, Sculpin and Silver lakes, along the Kotsina Road, and in the McCarthy area. They stayed in a trapping cabin that Neil Finnesand maintained at Strelna (Finnesand 1994:2-3; Smith 1994). Patrick Bell and his son Tom hunted and trapped in the Chokosna area, staying in the Charlie Rosell cabins (XMC-191 and XMC-192). Henry Bell trapped with Neil Finnesand and later with Patrick and Tom Bell in the early 1950s (Bell 1994:1-2; Finnesand 1994:3-4). Ralph Lohse trapped for many years in the Long Lake-Lakina River area (St. Amand 1994:20).

Only a handful of people lived year-round along the old rail line. Joe Lehland resided in the Gilleau Cabin at Mile 133.5 in the late 1940s (Bell 1994:4) and Frank Welles lived in the George Flowers cabin at Lakina Lake after Flowers passed away (Cliff Collins 1995a). Oscar Anderson resided at his homestead at Mile 175 and George Smock lived in an old railroad building on the

homestead to the east next to Long Lake. Smock had 20 to 30 dogs and dried salmon to feed them (Cliff Collins 1994). In the late 1940s and 1950s, 24 whites and 56 Natives lived in Chitina. After the Native school and infirmary closed in 1956, Chitina's population declined until there were only 31 people living in the town in 1960 (Balcom 1965:8-9; West 1973:10). Only a handful of people lived in McCarthy until the early 1950s when improvements in air transportation prompted entrepreneurs to develop tourism and mining at Kennecott, using McCarthy as a base. In 1952, Merle K. "Mudhole" Smith, the owner of Cordova Air Service, started flying tourists to the May Creek airstrip. He transported them by motor vehicle over the Nizina River Bridge to McCarthy and then by speeder up the tracks to Kennecott. Tourists spent three to four days in the area and stayed at the McCarthy Lodge. A *National Geographic* article in June 1956 featured tourism in the area (McCracken 1961:11; Kenny Smith 1994).

Attempts to develop tourism enjoyed only limited success, however, due to mining activity at Kennecott. In 1953, the Kennecott Copper Corporation pulled its watchman from Kennecott. The corporation sold the surface rights to the mine and milling complex to Ray Trodescha, who was supposed to tear down the buildings. Trodescha tore the top off of the Concentrator Mill and stripped equipment of value from other buildings, ending Cordova Air Service's tourism aspirations. He re-mined some of the tailings. He punched a road up to the Bonanza Mine in the early 1960s and started underground mining, breaking his contract with Kennecott (Kenny Smith 1994). In 1963, Trodescha sold his interests at Kennecott to a group of investors called Consolidated Wrangell, who planned to start mining again at Kennecott. They bought property in McCarthy from John Barnett's heirs in 1965 and built an airfield on the northeast edge of the town. They brought heavy equipment to McCarthy over the old railroad grade, going around the deteriorated trestles. Consolidated Wrangell was unsuccessful in re-establishing mining and sold Kennecott to several investors operating under the name Great Kennecott Land Company (Kenny Smith 1994).

The tourism and mining activity in the 1950s began to draw people to the area again. Some settled in McCarthy, while others bought homesteads along the abandoned rail line. K.J. Ricky, who worked for the ARC, homesteaded at Strelna in the 1940s and 1950s (Bell 1994:3). His neighbors, the Coats family, acquired the Walsh/Clark homestead at Strelna in 1932 or 1933 and started spending time at Strelna in the early 1950s (Coats 1994a:2). Sam Moore moved to the Strelna area in the 1960s (Moore 1994). Lew McFerren homesteaded at Chokosna in the 1950s (Coats 1994b) and the pioneer aviator Jack Wilson homesteaded 160 acres at Crystal Creek in 1966 (Wilson 1994:2). In 1961, Cliff Collins bought George Smock's homestead at Long Lake, including an 800-foot-long airstrip (Cliff Collins 1994). Harley and Jo King bought land on south side of the railroad grade at Long Lake in 1964 (King 1994) and Phil Collins acquired the George Flowers' cabin site in the 1960s. Jim Edwards and his wife Maxine homesteaded on the Kennicott River flood plain, below the old railroad crossing at Swift Creek at Mile 186. Edwards was one of the few families living in the McCarthy area in the 1950s (Kenny Smith 1994). Residents and a few visitors continued using various means of conveyance on the rail line for access to the area (Figure 24).

The new settlers, especially those near McCarthy, relied heavily on air travel to access the area and obtain supplies. Airstrips along the old railroad corridor in the 1950s included one just north of Chitina, a landing strip located north of Strelna, a hay meadow at Long Lake, and the airstrips northeast and south of Chitina. Jack Wilson built an airstrip at Crystal Creek in the 1950s (Wilson 1994:6). Residents along the rail line brought heavy equipment into the area in the 1950s

Figure 24. Ron Riese of the U.S. Geological Survey on a CR&NW hand car at Chokosna Lake, June 8, 1960. The view is looking west. Photo by Lynn Yehle, U.S. Geological Survey, Denver.

and 1960s, driving tractors over the old railbed in the winter or spring. They used the old railroad trestles to cross rivers and creeks. Jim Edwards, for example, drove a Caterpillar tractor across the Gilahina (Figure 25) and Tractor creek trestles (Figure 26) in the early 1960s, shaking them to the core and contributing to their deter-

Figure 25. Jim Edwards moving a tractor and car across the Gilahina Trestle, April 1961. Photo courtesy of Jim Edwards, McCarthy.

Figure 26. Jim Edwards moving heavy equipment and supplies over the Tractor Creek Trestle to his homestead near McCarthy, September 1965. Photo courtesy of Jim Edwards, McCarthy.

ioration (Edwards 1994a). As the years passed and the bridges deteriorated, tractor drivers detoured around the bridges and went through the creeks (Kenny Smith 1994). Jack Coats outfitted an old jeep with flanged wheels, drove it to Strelna on the rails about 1957, then converted it back to regular wheels for use on his homestead (Coats 1994a:3).

The first efforts to convert the old railbed between Chitina and McCarthy to a road were not taken until the mid-1950s. In 1943, the ARC prepared a list of 14 projects for postwar construction in Alaska, focusing on heavily populated areas, projects of military value, and projects that would encourage agriculture and settlement. One of the proposed projects was $2,300,000 to build a road between Chitina and McCarthy, but Congress did not appropriate the funds (Naske 1986:220). The ARC maintained 31 miles of local roads in the McCarthy-Nizina area in the late 1940s (ARC 1947:8; 1948:9), but stopped maintaining them by 1951. In the early 1950s and again in 1957, the Bureau of Public Roads surveyed the old CR&NW route for a possible automobile road between Cordova and McCarthy. The survey crews used a gasoline-powered speeder that pulled a small flat car (ADOT&PF 1989:2; Finnesand 1994:4; Yehle 1994).

In the mid and late 1950s, a private contractor pulled up the rails along the CR&NW line, starting in McCarthy and working towards Long Lake. The contractor loaded the 30-foot rails on flat cars and hauled them over the tracks to the east side of the Copper River. The contractor pulled them across the ice during the winter with a tractor, taking ten rails at a time (Coats 1994c; Edwards 1994a; Taylor 1994:3). During 1961-1963, Joe Lynch of Lynch Construction in Juneau, working under contract to the State of Alaska, pulled up the rails between Long Lake and Chitina and shipped them to Valdez. The rails were on the dock awaiting shipment when the 1964 earthquake dumped them into Valdez Arm (Edwards 1994a; Smith 1994). The rail pullers salvaged an estimated 1,600 tons of steel rails over the years (Taylor 1994:3) and built an airstrip at Chokosna during their work in the early 1960s (Coats 1994a:6). Travel over the route after the rails were removed between Chitina and McCarthy was by foot, jeep, or tractor in the summer and by sled in the winter. Several people left a jeep on the east side of the Copper River and, after crossing the river by boat, used the jeep to get to McCarthy on what remained of the old railbed (Taylor 1994:4).

Removal of the rails between McCarthy and the Copper River prompted local residents to salvage railroad structures and buildings in the 1960s. By that time, many of the bridges were unsafe for vehicles because the pilings were rotten (Figure 27). In some cases, the timbers had collapsed

Figure 27. The sagging trestle bridge east of Long Lake, June 1962. The view is looking east. Photo by Lynn Yehle, U.S. Geological Survey, Denver.

and only the rails were hanging together across the creeks (McCracken 1961:9). Local residents cut down most of the trestles and used them for building materials and firewood. David Dan used timbers from the east approach of the Copper River trestle bridge to build a cabin (Coppedge 1994). Jack Coats and K.J. Ricky dynamited part of the west end of the Gilahina Trestle and salvaged the timbers to bridge local creeks. They also used salvaged timbers for various building projects (Coats 1994a:7). Phil and Cliff Collins cut down the Lakina River Trestle Bridge in 1963 and salvaged the timbers (Phil Collins 1995). Settlers in the Long Lake area cut down the trestle on the east side of Long Lake (St. Amand 1994:2). Ron Anderson tore down the Tractor Creek Trestle and settlers in the Swift Creek area tore down other nearby trestles about 1965 (Edwards 1994a). McCarthy's seven residents cut down the trestle across the Kennicott River in 1960 and used the timbers for firewood (McCracken 1961:11). Jim Edwards cut down the trestle (XMC-251) on the east side of the Kennicott River flood plain in the 1960s (Edwards 1994b).

Local settlers also removed or tore down most of the CR&NW buildings and structures along the railway alignment in the 1960s. They used the buildings or salvaged materials from them for use at their homesteads, recreational sites, or to improve the roadbed. Jack Coats bought the Strelna Station parcel, including the buildings, from the Katalla Corporation, a subsidiary of the Kennecott Copper Corporation. He moved the line shack, warehouse (Figure 28), and outhouse buildings (VAL-343) to his homestead in 1963 and tore down the station bunkhouse which was too deteriorated to save. He also salvaged parts from an old railway bunk car that had burned on the

Figure 28. The former CR&NW Strelna Warehouse (VAL-343), that Jack Coats moved to his homestead in 1963. The view is looking northeast. Photo by Rolfe G. Buzzell, August 11, 1994.

Strelna siding (Coats 1994a: 1-3, 5). Another homesteader tore down the water tank at Crystal Creek for the lumber (Wilson 1994:2) and Bob Dedinger hauled away the Crystal Creek railway building (King 1994). Cliff Collins moved the old Strelna Station depot (XMC-225) that George Smock had occupied, across the railbed and over to the edge of Long Lake. Phil Collins moved the Moose Lake line shack (XMC-221) and the Crystal Creek outhouse to the Long Lake area (Cliff Collins 1994). Jim Edwards moved the building and outhouse at the Coaling Station at Mile 182 (XMC-231) to his homestead south of Swift Creek in the 1960s. He also moved another railroad building at Long Lake in the 1960s to a lake several miles south of the Lakina River bridge (Edwards 1994b; 1994c).

The McCarthy Road Years, 1965-1990s

The removal of the rails between Long Lake and the Copper River in the early 1960s marked the first step in construction of the McCarthy Road. The Alaska Department of Highways (ADOH) contract with Joe Lynch included removal of rails and ties and grading the railbed for use as a pioneer road. Lynch replaced some culverts and graded routes around trestle ruins. This work, however, resulted in a barely passable, very rough, one-lane, four-wheel-drive road. In the late 1960s, state highway crews began re-constructing the pioneer road. A survey crew from ADOH examined the route in 1966 for possible reconstruction into a road. Many of the trestle bridges had collapsed and the survey team, traveling the route in an old jeep, was forced to drive around them (Eder 1973:12, 56). ADOH brought in heavy equipment over the frozen Copper River during the winter and flew in construction crews and supplies during the summer. The crews set up construction camps on the east side of Strelna Creek (VAL-347) near the Eskilida homesite and north of Crystal Lake (Coats 1994a:4; St. Amand 1994:2). In 1966, the ADOH began design work on a bridge across the Copper River. The steel and concrete bridge was completed in August 1971, along with a bailey bridge across the Lakina River, making it possible to drive from Chitina to the west bank of the Kennicott River. The ADOH by-passed the Gilahina Trestle in 1969-1970 with a 20-foot span made of old trestle bridge timbers. In 1973, ADOH repaired and strengthened the old CR&NW trestle bridges between the Copper River and Crystal Lake and built a new trestle bridge across the Lakina River (Eder 1973:56). Working under a state contract, Copper Valley Construction Company built new bridges across both channels of the Kennicott River during the same year, opening vehicle access to McCarthy and the 30 miles of road that led north to Kennecott and south to the Nizina mining district. Within a year, high water damaged the bridges across the Kennicott River, forcing the state to close them to vehicles in August 1975. Pedestrians used the bridges for a few years after that, but they deteriorated beyond repair and eventually washed out. ADOH later constructed new bridges over Strelna Creek and the Chokosna and Lakina rivers.

Construction and subsequent maintenance work along the McCarthy Road significantly impacted what remained of the CR&NW roadbed, buildings, and structures. Structures associated with the roadbed, such as culverts, switches, and sidings, were removed, damaged, or destroyed when the road bed was widened and the right-of-way was brushed to provide drivers with peripheral visibility. The state crews also moved railroad buildings and tore down trestle bridges. In the 1960s, they moved the station buildings at Chokosna away from the road (Finnesand 1994:4; Wood 1994:1). In the early 1970s, local residents started stripping timbers from the Crystal Creek Trestle,

weakening it until it could not support heavy equipment. State crews installed a culvert and built a road around the trestle, after which the locals salvaged the remaining timbers of the trestle (Wilson 1994:3). When the state reconstructed the road near Mile 137, there was insufficient room for the line shack at the old Kotsina Siding site. John Billum, an ADOH employee, moved the line shack to the east side of the Copper River. Later he moved the building to its present location (XMC-206) at Mile 167 (Marshall 1994; Coats 1994a:1; King 1994). Despite protests from local residents, ADOT&PF maintenance crews tore out the bridge at the east end of Long Lake and replaced it about 1990 with a metal culvert. The bridge was the last intact and functioning trestle on the McCarthy Road (Cliff Collins 1994). According to a member of the Eskilida family, state crews bulldozed the Eskilida residence and outbuildings at Strelna and used gravel nearby, even though the buildings and gravel were on private property (Eskilida 1994:3).

After completion of the Copper River Bridge and the McCarthy Road, the area between Chitina and McCarthy remained sparsely settled. In 1970, only 15 year-round residents lived along the road east of the Copper River (Mueller and Burton 1972:2). Thirty-eight people lived in Chitina (Selkregg *et. al* 1977). The McCarthy Road made settlement and development more feasible. Road access during the 1970s attracted new settlers and more seasonal users, including hunters, fishermen, and tourists. Jack Coats, who owned property in the Strelna area in the 1950s and 1960s, began living year-round in Strelna in the 1970s after the Copper River Bridge was completed (Coats 1994b; 1994a:2-3). Walter Wood bought Lew McFerren's homestead at Chokosna in 1972, subdivided it, and began selling lots (Wood 1994:1). Residents of Chitina and other nearby communities purchased land along the road corridor from former homesteads. They fixed up some of the old cabins and tore down others to salvage building materials (Hatch 1994). The Bureau of Land Management initiated fire patrols along the road in the 1970s (Taylor 1994:5). Land selections by the State under the Statehood Act and Native corporations under the Alaska Native Lands Claim Act and the creation of the Wrangell-St. Elias National Park and Preserve in 1980 changed the character of land ownership in the area. Within two decades, land ownership along the road corridor changed from mostly federal lands to a checker board of predominately private and state owned lands. As the staff of the National Park began implementing policies that limited hunting and vehicular access on park and preserve lands, conflicts began to emerge between residents of the area and park staff.

Access to the area remained limited, however, due to the poor condition of the McCarthy Road, which never amounted to more than an unpaved, pioneer road. The road corridor lacks visitor amenities and services. As traffic increased in the 1980s and ADOT&PF continued grading its surface, the roadbed deteriorated. The state replaced the trestle bridge at Strelna with a multi-plate arched culvert in 1980 and replaced the 1973 timber trestle bridge at Lakina River in 1980 with a steel thru truss salvaged from the old Lower Tonsina bridge. The loss of the bridges over the Kennecott River has restricted access to McCarthy. In 1982, residents of the McCarthy area received a community block grant from the State of Alaska to build hand-pulled trams across the two channels of the Kennicott River. Local residents built the trams the following year and maintained them, providing pedestrian access to McCarthy and Kennecott (O'Hara 1995:H-12; ADOT&PF 1994:1-2; ADOT&PF 1995:1). In the early 1980s, the state built airstrips at Strelna and Chokosna (Coats 1994a:3; Wilson 1994:6). Cliff Collins lengthened his privately owned airstrip at Long Lake to 2,000 feet. On March 1, 1983, the small town of McCarthy was shocked when Louis Hastings, a part-time resident, killed six residents and wounded two others during a shooting spree (Clarke

1998:B-3). Increased visitation to Wrangell-St. Elias National Park and Preserve has brought larger numbers of tourists to the area in the 1980s and 1990s, particularly to the historic communities of McCarthy and Kennecott. By 1994, the number of year-round residents along the McCarthy Road increased to about 35 (Kenyon and Kenyon 1994:15) and the year-round population of McCarthy is 10 to 25 (ADOT&PF 1995:1).

After extensive consultation with the residents of McCarthy, ADOT&PF built a pedestrian bridge across the two channels of the Kennicott River in 1997. The two hand-operated aerial trams which residents and visitors had used for 15 years to the river channels were then put out of commission. The Copper River changed channels in 1977 and destroyed a 40-foot section of road between Chitina and the Copper River bridge and the local dump. It also stranded 50 fishermen and residents of McCarthy. It took a State maintenance crew two weeks to cut a new roadbed higher up the bank to replace the washed out section of road (Taylor 1983:113). Meanwhile, McCarthy residents and other Alaskans interested in historic preservation raised funds to stabilize the deteriorating buildings at Kennecott, which was listed in 1986 as a National Historic Landmark. After Congress authorized funding, the National Park Service acquired the Kennecott property in 1998. The National Park Service has worked closely with McCarthy residents to manage and interpret the site. Meanwhile, private development along the last two miles of the McCarthy Road has proliferated in the last decade (Figure 29). Camping parks, guiding businesses, parking lots, and bed and breakfast establishments have sprung up as local entrepreneurs sought to provide services to the estimated 34,000 tourists who drive the road each year to visit McCarthy and Kennecott (ADOT&PF 1994:5-6; Devi Sharp, personal communication, March 12, 2004.

Figure 29. Development at the end of McCarthy Road, with the footbridge in the center. The view is looking east. Photo by Rolfe G. Buzzell, September 23, 2003.

IV. DESCRIPTION OF THE CHITINA BRANCH OF THE CR&NW

Most of the Chitina Branch of the CR&NW has been destroyed by the salvage and road construction and maintenance activities that took place after 1955. The following is a description of the Chitina Branch as it existed in the years 1911-1938 along with information on the disposition of buildings, structures, and sites along the rail line.

The Chitina Branch (Figure 30) was 60 miles long. The branch had a tunnel, a steel truss bridge, 24 timber trestle bridges, 94 timber and 25 log culverts under the railbed, five log cribbed features to support the railbed along the Kotsina River floodplain, nine sidings, two turnarounds, three water tanks, three gravel pits, two stations, and five line shacks (CR&NW 1911a, 1911b, 1911c, 1911d). The railbed from Chitina to Kennecott, like the railbed from Cordova to Chitina, was built mostly on pilings and stringers and later backfilled with gravel. Construction crews used 60-pound rails between Chitina and Kennecott, compared to 70-pound rails on the line between Cordova and Chitina (Taylor 1994:3). The CR&NW used lighter weight rails between Chitina and Kennecott because it was considered a spur line off the main line that the CR&NW had hoped to build to Fairbanks.

The Chitina Branch had the steepest grades on the CR&NW line, requiring locomotives to double up or trains to be broken into smaller units to pull heavy loads up steep grades. In 1921, the CR&NW purchased four Alco super-heated, "light mike" locomotives to haul heavy trains from Kennecott to Chitina unaided (McCracken 1961:6). A telegraph line ran the full length of the route. On the Chitina Branch, the line was located on the south side of the railbed. Chitina resident Neil Finnesand worked for the CR&NW as a lineman in the 1930s. He was responsible for maintaining the telegraph line (Taylor 1994:6). Short sections of telegraph wire and remnants of telegraph poles were still visible along the old rail corridor in 1994.

The Chitina Branch line began in Chitina at Mile 130.8 and passed through a 434-foot-long tunnel (VAL-359) that was cut through a ridge (Figure 31) east of Chitina (CR&NW 1911a). Three men died in August 1911 when part of the roof collapsed. The tunnel continued to be a maintenance problem, prompting the CR&NW to hire Chitina contractor Otto A. Nelson to cut the top off of the tunnel (Buzzell 1993b:21). This narrow cut marks the beginning of the Chitina Branch line.

In the second mile of the branch line, the CR&NW crossed the Copper River on a trestle bridge at Mile 131.5. Original construction plans called for a steel truss bridge. To save money, the builders designed a wooden pile trestle bridge that could be rebuilt each year if necessary. Water pressure from the Copper River was enough to shake the 950-foot structure and trains were limited to a speed of ten miles per hour while crossing it. Ice took out the piling that supported the bridge almost every spring. Each year at breakup, maintenance crews picked up the rails, ties, and stringers on the bridge. After the ice went out, they drove new pilings and reset the stringers, ties, and rails. The CR&NW found it more economical to reconstruct the bridge every year than to pay interest on the money to provide a permanent steel bridge (USDOC/ICC 1940:110). The railway built a siding in the 1910s on the north side of the tracks just east of the bridge to facilitate the annual rebuilding of the bridge. No evidence of the old trestle bridge remains. A modern steel-and-concrete bridge is located in place of the trestle.

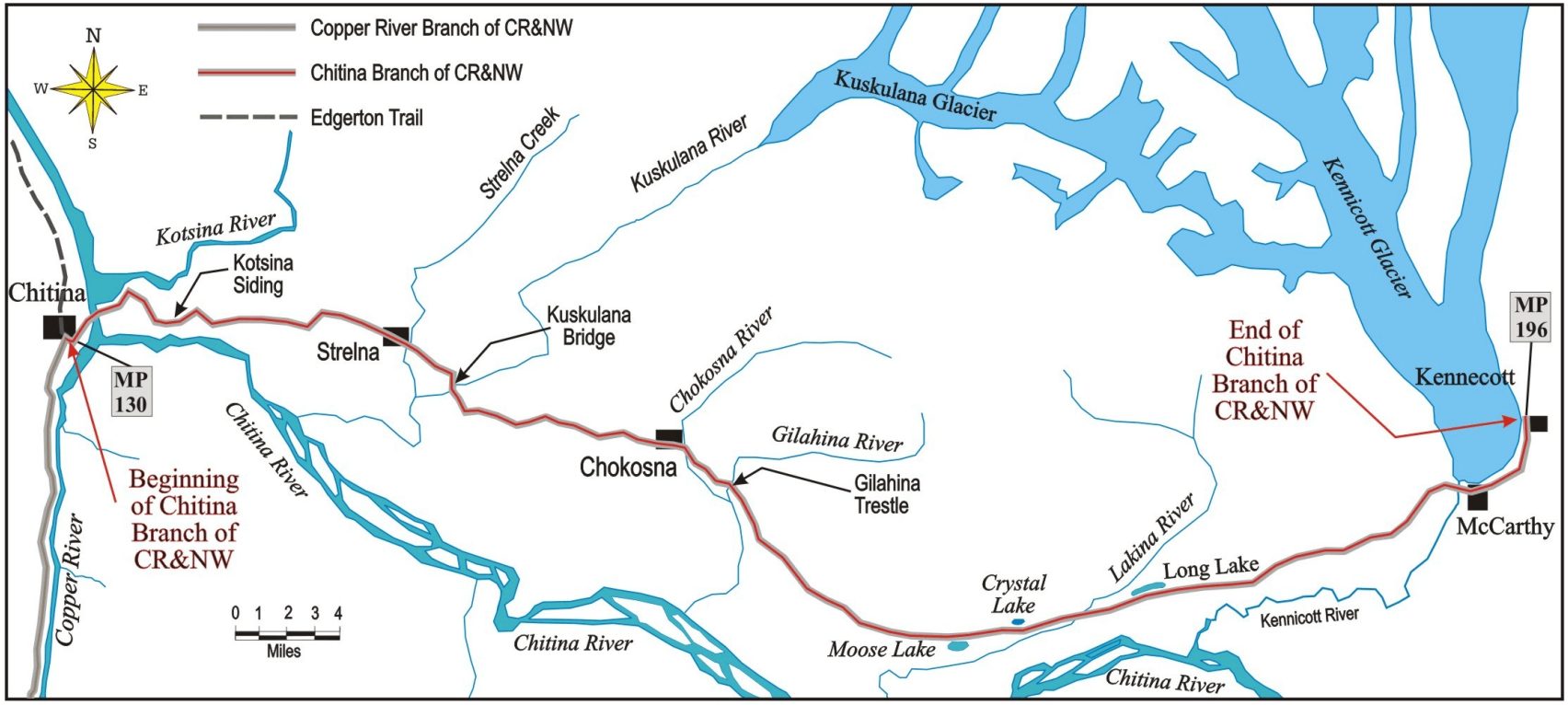

Figure 30. Map of the Chitina Branch of the CR&NW Railway, between Chitina (Mile 130) and Kennecott (Mile 196).

The Copper River crossing resulted in a four percent grade on either side of the bridge. To minimize the steepness of the grade on the east side of the river (called the Kotsina grade), the line traversed and gradually ascended the side of the bluff over-looking the mouth of the Kotsina River (Figure 32). This bluff was unstable, so log cribbing supported the railbed along the edge and at the base of the steep bluff. Elements of the cribbing at the base of the bluff (VAL-325) were still intact in 2004.

Line shacks, also known as section houses and track-walker shacks, were located every ten miles or so along the route to provide shelter for employees who maintained the tracks. The first line shack on the Chitina Branch was located at Mile 137 at the end of the steep grade on the east side of the Copper River. A spur line or relay siding at Mile 137 was 925 feet long (CR&NW 1911a) and it was used to concentrate loaded cars headed east. A single locomotive was unable to pull a fully loaded train up the grade on the east side of the Copper River, so a locomotive took some of the cars to Mile 137, then returned to Chitina to bring more cars. The train then reassembled and continued the journey east (McCracken 1961:5; Marshall 1994). The siding was located at a trailhead leading to the Kotsina drainage, hence the siding and the line shack at Mile 137 were known as the Kotsina Siding (Finnesand 1994:2; Bell 1994:4). The siding was destroyed by road-building activity in the 1960s and the line shack (XMC-206) was moved in the 1970s to a site east of Moose Lake (King 1994; Marshall 1994).

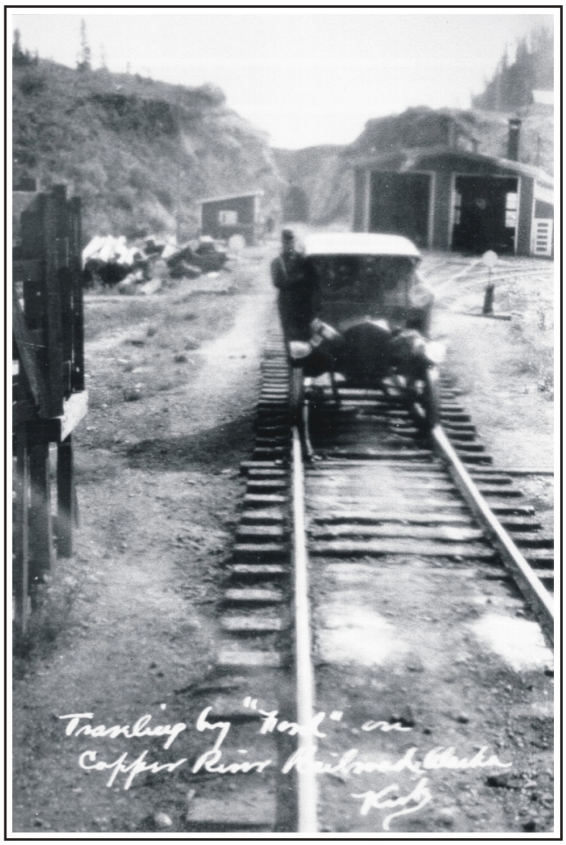

Figure 31. A CR&NW speeder, Chitina, after traveling through the tunnel (background), early 1910s. Photo courtesy of Cliff Collins, Cordova.

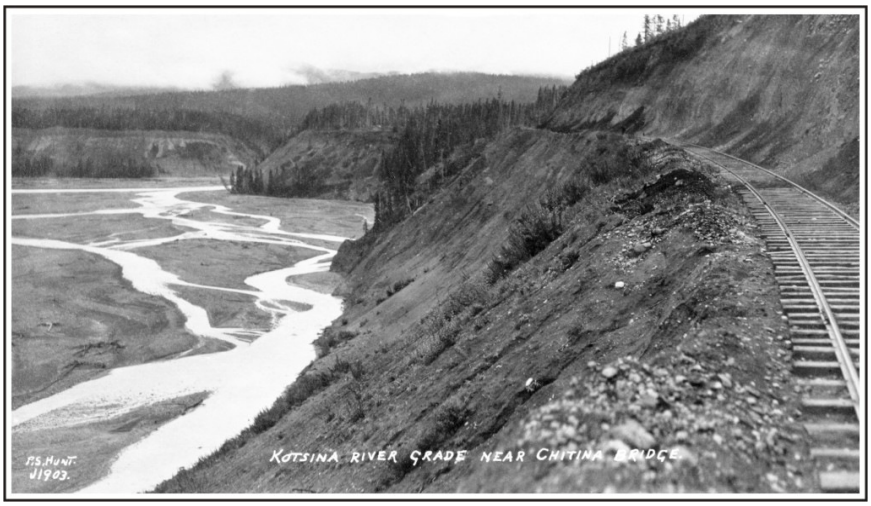

Figure 32. The Kotsina grade just east of the Copper River. The view is looking east. Fredrick Mears Collection 84-75-417, University of Alaska Fairbanks.

The first railroad station on the Chitina Branch was located on the west side of Strelna Creek at Mile 145. Strelna Station (VAL-074) included a warehouse (Figure

Figure 33. The CR&NW Warehouse at Strelna Station, July 17, 1958. Photo by Lynn Yehle, U.S. Geological Survey, Denver.

33), a line shack, a bunkhouse, water tower for locomotives, and an outhouse. A 1,357-foot-long siding was located next to the Strelna-Kuskulana Trail (VAL-357) and another 594-foot-long siding (VAL-340 and VAL-341) led to a gravel pit (CR&NW 1911a). The two sidings, the gravel pit and the station warehouse were located on the north side of the tracks. The bunkhouse, outhouse and a water tank were on the south side of the tracks. The only remains of the station in 1994 were parts of the two sidings and the gravel pit. Jack Coats moved the warehouse, line shack, and outhouse to his homestead (VAL-343) one mile north of the station site in the 1960s. The bunkhouse and water tank were torn down (Coats 1994b; Coats 1994a:1; Finnesand 1994:3). The depot (XMC-225) was moved to Long Lake where George Smock used it as a residence in the 1940s and 1950s (Cliff Collins 1994; Cliff Collins 1995b).

At the Kuskulana River crossing at Mile 146, engineers built a steel cantilever bridge across the steep canyon. The construction crew did not use false work to support the structure during erection. The Kuskulana Bridge (Figure 34) consists of three half-camel spans measuring 150 feet, 225 feet, and 150 feet, with trestle approaches on each end. The bridge, spanning the canyon 238 feet above the river, was completed in two months and officially opened on New Year's Day, 1911. The one-lane bridge (VAL-207) was incorporated into the McCarthy Road and was determined eligible for the National Register of Historic Places (NRHP) on December 7, 1987.

Figure 34. A CR&NW train crossing the Kuskulana Bridge.
E.A. Hegg photo, Alaska State Library, Juneau.

Chokosna Station (XMC-002), a maintenance station at Mile 157, had a cook house, a bunkhouse, a line shack (Figure 35), a warehouse (Finnesand 1994:4; Taylor 1994:3; Coats 1994a:6) and a 638-foot-long siding (CR&NW 1911a) leading to a gravel pit (XMC-188). A wagon road ran from Chokosna Station up the east side of the Kuskulana River to mining prospects (St. Amand 1994:3). The cookhouse, bunkhouse and line shack were still present at the site in 1994-1995, but the warehouse was torn down or removed.

The Gilahina Trestle Bridge (XMC-031) was located at Mile 160. Pat O'Brien, the bridge foreman for the contractor building the CR&NW, supervised the construction of this trestle bridge. It required a half million board feet of timbers and pilings. At 880 feet long and 80-90 feet high, it was the longest trestle bridge (Figure 36) on the entire route. O'Brien and his crew constructed it in eight days. The first train crossed it on January 28, 1911. A fire destroyed the bridge during the summer of 1915. Maintenance crews rebuilt it in ten days during August of that year (Spude *et al.* 1982:2). A section at the west end was dynamited by local settlers in the 1960s to salvage the

Figure 35. A CR&NW train leaving Chokosna Station (left) in the 1920s with a load of copper concentrates. Photo courtesy of the Museum of History and Industry, Seattle.

Figure 36. The Gilahina Trestle shortly after construction in 1911. Photo courtesy of the Museum of History and Science, Seattle.

timbers (Coats 1994a:7). Most of the trestle was still standing in 1994-1995, but was in poor condition. It is the best remaining example of a railway trestle bridge on the Chitina Branch.

A line shack and a 1,118-foot siding were located on the south side of the railbed (CR&NW 1911a) at Mile 166 on the north side of Moose Lake. The line shack was moved in the 1960s to the King homestead (XMC-221) near Long Lake (King 1994). A timber-framed shed is located at the site on the north side of the roadbed. The siding was destroyed during construction of the McCarthy Road.

The CR&NW built a water tank (XMC-216) at Mile 171 on the west side of the Crystal Creek Trestle. The round water tank was located on top of a small building about 10 feet north of the tracks. A railroad employee stayed in the building, keeping it heated so that water in the tank did not freeze (St. Amand 1994:2; Wilson 1994:1). The water tank was torn down in the 1950s and its foundation was destroyed during construction of the McCarthy Road. Another building, larger than a line shack, was also located at the Crystal Creek water tank site. The purpose of that building is unknown and it is no longer at the site (St. Amand 1994:2; Wilson 1994:1; Coats 1994a:1). An outhouse at the site was moved in the 1960s to the King homestead (XMC-221) at Long Lake (King 1994). CR&NW maintenance crews pumped water from Crystal Creek through a pump powered by a "left-side" boiler (XMC-214) to the water tank (Marshall 1994; Wilson 1994:1). The boiler and Ferry Morris pump are located on the north side of Crystal Creek at the base of a bluff below the water tank site.

The CR&NW crossed the Lakina River on a 200-foot-long trestle bridge at Mile 178 (Figure 37). One mile to the east at Long Lake, the railway built a 770 foot siding on the south side of the

Figure 37. The Lakina River CR&NW railway bridge at Mile 174. George Flower's cabin is on the right on the far side of the river. P.S. Hunt photo J1917, Frederick Mears Collection, 34-75-423, University of Alaska Fairbanks.

tracks (CR&NW 1911a; Taylor 1994:3). The siding was destroyed when the McCarthy Road was built. Cliff Collins moved the old Strelna Depot across the road to the west end of Long Lake (XMC-225). He added two additions, a new roof and different siding. He used the building as his summer home (Collins 1994). Remnants of the foundation of the depot where it was originally located on the south side of the road (XMC-223) were found in 1994. Another railroad building relocated to Long Lake was moved in the 1960s to a lake south of the Lakina River bridge (Edwards 1994b).

A gravel pit west of Tractor (Porphyry) Creek at Mile 182 was the highest point on the route between Chitina and McCarthy (CR&NW 1911a; Vail 1994). The siding leading into the gravel pit was 1,650 feet long and was located on the north side of the railbed. Another siding 970 feet long and a coaling facility (XMC-231) were located 0.2 miles to the east of the gravel pit on the north side of the railbed (CR&NW 1911a; Michals 1994). A modified line shack (Figure 38), an outhouse, and a coal bin were on the south side of the railbed. Jim Edwards moved the line shack and the outhouse to his homestead in the 1960s (Edwards 1994b; 1994c). The sidings at both sites were destroyed during construction of the McCarthy Road.

Just east of Swift Creek at Mile 186, the CR&NW built a 1,155-foot-long siding (CR&NW 1911a). A single locomotive was unable to pull a fully loaded train up the steep grade between the Kennicott River and Swift Creek. Locomotives pulled a few cars loaded with copper ore to the siding (XMC-235), then returned to Kennecott for additional cars. The train was reassembled at

Figure 38. The Coaling Station building at Mile 182 of the CR&NW, July 23, 1962. Photo by Lynn Yehle, U.S. Geological Survey, Denver.

Figure 39. A locomotive and pile driver repairing the CR&NW trestle bridge spanning the Kennicott River floodplain just below the "pothole" (left foreground), ca 1915. The Kennicott Glacier is in the foreground (right) and the town of McCarthy is in the background. Photo courtesy of Candy Waugaman, Fairbanks.

Mile 186 and proceeded west (Yehle 1994; Coats 1994c). The siding was overgrown in 1994, but a few ties were still visible at the site. The railroad planned to build a station just west of Swift Creek (CR&NW 1909), but never did. A line shack was reportedly located near Swift Creek in the 1930s (Marshall 1994), but it is no longer at the siding and its disposition is unknown.

The railroad crossed the Kennicott River flood plain on a long trestle bridge (Figure 39). Most of the trestle was later backfilled. Ruins of the trestle on the west end of the flood plain (XMC-244), the west channel (XMC-249), the east channel (XMC-250), and the east end of the flood plain (XMC-251) were still visible in 1994. Some of the wooden pilings from a 1975 bridge that washed out are also present in the west and east channels. The CR&NW built a "Y" shaped turnaround (XMC-247) on the north side of the tracks near the west edge of the flood plain at Mile 189. A gravel pit (XMC-245) was located on the south side of the railbed, across from the turnaround. The railbed (without rails) of the turnaround (XMC-246) and the gravel pit (XMC-244) were still present in 1994. Local residents built a road across the middle of the gravel pit in 1995.

The last station on the Chitina Branch was located at McCarthy at Mile 190 (Figure 40). The station included a depot building (XMC-254), a turnaround, a bunkhouse, a cookhouse, a 615 foot siding (CR&NW 1911a), and a water tank. The depot, bunkhouse, turnaround, and part of the siding were still at McCarthy in 1994. The water tank and cookhouse are no longer at the station site. The

Figure 40. The CR&NW Depot at McCarthy, as it appeared in the 1920s. Photo courtesy of Candy Waugaman, Fairbanks.

CR&NW ended at the Kennecott Mill at Mile 195. A siding was located on the north side of the tracks to facilitate unloading, repairing equipment, and loading copper ore.

The last five miles of the Chitina Branch of the CR&NW extended north from McCarthy up the east side of the Kennicott Glacier to the Kennecott Mill complex. The mill complex included several sidings to facilitate unloading equipment and loading bags of copper concentrates. The tracks extended about a quarter mile north past the complex.

V. PREVIOUS INVESTIGATIONS

Relatively few archaeological investigations have taken place in the Copper River drainage and its tributaries. The first archaeological work in the Ahtna region was conducted in 1936 by Froelich Rainey (1939) of the University of Alaska. In addition to collecting ethnographic information, Rainey conducted archaeological surveys and limited excavations at sites in the upper Copper River Valley at Gulkana, Gakona, Slana, and near Batzulneta. These sites, identified through inquiry with Native residents and marked by shallow rectangular depressions, were usually located on small, clear streams, some distance above their confluence with the muddy Copper River (Rainey 1936; 1939:358). The sites at Slana (NAB-001) and Batzulneta (NAB-003) were also reported in accounts of exploration by Allen (1887; 1900) and Powell (1909:5). Based on his excavations, Rainey (1939:360-362) considered the house pits at Gulkana and Batzulneta prehistoric, and those at Gakona and Slana historic.

In the summer of 1954, Frederica de Laguna conducted ethnographic and field investigations in the Copper River region which eventually resulted in compilation of a site inventory (de Laguna 1970). Based upon oral interviews and a review of archival materials, de Laguna (1970:29-32) further described the sites at Slana and *Batzulneta*. She also described villages at Mentasta Lake (NAB-002) and Suslota Lake (NAB-004), as well as a 1960 encampment of Native families from Mentasta and Slana at Twin Lakes near Jack Lake. James VanStone (1955) gathered information on the Ahtna region's post-contact history in 1950 at the former Russian post of *Taral*. During his travels, Allen stayed at *Taral* where he was assisted by Chief Nicolai. Anne Shinkwin's (1979) work at *Dakah De'nin'*s village, on the middle Copper River opposite *Taral*, has contributed to an understanding early contact history of the Ahtna.

During the 1970s, a number of sites were identified and tested during the archaeological survey of the trans-Alaska pipeline route (Clark 1974, 1976; Workman 1972). In particular, large-scale excavations at the Ringling Pit Site (GUL-077) by William Workman (1976) resulted in the collection of a significant body of data relating to the late prehistoric Ahtna. The site, radiocarbon dated to A.D. 1300, produced evidence of an extensive trade network in the form of marine shell fragments and copper and obsidian artifacts. Evidence from the site demonstrated the presence of sweat baths prior to Russian influence. Another significant outcome of the Ringling Pit investigation was the documentation of the range and complexity of storage pits (Arndt 1977). Later archaeological survey and testing was conducted at the site in conjunction with proposed gravel extraction (Stern 1983; Gibson and Mishler 1984; Holmes and McMahan 1986; Hanson 1999).

Archaeological work in recent years includes the investigation of sites claimed by Native individuals or corporations under section 14(h)(1) of the Alaska Native Claims Settlement Act (ANCSA). The Bureau of Indian Affairs (BIA), the Cooperative Parks Study Unit (CPSU) of the University of Alaska (e.g., Reckord 1983), and Ahtna, Inc. have carried out these studies. The studies typically included site descriptions, as well as oral history accounts which are invaluable for understanding historic Native use of the area. Ketz (1983), representing the Bureau of Land Management, studied two nineteenth century Ahtna sites near the headwaters of the Gulkana River. James Ketz analyzed historic trade patterns in the Copper River Basin. Another important source of information is Jim Kari's study of Ahtna place names (Kari 1983).

The National Park Service has conducted significant studies of historic and archaeological sites in the Wrangell St. Elias National Park and Preserve. The Cultural Resources Mining Inventory

and Monitoring Program (CRMIM) has documented several mining sites within the park since 1985, including the Yellow Band Camp, Lucky Girl Mill, and large tracts of the Bremner and Chisana Historic Mining Districts (Feldman 1998; White 2000). Additional inventory programs have focused upon properties of the Kennecott National Historic Landmark (Peterson *et al.* 1992; Ludwig and Ream 1995; Schoenberg 1995:113-121; Sweeney 2000). Harritt's (1994) regional cultural synthesis is particularly useful for interpreting the prehistory of the Copper River drainage. Recent investigations of the Copper River highlands were begun in 2003. Initial research identified clusters of organic hunting implements along remnant upland snow fields, some of which are dated between 900 B.P. and the 19th Century (Richard VanderHoek, personal communication, May 13, 2004). Similar work by Dixon (2004) has identified high altitude hunting sites and organic artifacts within Wrangell-St. Elias National Park and Preserve.

The primary source for the ethnohistory of the lower Copper River Ahtna is de Laguna and McClellan (1981). Other useful sources include Allen (1887 and 1900),Workman (1976 and 1977), Franklin *et. al* (1981), Ketz (1983), Grinev (1997), (Pratt 1998), and Ainsworth *et.al* (2002).

State and federal agencies have conducted a number of cultural resources reconnaissance investigations in conjunction with proposed public construction projects in the region. State investigators William Hanable and Karen Workman recorded sites in the Copper and Chitina drainages (Hanable and Workman 1974). Another OHA team recorded sites along the old CR&NW railbed a year later (Reger *et al.* 1975). In the summer of 1992, OHA personnel documented 212 sites along the corridor of the proposed Copper River Highway between the Million Dollar Bridge and Chitina (Buzzell *et al.* 1993a; 1993b). These sites are primarily historic features associated with the CR&NW. The investigation also documented 20 prehistoric and historic Native sites, primarily in the Wood Canyon area below Chitina. Another OHA survey team documented cultural resources along the Nabesna Road, which traverses both the upper Copper and Tanana river drainages (McMahan 1994). National Park Service archaeologists have compiled data for archaeological resources in Wrangell-St. Elias National Park and Preserve (Harritt 1994; Schoenberg 1995:113-121).

William Hanable and Karen Workman (1974) examined several historic railway sites and one Native site along McCarthy Road in 1974 in conjunction with an early study to upgrade the McCarthy Road. In the early 1980s, Robert Spude and other National Park Service personnel (Spude *et. al* 1982 and 1984) visited some of the same sites related to the CR&NW during a survey of historic resources in the Wrangell-St. Elias National Park and Preserve. An OHA crew conducted more intensive surveys in 1994 and 1995, when it walked both sides of the 60-mile McCarthy Road between Chitina and McCarthy (Buzzell and McMahan 1995). Additional survey of selected localities along the road was also conducted in 1996 (Buzzell 1997).

Little has been written about Chitina. A short community profile (Selkregg *et. al* 1977) briefly summarized Chitina's history. Other studies (Balcom 1965; Janson 1975; Hanable 1982; Peterson and Beckstead 1991; and Hunt 1991) also provide information on Chitina's history. A former resident has written about his experiences growing up in Chitina in the 1940s (Clarke 2002). OHA examined the old Chitina railroad depot site (Buzzell 1995) prior to construction of a public wayside constructed a few years later. Recently, OHA staff surveyed the portion of Chitina along the Edgerton Highway for a bicycle and pedestrian path during 2003 (Buzzell 2003). The most authoritative study of McCarthy is by M. J. Kirchhoff (1993).

VI. PROPERTY TYPES

Historic themes associated with the project area include Native, settlement, mining, and transportation. These themes suggest the following property types:

Native Sites: Properties for Native sites include temporary and seasonal camps used for hunting, fishing, trapping, food gathering, and trading. Many of these sites are associated with seasonal rounds, and are located near rivers, creeks, and game trails. They may include seasonal villages consisting of a number of house pits, a single house pit and associated features, or cache pits, lookouts, artifact scatters, trash pits, and burial sites. Figure 41 is an example of a Native site.

Figure 41. Annie Clinton and Dan Thompson (OHA archaeologists) testing the entry to house pit VAL-260. Dan Stevens (partially hidden at right) observes for Chitina Village Council. The edges of the house pit are shown with dotted lines. Photo by Alan DePew, September 24, 2003.

Mining Properties: Prospecting and mining were prominent activities in the area between Chitina and McCarthy, but very little mining occurred adjacent to the CR&NW alignment. Mining properties typically include sites, equipment and buildings associated with mineral extraction and

processing, such as mines and mills. It also includes structures and equipment, such as drilling equipment and water ditches, buildings and structures associated with maintenance and support of mining equipment, and facilities associated with the housing of crews. Mining properties found along the McCarthy Road consisted of buildings, structures and equipment associated with staging camps near the railway.

Settlement: Properties for settlement activities include buildings, structures and sites associated with commercial, public and residential activities. Commercial properties are associated with the sale and distribution of goods and services. Public properties include buildings and structures associated with activities such as post offices and schools. Residential properties include cabins, houses, barns, outbuildings and camp sites associated with people who lived or worked in the area on a regular or seasonal basis. Figure 42 is an example of a settlement site.

Figure 42. Historian Rolfe Buzzell taking notes on the condition of the Bell-Rosell Cabin #2 near Chokosna. The view is looking east. Photo by Sylvia H. Elliott, September 5, 2003.

Transportation: Transportation, particularly rail transportation, is the predominant historic theme within the project area. Properties for this theme can be divided into trails and roads and rail transportation.

Trails and roads: Property types for trails and roads include linear features such as foot trails, pack trails, and wagon and automobile roads that were used for transporting people, goods and

equipment from one point to another. It also includes structures and features such as bridges, culverts, and log cribbing that support or protect the trails and roads.

Rail Transportation: Property types for rail transportation have been defined in the draft Multiple Property National Register Nomination for the CR&NW in Compendium II of the *Copper River Highway Cultural Resources Reconnaissance Survey, 1992* (Posgate and Buzzell 1993). The property types for the CR&NW are summarized here and include railbed engineering features, bridges, operations and maintenance facilities, and rolling stock.

Railbed engineering properties are features and sites which make up the rail line or which facilitated the use of the railbed by rolling stock. These properties include railbed, spur lines, loops and turnarounds, timber and log culverts, log cribbing, dry masonry, elevated railbed, switching equipment, water diversion features and tunnels. Timber culverts (Figure 43) are one of the most numerous types of railbed engineering properties found along the McCarthy Road.

Figure 43. Historian Sylvia H. Elliott photographing the north side of the timber culvert at Mile 27.30 (XMC-197), September 9, 2003. The view is looking west. Photo by Rolfe G. Buzzell.

Bridges are structures that spanned water or topographic obstacles, such as canyons and gulches. Bridges linked railbed segments and had rails and ties. Bridges ranged in length from 20 feet to 2,790 feet, and include timber trestles (Figure 44) and steel truss bridges.

Figure 44. The Gilahina Trestle, August 18, 1994. The view is looking west. Photo by Rolfe G. Buzzell, August 18, 1994.

Operations and maintenance facilities include stations (Figure 45), line shacks, coaling stations, maintenance shops, offices, storage facilities, water tanks, turnaround and pull-off platforms, employee housing, dining facilities, and communication facilities.

Rolling stock was used to move freight and passengers, or to assist construction or maintenance activities along the rail alignment. Rolling stock includes locomotives, flat and freight cars, dining and bunk cars, and cabooses, as well as specialized equipment such as rotary plows for snow removal and small vehicles, or speeders, that were adapted to travel on railroad tracks. Rolling stock, by definition, is portable and can be moved along the tracks.

Figure 45. The Cook House at Chokosna (XMC-002). The Bunkhouse is on the left. The view is looking northwest. Photo by Rolfe G. Buzzell, August 11, 1994.

VII. RESEARCH METHODOLOGY AND EVALUATION CRITERIA

Research Methodology

In preparation for the field investigation, OHA staff searched archival and published literature to identify maps, records, survey reports and documents related to prehistoric and historic sites in or near the project corridor. The staff examined previous cultural resources surveys conducted in the area, the Alaska Heritage Resources Survey (the statewide inventory of prehistoric and historic sites), and studies on the prehistory and history of the Copper River region. OHA obtained permits from Ahtna, Inc. and the Chitina Village Corporation to conduct cultural resource survey activities on Native-owned lands. The National Park Service issued permits to OHA to conduct cultural resources surveys in the Wrangell-St. Elias National Park and Preserve.

The field investigation consisted of relocating sites located during the 1994-1996 OHA surveys, and checking those sites for changes in their condition. The investigators also walked selected high-potential areas again, looking for additional sites not found during previous surveys, and walked new proposed alignments and material sites that had not been included in previous project descriptions. The survey area included the 100-foot right-of-way (50 feet on either side of the center line) of the existing alignment of the McCarthy Road, the old railbed where it deviates from the existing road alignment, and several proposed realignments where ADOT&PF is considering deviating from the existing alignment.

The crew walked both sides of the proposed alignments in a zigzag fashion and covered areas up to a maximum of 200 feet from the centerline, depending on the topography. Areas of high and medium potential for human activity were examined intensively for surface features. The survey crew recorded the locations of buildings, structures and sites on proposed alignment maps prepared by the consulting firm of CH2MHill. The crew recorded information about cultural resources in field notebooks, checking the data against field notebooks and site forms for buildings and trestle bridges recorded in 1994-1996. Field methods used during the survey included measuring, describing, and photographing buildings, structures, and features that might be affected by the proposed project. Measurements for archaeological sites are in meters and measurements for other sites, which are basically buildings and structures, are in feet and inches.

OHA staff identified historic themes associated with the properties through interviews and archival research. OHA staff conducted research in ADOT&PF files in Fairbanks, the Rasmuson Library at the University of Alaska Fairbanks, the Alaska Historical Library in Juneau, the Alaska Resources and Z.J. Loussac libraries in Anchorage, and Alaska Regional Office of the National Archives and Records Center in Anchorage, the Alaska Systems Support Office of the National Park Service in Anchorage, and the Bureau of Indian Affairs Office in Anchorage. OHA staff interviewed residents of the project area and other people knowledgeable about local history and the history of buildings, structures and features within the project area. Some of the interviews from 1994 and 1995 were tape recorded, and summary transcriptions of those interviews were made. OHA staff conducted other interviews informally and recorded the information in field notebooks. A few interviews were conducted over the telephone and the information was recorded in field notebooks or on note pads.

The 1994, 1996 and 2003 field crews conducted limited archaeological testing to identify cultural affiliation and gather other data on selected archaeological features. In most cases, the survey and testing crews recorded information about surface artifacts in their field notebooks and left the artifacts *in situ*. The investigators collected specimens from six surface sites and from two other sites where they conducted subsurface testing. The items collected were taken to Anchorage for additional analysis in the laboratory. An inventory of the specimens and artifacts collected, the location of the sites where artifacts were collected, and the names of the property owners are listed in Appendix II at the end of the *Compendium* to this report. Final disposition of the items will be negotiated with the property owners. No items were collected on National Park Service lands. The OHA survey crew also picked up railroad spikes in the roadbed and tossed them to the side of the road to prevent damage to automobiles traveling along the road.

Criteria for Evaluating Significance

The properties within the project area were evaluated for eligibility for the NRHP. The NRHP program uses two key concepts to establish whether or not properties qualify for listing. Properties must possess historic significance and integrity to be eligible for the NRHP.

Historic significance is defined as the importance of a property to the history, architecture, archaeology, engineering, or culture of a community, state or nation. Historic significance is achieved in meeting one or more of the following criteria identified in 36 CFR 60.4:

A. *Association with events that have made a significant contribution to the broad patterns of our history*;

B. *Association with the lives of persons significant in our past*;

C. *Embodiment of the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction*; or

D. *Yielded, or has potential to yield, information important in prehistory or history*.

Historic significance is evaluated in terms of an important theme in the prehistory or history of a community, state or the nation during a particular period of time. Information about historic properties is evaluated and organized by theme, then placed into historic contexts that can be used to determine the historic significance and integrity of each building, structure or site (USDI/NPS 1991:1). A property can be important individually or as part of a continuous or discontinuous historic district.

Historic integrity is the authenticity of a property's historic identity, evidenced by the survival of physical characteristics that existed during the property's period of significance. These characteristics include location, design, setting, materials, workmanship, feeling, and association.

VIII. CONCLUSIONS

Overview of Significance and Eligibility

One hundred thirty-three buildings, structures, objects and sites in the zone of possible impacts along the McCarthy Road corridor were evaluated for historic significance under the eligibility criteria for the NRHP. Of these properties, nine are traditional Ahtna sites, 83 are directly associated with the CR&NW, and 41 are associated with exploration, prospecting and settlement activities along the railway corridor since the beginning of the twentieth century. One property was listed on the NRHP in 2002, and another was determined eligible by ADOT&PF and the SHPO in 1978. It is the OHA investigator's recommendation that 29 properties meet the criteria for NRHP eligibility, while the remaining 102 properties do not. Table 1 summarizes of the types of properties evaluated for NRHP eligibility:

Table 1. Summary of Properties Evaluated by OHA for NRHP Eligibility.

Type of Site	Number of Sites	Listed on NRHP	Determined Eligible earlier by ADOT&PF & SHPO	Recommended as NRHP Eligible	Recommended as Not NRHP Eligible
Traditional Ahtna	**9**	**0**	**0**	**5**	**4**
CR&NW	**83**	**1**	**1**	**17**	**64**
Settlement	**41**	**0**	**0**	**7**	**34**
Subtotals	**133**	**1**	**1**	**29**	**102**

Each property evaluated is described in the *Compendium* to this report, a separate volume that contains site-location maps, site descriptions, and photographs of the properties. Given the sensitivity of the site-location data, and the importance of protecting sites from vandalism and looting, site-location data has been excluded from the following discussion of recommended eligibility.

Traditional Ahtna Properties

Of the nine Native sites in the zone of possible impacts, it is the investigator's recommendation that five meet the eligibility criteria for the NRHP (Table 2) and four sites do not.

Chief Eskilida's Fish Camp (VAL-011) is the ruins of a seasonal fish camp occupied from the 1910s into the 1940s. Chief Eskilida, a prominent Athna leader in the Chitina area, established this camp, which served as his fish camp in summer and his primary residence during the winter. It is eligible under Criterion D for its potential to yield information important to the history of Ahtna

Table 2. Traditional Ahtna Sites Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-365	Four Depressions			X
VAL-451	Three Large Depressions			X
VAL-011	Chief Eskilida's Fish Camp	X	D	
VAL-452	Possible Lithic Scatter			X
VAL-369	Fenced Grave			X
VAL-260	Four Depressions	X	D	
VAL-261	Cabin & Cache Ruins	X	D	
XMC-345	Chief Eskilida's Hunting Camp	X	D	
XMC-217	Crystal Lake Archaeology Site	X	D	
Subtotal		**5**		**4**

culture during the early twentieth century. A rich body of ethnographic and historic data exists on the Eskilida family. The archaeo-logical data this site could yield could be incorporated into the existing historic and ethnographic data to provide answers to important research questions. Individual features at the site, such as the ruins of cabins, sheds, and other ancillary structures, and their collective spatial organization, could be compared to analogous Ahtna prehistoric and protohistoric sites to gain an understanding of Euro-American contact upon Ahtna household structure. Surface artifacts at the site are numerous, and suggest the presence of a large data set that could be used to study the effects of CR&NW and Euro-American development upon Ahtna material culture during the early twentieth century. Comparison of Chief Eskilida's summer fishing camp (VAL-011) with his contemporary fall camp on Strelna Creek (VAL-346) is an opportunity to study basic functional differences between Ahtna camps along discrete points of the seasonal round. These analogous and functionally divergent data sets retain particular potential to delineate seasonal divisions of labor and the basic pattern of camp structure.

VAL-260 (Four Depressions) includes a house pit that was part of the late nineteenth and early twentieth century Ahtna seasonal settlement called *Tonslahti*, a part of the village of Taral. It meets NRHP criteria for eligibility under Criterion D as it is likely to yield information important to the cultural history of the Ahtna. House remains and archaeological materials identified at Feature D of VAL-260 are data that can be used to answer significant research questions concerning culture change during the late prehistoric/early historic period in the Copper River Valley. Comparison of the VAL-260 site with similar Ahtna villages at *Dakah de'nin* (VAL-065), *Dixthada* (TNX-004), Gulkana (GUL-077), and the sites at Taral Creek (VAL-006, VAL-007 and VAL-236) also has the potential to illuminate Athna cultural variations in housing styles, settlement locations, and village structure. Multiple undisturbed paleosols identified during testing indicate stratigraphic integrity.

Fauna recovered from subsurface testing suggests the presence of data that may contribute to an understanding of subsistence patterns, food choices, seasonality, and cultural practices employed by the Ahtna during the early period of Euro-American contact in the region. Feature A appears to be a bulldozer cut, is less than 50 years old. The two small depressions (Features B and C) may be cache pits, but soil probes disclosed no cultural material. Features B and C are unlikely to yield information important to history or prehistory.

The **Cabin and Cache Ruins (VAL-261)** are located near VAL-260 and is associated with Native occupation of Tonslahti during the late nineteenth and early twentieth century. The ruins at VAL-261 meet the eligibility criteria for the NRHP under Criterion D as they are likely to yield information important to the cultural history of the Ahtna, including the construction of Native dwellings and adaptation of Euro-American dwellings.

Chief Eskilida's Hunting Camp and Cemetery (VAL-346) near Strelna meet eligibility criteria for the NRHP under Criterion D, for the information they are likely to yield on cultural change and adaptation of the lower Copper River Ahtna in the early twentieth century. Chief Eskilida and his family occupied the site seasonally for hunting, trapping and berry picking from 1911 until the late 1930s, with occasional use in the following years. The building and cache ruins and associated features are likely to provide data that will contribute to significant understanding of Ahtna culture during the early twentieth century. Comparison of this site, a late summer and fall settlement, to a summer fishing camp on the Copper River near Chitina (VAL-011), has the potential to delineate important differences in Ahtna spatial organization, material culture, and task specialization at functionally divergent positions along the seasonal round. The site may contribute to an understanding of the effects of railroad development, Euro-American wage labor, land tenure, and subsistence pressure upon Ahtna settlement patterns, material culture, and lifeways.

The **Crystal Lake Site (XMC-217)** is a multi-component site that appears to meet the eligibility criteria under Criterion D for its potential to yield information important to our knowledge of the Ahtna of the lower Copper River during the late prehistoric and historic periods. Results from cultural resource reconnaissance, ethnographic and historic records, and informant interviews indicate the site was a fall hunting camp. Features at the site represent a variety of functions, including a possible small house pit, ovoid-shaped storage pits, and a twentieth century structure built of materials salvaged from the CR&NW. Several scatters of old metal cans overlay some of the pit features. Construction details of these features and associated archaeological materials could be compared to other sites in the region to test hypotheses concerning the effect of railroad development upon Ahtna settlements, material culture, and cultural practices.

Four Native sites near Chitina do not meet the eligibility criteria for the NRHP. **VAL-365 (Four Depressions)** consists of two probable cache pits (Features A and B) and two natural depressions (Features C and D). **VAL-451 (Three Large Depressions)** consists of three probable cache pits and a fourth depression of indeterminate origins. Soil probes found no cultural material in any of these features except for a piece of cut wood in Feature C of VAL-451. Cache pits archaeologically investigated in Ahtna territory typically contain no cultural material. The depressions at VAL-365 and VAL-451 are unlikely to yield information important to the area's prehistory. **VAL-452 (Possible Lithic Scatter)** contained rock specimens that appeared to be culturally modified when collected in the field. Laboratory analysis indicted the specimens are the result of natural processes. **VAL-369 (Fenced Grave)** is a burial site, but the identity and year of death of the Chitina native are unknown.

CR&NW Properties

The largest group of properties evaluated from the 2003 field survey is associated with the CR&NW, which is significant to the history of settlement and transportation in southcentral Alaska from 1905 through 1938. Construction and maintenance of the railway was a significant engineering feat due to the severe environmental conditions encountered. The CR&NW facilitated the industrial development and early Euro-American settlement of the Copper River Basin. The rail line was the transportation link between tidewater at Prince William Sound and the Kennecott Copper Mines and Mill Site, designated a National Historic Landmark in 1986. The route of the CR&NW began at tidewater in Cordova and extended up the lower Copper and Chitina rivers to the Kennecott Mill site for 195.2 miles penetrating the Wrangell Mountains. Residents and visitors continued to use the rail line for almost 30 years after the CR&NW ceased operations at the end of 1938. The CR&NW rail line was the primary transportation corridor through this area from 1911 through the early 1960s.

Of the 83 CR&NW properties evaluated in the project impact zone, one is listed on the NRHP, one has been determined eligible by ADOT&PF & SHPO, and 20 appear to meet the eligibility criteria for the NRHP. The *Draft Multiple Property National Register Nomination for the Copper River and Northwestern Railway*, prepared in 1993 as *Compendium II of the Copper River Highway Cultural Resources Reconnaissance Survey, 1992* (Postage and Buzzell 1993) summarizes the significant role of the CR&NW in the development and settlement of southcentral Alaska. This nomination divides properties associated with the CR&NW into categories that include railbed engineering properties, bridges, trails, operations and maintenance facilities, and railroad rolling stock. National Register Criterion A, association with historic events or a broad pattern of events, is the principal criterion for determining eligibility or nominating CR&NW properties. Properties may also be eligible under Criterion B, association with important persons; Criterion C, distinctive design or construction; or Criterion D, potential for recovery of scientific data. The *Draft Multiple Property National Register Nomination* also outlines the characteristics of historic appearance and physical integrity that are necessary for CR&NW properties to meet NRHP eligibility criteria. The general categories of properties and characteristics of historic appearance and physical integrity developed in 1993 are used here to evaluate the eligibility of CR&NW properties.

Railbed engineering properties are sites and features that comprise the railbed upon which locomotives and rolling stock traveled (Table 3). The railbed is the primary feature which enable railroad rolling stock to transport people, copper ore and other minerals, equipment, supplies and mail from one point to another. The railbed consists of both the primary rail bed and spur lines or sidings, which connected the primary railbed to staging area for rail cars, gravel pits and loading docks, turnarounds and loops. The railbed engineering properties category also incorporates tunnels, bridges, culverts and other erosion-control features.

The railbed includes the gravel filled foundations, wooden cross ties and parallel steel tracks that make up the railbed used by rolling stock and by specially modified automobiles and smaller vehicles called speeders. The railbed also includes spur lines, siding, and loops, which enabled rolling stock to exit the main track, and turnarounds. The railbed often followed natural land forms, crossing lowland areas and low passes through mountains, and running along river valleys and canyons. Railbed also was constructed through rock cuts and fill areas to maintain tracks on a gradient ranging from 0.8 per cent to 4 percent. In many areas, the rail and ties rested on stringers

Table 3. CR&NW Railbed Features Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-047	Railbed in Valdez Quad			X
VAL-359	Chitina Tunnel Cut	X	A	
VAL-370	Railbed over Chitina Ridge			X
VAL-325	Railbed Timber Cribbing	X	A	
VAL-487	Railbed Timbers			X
VAL-350	Scatter of Railbed Timbers			X
XMC-114	Railbed in McCarthy Quad			X
XMC-240	Timber and Log Crib Features			X
XMC-114	Elevated Railbed MP 58.52-.55			X
Subtotal		**2**		**7**

placed on bents (a set of vertical pilings) that were backfilled with gravel. Railbed features are documented in the historic record and have tangible physical remains including a built-up bed of gravel and fill or highly visible cuts through rock, with wooden ties and metal rails. The railbed features that remain along the McCarthy Road Corridor and retain their physical integrity consist of the original gravel-filled foundation and the wood ties in place, but no rails (all rails were removed in the 1960s), and are often overgrown with vegetation.

The main line of the railbed of the CR&NW located in the Valdez Quad **(VAL-047)** from **Mile 0.0 to Mile 18.20** of McCarthy Road, and in the McCarthy Quad **(XMC-114)** from **Mile 18.35-59.5** of the McCarthy Road, has lost physical integrity. The rails and ties have been removed, the roadbed has been significantly widened to accommodate two lanes of vehicular traffic, and a zone of vegetation has been cleared on either side of the railbed to improve peripheral visibility for motorists. The existing McCarthy Road was built over the top of the original rail alignment. Construction of the road altered the physical characteristics of the rail alignment, including the width and sometimes the height of the railbed, effectively destroying the railbed's historic appearance.

Two railbed features retain physical integrity and therefore meet the eligibility criteria for the NRHP. One of these features is the **CR&NW Tunnel Cut at Chitina (VAL-359)**. In 1911, CR&NW crews blasted a 434-foot-long railroad tunnel through the ridge separating Chitina and the Copper River. The CR&NW hired Otto A. Nelson in 1922 to remove the top of the tunnel after rock falling from the ceiling killed several workers. The Chitina tunnel and its successor, the tunnel cut, were significant engineering features that served as the gateway to the Chitina Branch of the CR&NW, extending from Chitina to Kennecott. The State Department of Highways incorporated the tunnel cut into McCarthy Road when it constructed the existing road. The Tunnel Cut is eligible

for the NRHP under Criteria A and C, and retains integrity of association, setting, materials and place. Another feature, the **Railbed Timber Cribbing (VAL-325)**, is the only example of its kind of this type of cribbed railbed support structure left along the Chitina Branch of the CR&NW. It is eligible under Criterion A for its association with the CR&NW and under C as a unique example of an engineering feature supporting the railbed.

Five railbed features have lost physical integrity and do not meet the criteria for NRHP eligibility. One of these features is the **Old Railroad Alignment over Chitina Ridge (VAL-370**), part of the first rail alignment linking Chitina with the Copper River. The old railbed alignment crossed the ridge in a line nearly diagonal to the tunnel cut, then ran east toward the river. Only part of the section running east toward the Copper River has survived. It appears as a trail (it probably served as a local trail), and is no longer recognizable as railbed; it has lost physical integrity. A scatter of **Railbed Timbers (VAL-487)**, overlooking the Kotsina River, are ruins from the railbed that have slid down the steep slope. They lack integrity of setting and place. Another **Scatter of Railroad Timbers (VAL-350)**, which the Department of Highways removed from the roadbed and pushed to the south side of the right-of-way, lacks integrity of place, setting, and association. The **Elevated Railbed (XMC-114)** at Mile 59 is the only section of the original main line of the railbed still intact between Chitina and the Kennicott River, but it lacks physical integrity because the rails are missing. The **Timber and Log Cribbed Features (XMC-240**) were railbed engineering features constructed in the 1940s or 1950s to shore up the track when the rail line served as a public tram line. The stringers, ties and rails are missing, compromising the site's physical integrity.

Ten sites are rail sidings, gravel pits, gravel mining equipment, and erosion-control structures (Table 4). Erosion-control structures, such as ditches and flumes were constructed within and adjacent to the railbed to facilitate water drainage. Only one of these sites meets the criteria for NRHP eligibility. The **Drainage Ditch above Farm Creek (XMC-282)** was built by the CR&NW to deflect runoff from the north side of the railbed. The Farm Creek Ditch retains integrity of place, association, materials and workmanship.

Eight railbed engineering properties have lost physical integrity and do not meet the NRHP eligibility criteria. Two of these properties are the **Strelna Rail Siding and Gravel Pit (VAL-340)**, which had two sections of rail siding, including one that accessed a gravel pit at Strelna, and the **Strelna Rail Siding (VAL-341)**, which was originally linked to the siding at VAL-340. A short section of railroad ties is present at both VAL-340 and VAL-341, but both sites have been heavily disturbed and have lost physical integrity. The siding at VAL-340 leading to the gravel pit has been turned into a road and no longer resembles a siding, and the scatter of partial ruins of a railcars lacks physical integrity. The **CR&NW Rail Siding at Chokosna (XMC-188)** and the **Swift Creek Rail Siding (XMC-235)** are partially intact. The Chokosna Siding accessed a large gravel pit used for maintaining the main line. The Swift Creek Siding was used to park heavily loaded cars bearing copper ore, as the grade was too steep coming out of the Kennicott River for locomotives to pull a full complement of fully loaded cars up the hill east of Swift Creek. The foundation of the railbed for the two sidings remains with wood ties buried under vegetation, but the rails are missing. Another site, **Two Depressions (XMC-187)**, are conical in shape and appear to be gravel prospect pits. They may be related to the CR&NW gravel pit located immediately to the east, but they are not historically significant. Several **Wooden Objects and Artifacts in a CR&NW gravel mining site (XMC-437)** are likely associated with gravel extraction by the railroad, but only fragmentary evi-

Table 4. Rail Sidings, Gravel Pits, Gravel Mining Equipment, and Erosion Control Structures Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-340	Strelna Rail Siding & Gravel Pit			X
VAL-341	Strelna Rail Siding			X
VAL-475	Ditch near Kuskulana Bridge			X
XMC-187	Gravel Prospect Pits near Chokosna			X
XMC-188	CR&NW Rail Siding at Chokosna			X
XMC-437	Wooden Objects & Artifacts			X
XMC-235	Swift Creek Rail Siding			X
XMC-282	Drainage Ditch Above Farm Creek	X	A	
XMC-245	Kennicott River Gravel Pit			X
XMC-246	CR&NW "Y"-Shaped Turnaround			X
Subtotal		**1**		**9**

dence remains of the gravel mining operation. The site lacks physical integrity. The **Kennicott River Gravel Pit (XMC-245)** has also lost physical integrity. Local residents destroyed the distinctive characteristic of the pit, the switchback railbed segments leading to the deepest part of the pit, when they built a gravel causeway across the pit in the late 1990s. This and recent gravel mining activity divided the gravel pit in half and changed its overall character and appearance. The **Ditch Near the Kuskulana Bridge (VAL-475)** appears to be associated with the railbed in the area just southeast of the Kuskulana Bridge. The beginning of the ditch (which was close to the railbed) was destroyed during construction and maintenance of McCarthy Road, making it difficult to ascertain the precise relationship between the ditch and the railbed. The date the ditch was built and its exact purpose are unknown. The feature lacks integrity because the portion closest to the railbed/roadbed has been destroyed. The **CR&NW "Y"-Shaped Turnaround (XMC-246)** is the only turnaround of this kind that has survived, but the rails are missing and a portion of the feature has been cut recently by local road building activities.

Wood culverts were the most ubiquitous structures for water control associated with railbed engineering features (Table 5). Hundreds of these structures, made of timber, planks and logs, were buried in the railbed to allow snowmelt and rainwater to flow through the railbed without undermining the track. They were used in lieu of bridges where the railbed crossed shallow gullies, ran alongside slopes, or went through areas where the track divided wetlands or crossed small streams. Some culverts were buried as deep as 20 feet under the tracks if the terrain was steep, while others,

Table 5. Wooden Culverts Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-481	Timber Culvert	X	A	
VAL-335	Timber Culvert Ruins			X
VAL-353	Timber Culvert Ruins			X
VAL-354	Timber Culvert	X	A	
XMC-179	Timber Culvert Ruins			X
XMC-180	Timber Culvert Ruins			X
XMC-182	Timber Culvert Ruins			X
XMC-183	Timber Culvert Ruins			X
XMC-184	Timber Culvert Ruins			X
XMC-185	Timber Culvert Ruins			X
XMC-186	Timber Culvert Ruins			X
XMC-193	Timber Culvert Ruins			X
XMC-197	Timber Culvert	X	A	
XMC-198	Timber Culvert Ruins			X
XMC-202	Timber Culvert Ruins			X
XMC-204	Timber Culvert Ruins			X
XMC-205	Timber Culvert Ruins			X
XMC-432	Log Culvert	X	A	
XMC-208	Timber Culvert Ruins			X
XMC-209	Timber Culvert Ruins			X
XMC-211	Timber Culvert Ruins			X
XMC-212	Timber Culvert Ruins			X
XMC-229	Plank Culvert			X
XMC-435	Log Culvert	X	A	
XMC-230	Timber Culvert	X	A	
XMC-242	Timber Culvert & Chute			X
XMC-436	Timber Culvert & Chute			X
XMC-243	Timber Culvert & Chute			X
Subtotal		**6**		**22**

called "surface boxes," were buried only a foot or a few feet below the tracks. In some cases, the railbed, as originally constructed, was built on stringers supported by bents, then later backfilled with gravel. Culverts were constructed at strategic points prior to backfilling with gravel to ensure that runoff would not erode the railbed. Of the 28 culverts in the project impact zone, 24 were constructed of heavy timbers. Four of the timber culverts--**VAL-481**, **VAL-354**, **XMC-197**, and **XMC-230**--are in fair condition and continue to divert runoff beneath McCarthy Road. They retain integrity of materials, workmanship, and location, and are the few surviving examples of this type of railbed engineering feature on the Chitina Branch of the CR&NW. The Timber Culvert XMC-230 is the best example illustrating the design and construction of CR&NW timber culverts.

Twenty of the timber culverts have been partially or totally destroyed by ADOT&PF maintenance grading of McCarthy Road. Most of these culverts were surface box culverts and were severely damaged by the blade of road graders. In several instances, the timber culverts failed and were dug out and replaced with metal culverts. Five timber culverts have been destroyed and no longer exist: **VAL-335**, **XMC-180**, **XMC-184**, **XMC-185**, and **XMC-186**. Fifteen other timber culverts have been damaged and have lost physical integrity: **VAL- 353**, **XMC-179**, **XMC-182**, **XMC-183**, **XMC-193**, **XMC-198**, **XMC-202**, **XMC-204**, **XMC-205**, **XMC-208**, **XMC-211**, **XMC-212**, **XMC-242**, **XMC-436**, and **XMC-243**. The last three of these sites had lumber drainage chutes and were located on the south side of the roadbed. These chutes directed the runoff so that it would not erode the steep slope below the railbed.

Only one of the 28 culverts was made of planks. The **Plank Culvert Ruins (XMC-229)**, partially collapsed in 1994, was completely destroyed by September 2003. It has lost physical integrity. Three culverts were built of logs. While the historic record indicates that log culverts were as numerous as timber culverts along the Chitina Branch of the CR&NW, few have survived intact. **Log Culverts XMC-432** and **XMC-435**, which are in fair condition, are the only surviving culverts made of logs. They retain integrity of place, association, setting, materials and workmanship. **Log Culvert XMC-209** was in fair condition in 1994, but could not be relocated during the summer of 2003. It appears to have been either buried or destroyed by road maintenance activities, and thus has lost physical integrity.

Bridges properties are man-made structures that spanned bodies of water or topographic obstacles such as canyons and gulches. Bridges linked railbed segments, and ranged in length from 20 feet to 2,790 feet. Steel truss and wood trestle comprise the bridge property type. Bridges are important in the development of rail transportation in Alaska, and are important elements of the CR&NW. The difficult terrain through which the CR&NW passed required extensive bridging of streams, creeks, rivers, gullies, ravines, and canyons. The 130 miles of the CR&NW between Cordova and Chitina featured 129 bridges, nearly one per mile. The Chitina Branch had 20 bridges. Only five steel truss bridges were built along the rail line, and two of them--the Million Dollar Bridge at CR&NW Mile 49.5 and the **Kuskulana Bridge (VAL-207)** at CR&NW Mile 147--are significant for their engineering qualities. Timber trestle bridges made up the vast majority of bridges built along the rail line, but they were vulnerable to damage from flooding, ice and fire. Many of the trestle bridges were repaired or rebuilt, some on numerous occasions. The trestle bridge across the Copper River just east of Mile 132 was destroyed by ice every year. One of the trestle bridges across the Kennicott River was also taken out nearly every year by flash floods from lakes backed up behind the Kennicott Glacier. CR&NW bridge crews stockpiled pilings and timbers near

these two bridges, and removed the rails, ties and stringers just before the frozen Copper River ice broke up or the pothole at the base of the Kennicott Glacier erupted with flood waters. After ice or flood waters took out the bridge pilings, maintenance crews drove new pilings, then replaced the stringers, ties and rails. Sixteen bridges or bridge ruins located between the Chitina and Kennicott rivers were evaluated for eligibility for the NRHP (Table 6).

Table 6. Bridge Properties Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Determined NRHP Eligible by ADOT&PF & SHPO	Recommend-ed as Eligible for NRHP	NHRP Criteria	Recommend-ed as Not Eligible for NRHP
VAL-334	Trestle Bridge Ruins				**X**
VAL-351	Trestle Bridge Ruins				**X**
VAL-352	Trestle Bridge Ruins				**X**
VAL-207	Kuskulana Steel Truss Bridge	**1978**		**A & D**	
XMC-190	Chokosna Creek Trestle Ruins				**X**
XMC-196	Trestle Bridge Ruins				**X**
XMC-031	Gilahina Trestle Bridge		**X**	**A**	
XMC-216	Crystal Creek Trestle Ruins				**X**
XMC-218	Lakina River Trestle Ruins				**X**
XMC-227	Trestle Bridge Ruins, east end of Long Lake				**X**
XMC-232	Tractor Creek Trestle Ruins				**X**
XMC-236	Swift Creek Trestle Ruins				**X**
XMC-239	Farm Creek Trestle Ruins				**X**
XMC-244	Trestle Ruins, west side of Kennicott River Floodplain				**X**
XMC-247	Trestle Bridge Ruins, "Y"-Shaped Turnaround				**X**
XMC-249	Trestle Bridge Ruins over west channel of Kennicott River				**X**
Subtotal		**1**	**1**		**14**

Steel truss bridges on the CR&NW are supported by metal beams arranged in triangles. A truss is composed of structural angles joined together with pinned or riveted connections. CR&NW steel truss bridges spanned large bodies of water or deep canyons where wood trestles were not feasible. Truss bridges were considerably more expensive to build than trestles. Of the five steel Cr&NW bridges, three were located in the Copper River Delta. The fourth, the Million Dollar Bridge at Mile 49.5, was the longest truss bridge along the route. The **Kuskulana Bridge (VAL-207)** at Mile 147.75, was the highest bridge along the line at 235 feet and the only steel truss bridge on the Chitina Branch of the CR&NW. Construction of this bridge during the dead of winter in late 1910 and early 1911 was a significant engineering feat. The **ADOT&PF and the SHPO determined the Kuskulana Bridge eligible for the NRHP on December 7, 1978.**

Wood trestle bridges made up the vast majority of CR&NW bridges. Compared to steel bridges, trestle bridges were relatively inexpensive to build and repair. Trestle bridges have four major components: abutments, bents, stringers, and the railbed. Abutments are the transition point between the railbed and each end of the bridge. The abutments are made of stone, timbers, bents, or combinations of the three. Bents are the structural elements supporting the bridge spans. Each bent is made up of 5 to 15 vertical pilings tied together by horizontal and diagonal support timbers. Each bent is capped by a 12x14-inch timber. Stringers are the main horizontal spans of a trestle. They rest on the bents and provide the platform upon which the ties and rails are laid. Stringer sections averaged 25 to 35 feet in length. Each section of stringer was composed of two sets of stringers, one set on each side of the trestle. A set of stringers consisted of three 8x18-inch timbers bolted together 3 foot 8 inch-long bolts; 4-inch-long round metal spacers were placed between the timbers. The railbed on the top of the trestle had rails set on standard-size railroad ties with notches "spacer beams" spiked over the ties to ensure spacing of the ties. The longest trestle bridged the Copper River just east of Chitina and was 2,790 feet in length. The highest, at the Gilahina River, was 90 feet tall. Tangible evidence of trestles is found in physical remains and the historical record. To be eligible for the NRHP, a CR&NW trestle bridge must retain integrity of place and setting, and either span an opening or have significant identifiable remains still in place.

Fifteen trestle bridges or trestle bridge sites were documented along the Chitina Branch of the CR&NW in 1994. In the intervening years, ADOT&PF maintenance activities have damaged many of those sites. Only the **Gilahina Trestle (XMC-031)** is still partially standing and retains enough physical integrity as a bridge to meet the criteria for NRHP eligibility. **It is eligible under Criterion A for its associated with the CR&NW.** It is not eligible under Criterion C, for distinctive characteristics of type and method of construction, because about 40 percent of the structure is no longer standing. The Gilahina was the longest and highest timber trestle on the route between Cordova and Kennecott, and it was the only "cambered" trestle on the CR&NW line, designed so the structure leaned into its curve for a smooth train crossing. The portion remaining continues to be the longest of the CR&NW trestle bridges still standing between Cordova and Kennecott. It retains integrity of association, location, materials and workmanship. **The other 14 trestle bridges have fallen or been cut down and most of the structural materials salvaged and removed. They do not meet the eligibility criteria for the NRHP**. One of the sites, the **Trestle Bridge Site at the west channel of the Kennicott River (XMC-249)**, has been completely destroyed. No physical evidence remains of the trestle bridge and it has lost physical integrity. The other 13 sites have a few broken-off or cut-off pilings and, in some cases, a few broken stringers, ties and associated

structural materials. There is so little structural material left at these sites that the ruins have lost physical integrity. The trestle bridge sites that have lost physical integrity are: **VAL-334**, **VAL-351**, **VAL-352**, **XMC-190** (Chokosna Creek), **XMC-196**, **XMC-216** (Crystal Creek), **XMC-218** (Lakina River), **XMC-227** (at the east end of Long Lake), **XMC-232** (Tractor Creek), **XMC-236** (Swift Creek), **XMC-239** (Farm Creek), **XMC-244** (west side of the Kennicott River Floodplain), and **XMC-247** (on the "Y"-Shaped Turnaround). Four of these trestle sites have limited structural remains, such as a standing bent at VAL-352, two standing bents at the Chokosna River (XMC-190), broken-off or cut pilings from 15 bents at the on the east end of Long Lake (XMC-227), and an intact double-bent abutment at the ruins on the "Y"-Shaped Turnaround (XMC-247). However, the approaches and abutments have been destroyed at the first three sites, and there is so little structural material left at the four sites that they do not have sufficient integrity to meet eligibility criteria for the NRHP as ruins.

Trail properties are linear features that were built to transport materials and supplies on horseback or by horse-drawn sleds during construction of the CR&NW. Trails were significant because they provided access routes for surveyors and initial construction crews to the proposed rail alignment, as well as routes for carrying construction materials and supplies for the railroad and the Kennicott Mill. Tangible evidence of trails is found in physical remains and the historical record. To be eligible for the NRHP, CR&NW trails must retain integrity of place and setting, and must have identifiable remains, such as a path, tracks, or a visible clearing through the forest, still in place. Four trail segments were evaluated in the project impact zone (Table 7). The **Heney Trail (VAL-355)** between Miles 18.25 and 18.35 and **(XMC-178)** between Miles 18.35 and 18.50 of McCarthy Road are two of only three remaining sections of the pioneer pack trail cut by CR&NW surveyors and construction crews that roughly followed the proposed CR&NW rail line. A third section of the Heney Trail **(XMC-178)** at Mile 20.60 is shorter than the other two, but also has an obvious pathway that was used by men and pack horses. **These three segments of the Heney Trail retain integrity of location, setting, appearance, materials, workmanship and association**. A fourth trail feature, the **Long Lake-Chitina River Sled Trail (XMC-226)** at Mile 45.45, also meets the eligibility criteria for the NRHP for its association with the construction of the CR&NW and the Kennecott Mill building. Construction crews hauled supplies and building materials in sleds over the trail dur-

Table 7. CR&NW Trails Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-355	Heney Trail, Miles 18.25-18.35	X	A	
XMC-178	Heney Trail, Miles 18.35-.50	X	A	
XMC-178	Heney Trail, Mile 20.60	X	A	
XMC-226	Chitina River-Long Lake Sled Trail, Mile 45.45	X	A	
Subtotal		**4**		**0**

ing winter. The materials were transported by riverboats up the Copper and Chitina rivers, then overland by sled for 3 to 4 miles from the Chitina River to Long Lake, then east along the proposed rail alignment to Kennecott. The sled trail consists of a cut 20 to 30 feet wide through the forest between the Chitina River and Long Lake. No tracks or ruts are visible because it was a winter trail. The trail cut is still visible on the landscape, and retains integrity of place and setting.

Operations and maintenance facility properties include stations buildings, line shacks, maintenance shops, warehouses, offices, water tanks, coaling storage facilities, and loading platforms. The CR&NW built a variety of buildings and structures along the rail line that were essential to the operation and maintenance of the railroad. The buildings serviced passengers and freight, housed railroad employees and protected equipment. These facilities were located on or adjacent to the railbed. Many were of wood frame construction. They often had shiplap siding and were painted red with white trim. Station buildings and line shacks were built according to standard plans. Historic appearance and setting are important elements in determining eligibility of operations and maintenance facilities properties. These facilities must have identifiable remains, and can be supported by historic documentation or contain artifacts datable to the period of significance.

Of the eleven operations and maintenance facilities properties along the Chitina Branch of the CR&NW, one is already listed on the NRHP and three meet the eligibility criteria (Table 8). The **Chitina CR&NW Bunkhouse and Messhouse (VAL-310)** are the only buildings that remain of

Table 8. CR&NW Operations and Maintenance Facilities Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Listed on NRHP	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-310	Chitina Bunkhouse & Messhouse	**2002**		**A**	
VAL-366	8 Depressions: ruins of a CR&NW telegraph station		**X**	**A & D**	
VAL-074	Strelna Railroad Station				**X**
XMC-002	Chokosna Station Buildings		**X**	**A**	
XMC-431	Small Depression				**X**
XMC-206	Line Shack east of Moose Lake				**X**
XMC-433	Crystal Creek Station Foundation				**X**
XMC-214	Crystal Creek Boiler & Pump		**X**	**A**	
XMC-223	Long Lake RR Building Site				**X**
XMC-231	Coaling Station & Siding Site				**X**
XMC-032	Swift Creek Station Reserve				**X**
Subtotal		**1**	**3**		**7**

Chitina Station, which was one of the largest stations along the rail line. Most of the railroad buildings in Chitina were torn down or moved. The Bunkhouse and Messhouse were vacant for many years before the present owners restored them in 2000-2001. The property was listed on the National Register of Historic Places in December 2002 under Criterion A for their association with the CR&NW. **Eight Depressions (VAL-366)** are the ruins of an early CR&NW telegraph station. The site is eligible for the NRHP under Criterion A for its association with the CR&NW and Criterion D for its potential to yield important information about early communication facilities of the CR&NW. The **Chokosna Station (XMC-002)** consists of three standing buildings and a root cellar. The buildings were moved away from the rail line in the late 1960s to accommodate construction of McCarthy Road. The buildings are still on the original station grounds and, with the exception of the Line Shack, are close to their original location. The buildings and root cellar retain integrity of location, setting, association, workmanship and materials. The **Crystal Creek Boiler and Pump (XMC-214)** were a part of the larger station complex at Crystal Creek. This equipment pumped water from Crystal Creek up to a tank that provided water for locomotives. The site retains integrity of place, setting, association, materials and workmanship.

Seven CR&NW operations and maintenance properties do not meet the eligibility criteria for the NRHP. One of these properties, the **Strelna Railroad Station (VAL-074)**, was where miners off-loaded supplies and equipment for prospecting in the upper Kotsina and Kuskulana river drainages. However, because no buildings or other maintenance facilities remain at the site, it has lost physical integrity. The date the **Small Depression (XMC-431)** between the Gilahina Trestle and McCarthy Road was excavated and the purpose it served are unknown. The **Line Shack (XMC-206)** east of Moose Lake was originally located at the Kotsina Siding (McCarthy Road Mile 5.6). It was moved in the late 1960s when the railbed was widened to construct McCarthy Road. The building was damaged in the early 1990s when it was moved by ADOT&PF, and some of the siding and flooring have been removed by campers who used it for camp fires. This line shack is one of only two Chitina Branch line shacks still located near the old railroad alignment. Although the building retains integrity of materials and workmanship, it has lost integrity of place since it has been moved 30 miles from its historic location. The **Crystal Creek Station House Foundation (XMC-433)** and the ruins of the water tank have lost physical integrity and are unlikely to yield information about the activities of maintenance workers stationed at the Crystal Creek Station.

In 1994, the **CR&NW Building Site at Long Lake (XMC-223)** consisted of identifiable remains from several buildings which had been moved off of the site. However, recent ground disturbing activities at the site have destroyed the historic archaeological features, and the site has lost physical integrity. The **CR&NW Coaling Station Site and Railway Siding (XMC-231)** also contained historic archaeological features in 1994, but the site has lost integrity as a result of road maintenance activities since that time. The **Swift Creek Station Reserve Site (XMC-032)** was set aside as by the CR&NW for a station, but no facilities were built at the site because of the unsuitable terrain. Since there are no buildings, structures or ruins at the site, it lacks physical integrity.

Rolling stock properties moved freight and passengers, and assisted with construction and maintenance activities along the rail alignment. Rolling stock, by definition is portable and includes equipment that was designed or adapted to travel on rail tracks. Rolling stock is made of metal and wood, and feature flange wheels for travel on rails. The rolling stock property includes heavy

vehicles such as locomotives; flat cars and boxcars; passenger, dining and mail cars; and cabooses. It also includes specially adapted equipment, such as steam shovels and cranes that were mounted on flat cars, rotary plows and pile drivers mounted on locomotives, and speeders and hand-cars. Speeders were automobiles with flange wheels used for inspecting the rail line. Hand cars were small, lightweight vehicles used by maintenance crews to travel short distances.

In 1911, the CR&NW had 15 locomotives, 8 passenger coaches, 256 flat and boxcars, 4 steam shovels, 2 rotary plows, 2 spreaders, a wrecking crane driver, and a dozer. During its 27 years of operation, the CR&NW acquired additional rolling stock, including a fleet of Model T Fords adapted as speeders. Historic appearance is an important element in determining NRHP eligibility of rolling stock. Setting is not a critical element since rolling stock are portable. Rolling stock must have identifiable remains and may be supported by historic documentation. None of the surviving CR&NW rolling stock known to be in existence remain in the location of the original rail line.

Although four rolling stock properties are in the project zone of impact, they do not meet the NRHP eligibility criteria (Table 9). The **Boxcar Ruins (VAL-324)** at the Kotsina Grade lack physical integrity because most of the structural material has been removed, and the running gear is separated from the floor. The **Railroad Speeder Ruins (XMC-189)** at Chokosna also lack physical integrity. The speeder has been stripped of most of its parts, and only the frame and several flanged wheels remain. The **Railroad Speeder Ruins (XMC-222)** at Long Lake lacks physical integrity because it has been stripped of its parts, leaving only the frame, which is bent out of shape. The **Railroad Speeder Ruins (XMC-248)** at the Kennicott River are missing important parts, including the axles, wheels and floorboards. It too has lost physical integrity.

Table 9. CR&NW Rolling Stock Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-324	Kotsina Grade Boxcar Ruins			X
XMC-189	Chokosna Railroad Speeder Ruins			X
XMC-222	Long Lake Railroad Speeder Ruins			X
XMC-248	Railroad Speeder Ruins, Kennicott River			X
Subtotal		**0**		**4**

The **CR&NW properties** within the McCarthy Road project impact zone were evaluated to determine if it eligible as a historic district. The railbed, one of the most important features of the CR&NW that ties the corridor together, has lost physical integrity. The surviving CR&NW properties are spread over 59 miles and are not contiguous. **There are insufficient historic properties remaining to convey the presence of the CR&NW as a historic district in the McCarthy Road corridor**.

The CR&NW properties within the project impact zone of the McCarthy Road were also evaluated as a historic landscape. The primary element of the landscape along the railroad corridor was the wilderness setting. The railbed was elevated above the surrounding land forms, following topographic features to minimize grade changes. The railbed curved with the land forms and crossing of water bodies, gullies and canyons was accomplished with timber and log culverts and wood trestle bridges rather than fill. The CR&NW railbed was narrow, with a minimum of clearing through forests, creating a feeling of close proximity to the forests. Railroad buildings and maintenance facilities were the dominant structures along the rail corridor. Construction of the McCarthy Road in the late 1960s and early 1970s, and subsequent road maintenance activities in the corridor, altered the defining landscape elements of the CR&NW route. The railbed was widened into a two-lane gravel road and the peripheral areas on either side of the railbed were cleared and widened significantly. All but one of the timber trestle bridges have fallen or have been torn down, and the roadbed bypasses the trestle bridge crossings. Trestle bridge ruins, including approaches, abutments, pilings and timbers have been destroyed and the structural elements of the trestles pushed out of the roadway or buried. ADOT&PF gravel mining and road maintenance activities conducted adjacent to the road have damaged or destroyed many of the buildings and structures in the corridor. Local homesteaders and ADOT&PF maintenance crews moving buildings from the roadbed has eliminated the distinctive red and white railroad buildings that characterized the built environment along the railroad corridor. Due to the change in the appearance of land forms in the corridor and the destruction and loss of integrity of historic buildings and structures, McCarthy Road does not meet the eligibility criteria for a NRHP historic landscape district.

Settlement Properties

The last property type evaluated, settlement properties, are properties associated with exploration, prospecting and settlement along the railroad corridor that are not CR&NW properties and are generally not considered traditional Ahtna properties . These properties include buildings and ruins associated with the town of Chitina, sites involving the reuse of CR&NW structural materials, temporary campsites, permanent settlements, historic trails, graves, and other sites not obviously associated with railroad activities along the corridor. Of the 41 properties associated with exploration, prospecting and settlement along the CR&NW corridor, seven meet NRHP eligibility criteria.

Chitina buildings and sites (Table 10) are properties associated with the town of Chitina; seven properties were evaluated for eligibility. Chitina was the largest community at the west end of the Chitina Branch of the CR&NW. It was a trans-shipment point, where mail, freight and passengers from the CR&NW were transferred to wagons, sleds, and (later) trucks going north toward Fairbanks. Chitina grew rapidly in its initial years, then went into a steep decline, particularly after the CR&NW ended its operations. Three properties in downtown Chitina do not meet the eligibility criteria for the NRHP. The **Large Depression** (Site No. 2) next to the Edgerton Highway is less than 50 years old. It was excavated as the basement of a planned museum in the early 1970s, but the building was never constructed. The **Chitina Saloon (VAL-461)** is a pre-fabricated World War II building constructed in the early 1940s at Elmendorf Air Field in Anchorage. It was moved

Table 10. Chitina Buildings and Sites Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
Site No. 2	Large Depression (early 1970s)			X
VAL-461	Chitina Saloon			X
VAL-448	Arctic Brotherhood Hall			X
VAL-363	Historic Site			X
VAL-364	Outhouse Ruins			X
VAL-449	Trash Dump			X
VAL-450	Can Scatter			X
Subtotal		**0**		**7**

to Chitina in 1961. While it is more than 50 years old, is not associated with Chitina's history. It lacks integrity of association, setting and location. The **Arctic Brotherhood Hall (VAL-448**), constructed in 1914, was significant in Chitina's history as the social center of the community for over four decades. However, alterations to the building in 1958, when a second floor was added inside and the hall was converted to a hotel, have compromised its historic appearance. The building retains integrity of setting and place, but the configuration of the windows on the first and second floors is different from the original windows. The building has lost physical integrity. Should the original configuration or the windows be restored, this building would meet the eligibility criteria for the NRHP under Criterion A.

Four historic sites located on the ridge overlooking the Chitina tunnel cut are in an area that may have been part of the local red-light district. This area has been heavily disturbed, however, and the sites do not meet the eligibility criteria for the NRHP. The **Historic Site (VAL-363)** contains surface and subsurface domestic artifacts in a disturbed context. The baking ovens appear to have been dumped at the site within the last couple of decades and may not be associated with the artifacts at the site. Another of the sites, an **Outhouse Ruins (VAL-364)**, has no associated buildings. Another site in the area, a small **Trash Dump (VAL-449)** contains domestic artifacts from the 1950s and 1960s. The artifacts may be associated with a relatively recent cabin located about 100 feet upslope and south of the trash dump. A small **Can Scatter (VAL-450)** contains domestic artifacts dating from the from the late 1920s to the 1950s. The place where these goods were consumed and the people who used them are unknown.

Temporary campsites are characterized by small scatters of artifacts or building materials. Ten of these sites within the project impact zone were evaluated for NRHP eligibility (Table 11). The small number and ubiquitous character of the cultural materials at these sites makes it impossible to date the period of occupation and who used the sites. The artifacts could be associated with prospectors, miners, hunters, railroad workers, road construction or maintenance crews, or

Table 11. Temporary Camp Sites Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-456	Two Small Depression			X
VAL-479	Artifact Scatter			X
VAL-337	Artifact Scatter, Strelna			X
VAL-338	Two Artifact Scatters, Strelna			X
VAL-349	Domestic Artifacts			X
VAL-476	Three Depressions			X
XMC-274	Two Solder-Top Cans			X
XMC-275	Can Scatter, Heney Trail			X
XMC-210	Clearing and Wood Stove			X
XMC-283	Artifact Scatter			X
Subtotal		**0**		**10**

travelers along the rail corridor. None of the sites are historically significant and they are unlikely to yield information important to local or regional history. Consequently, none of the nine sites meets the eligibility criteria for the NRHP. **Two Small Depressions (VAL-456)** consists of an outhouse pit and a possible cache which appear to date from the 1960s or later. These two pits are likely associated with camping, fishing, or salvage activities in the area adjacent to the Copper River trestle bridge. **Artifact Scatter (VAL-479)** appears to be less than 50 years old, and may be associated with salvage activities on the Copper River trestle bridge in the 1960s or with recreational activities such as fishing and camping. **Artifact Scatter (VAL-337)**, in the Strelna area, has been heavily disturbed by road maintenance activities. **Two Artifact Scatters (VAL-338)** and **Shiplap and Domestic Artifacts (VAL-349)** are also in the Strelna area. **Three Depressions (VAL-476)** is temporary campsite near the Kuskulana Bridge that may be associated with construction or maintenance of the railroad or the road. **Two Solder-Top Cans (XMC-274)** near the Heney Trail could date from the 1910s to the early 1950s. The **Can Scatter (XMC-275)** at the east end of the Heney Trail includes a blasting-powder can that may date from the railroad construction era, and three food cans at a site that may have been used by a number of different parties over time. A **Clearing and Wood Stove (XMC-210)** and the **Artifact Scatter on the Kennicott River flood plain (XMC-283)** were probably temporary camps.

Permanent settlement properties are sites that were used over sustained periods of time. Eight of these properties were evaluated for NRHP eligibility (Table 12), but only three meet the NRHP eligibility criteria. The **Rosell/Bell Log Cabin #1 (XMC-191) and Cabin #2 (XMC-192)** near Chokosna are associated with the development of the mining community of Chokosna in the 1920s and 1930s, and with subsistence hunting and trapping in the area after 1938. The two cabins retain integrity of location, setting, association, workmanship and materials. The **Long Lake Root**

Table 12. Permanent Settlement Properties (outside of Chitina) Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
XMC-191	Rosell/Bell Log Cabin #1	X	A	
XMC-192	Rosell/Bell Log Cabin #2	X	A	
XMC-201	Two Frame Buildings			X
XMC-207	Marshall Cabin Floor			X
XMC-255	Crystal Lake Sawmill Site			X
XMC-259	Building Foundation/Root Cellar			X
XMC-224	Long Lake Mining Camp Site			X
XMC-253	Long Lake Root Cellar	X	D	
Subtotal		**3**		**5**

Cellar (XMC-253) is associated with settlement along the rail line and is eligible under Criterion D for its potential to yield information about the building methods and how the structure was used.

Five permanent settlement properties do not meet the NRHP eligibility criteria. **Two Frame Buildings (XMC-201)** that were temporarily located between the road and the Gilahina Trestle in 1994, were moved out of the project area by 2003. The **Marshal Cabin Floor (XMC-207)**, part of Robert Marshall's homestead in the 1950s, is not eligible because the walls and roof have been removed. The site lacks physical integrity and, since the floor has been moved from its original setting, lacks integrity of location. The **Crystal Lake Sawmill Site (XMC-255)** is not eligible because the boiler present at the site in 1994 has been removed and the other features at the site have been destroyed. The **Long Lake Mining Camp archaeological site (XMC-224)** has been disturbed by 35 years of gardening activity and the site has lost physical integrity. A **Building Foundation or Root Cellar (XMC-259)** associated with settlement activities west of Long Lake is not historically significant. The site is not likely to yield information important to local history.

Timber-Walled building properties are buildings or sites next to the railroad tracks that were constructed with railroad timbers. These properties are associated with trapping and mail delivery along the railroad corridor during the winters after the CR&NW ceased operations in 1938. Four of these historic structures within the project impact zone were evaluated for NRHP eligibility (Table 13), and two of them meet the eligibility criteria under Criterion A. The **Timber-Walled Building (XMC-234)** in the Swift Creek area and the **Timber-Walled Building (XMC-241)** near Farm Creek both retain a high degree of integrity of location, setting, workmanship and materials. Two of the sites do not meet the eligibility criteria for the NRHP. **Timber-Walled Building Site (XMC-181)** has no structural material from the building remaining at the site and it has lost physical integrity. The **Timber-Walled Shed Ruins (XMC-203)** at Moose Lake is different in size than the other timber-walled buildings, and may not be associated with them. The shed ruins lack historic

Table 13. Timber-Walled Buildings and Sites Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
XMC-181	Timber-Walled Building Site (near Chokosna)			X
XMC-203	Timber-Walled Shed (Moose Lake)			X
XMC-234	Swift Creek Timber-Walled Bldg	X	A	
XMC-241	Farm Creek Timber-Walled Bldg	X	A	
XMC-217	Crystal Lake Site (See Table 2)	X	D	
Subtotal		**3**		**2**

significance and have lost physical integrity. The ruins of a timber-walled building at Crystal Lake (Feature I at XMC-217) appear to be associated with trapping and mail carrying activities, and is eligible under Criterion D as part of a multi-component traditional Ahtna property (see page 73).

Miscellaneous properties (Table 14) include historic trails, sites involving salvage or re-use of CR&NW building materials, a cemetery, and other sites in the corridor that are not easily categorized. Historic trails were significant because they provided access to the area or an overland link between the railroad and mining prospects in the surrounding countryside. Two segments of historic trails are located within the project impact zone and were evaluated for NRHP eligibility. The **Nugget Creek/Kuskulana Trail (VAL-357)** near Strelna **is eligible under Criterion A of the NRHP for its association with the development of transportation properties in the Kuskulana River drainage in the 1910s and 1920s**. Miners who developed more than 20 mineral prospects in the Kotsina and Kuskulana drainages used the Trail. The trail, which is a one-lane dirt road that is still in use, retains integrity of association, setting, location, and workmanship. The **Kuskulana Pass Trail (XMC-262)**, which crossed the CR&NW rail line between Tractor and Swift creeks, was historically significant as one of the early routes to the upper Chitina River drainage prior to construction of the railroad. This trail, which had few man-made improvements, followed natural contours across the landscape. The precise location of the trail where it intersects or crosses the McCarthy Road is unknown. The trail segment in this area **does not meet the eligibility criteria for the NRHP because there is no physical evidence of the trail**.

Sites associated with re-use of CR&NW bridge materials include structural material salvaged from CR&NW bridges, and three of these were evaluated for NRHP eligibility (Table 14). The first is a **Dock or River Dike Site (VAL-454)** that appears to have been constructed of timbers from the Copper River Trestle Bridge. The structure is in ruins and is buried in river gravel. It appears to be less than 50 years old and is associated with the salvage of rails or bridge timbers in the 1960s from the CR&NW rail line on the east side of the Copper River. Another site consists of **Three Stringers (VAL-455)**, probably from the Copper River Trestle Bridge. The site, which is less than 50 years old, is associated with efforts in the 1960s to salvage structural materials from the Copper River Bridge. The third property, a **Timber-Walled Building (VAL-336)** that was resting on a temporary

Table 14. Miscellaneous Settlement Properties Evaluated by OHA for NRHP Eligibility.

AHRS No.	Site Name	Recommended as Eligible for NRHP	NHRP Criteria	Recommended as Not Eligible for NRHP
VAL-357	Nugget Creek/Kuskulana Trail	X	A	
XMC-262	Kuskulana Trail (Southern Leg)			X
VAL-454	Dock or River Dock Site			X
VAL-455	Three Stringers			X
XMC-336	Timber Building			X
VAL-339	Strelna Airstrip Cemetery			X
VAL-333	Large Depression			X
XMC-438	Bermed Depression			X
XMC-430	Three Depression near Chokosna			X
XMC-233	Building Structural Material			X
XMC-238	Ruins of a Wooden Platform			X
Subtotal		**1**		**10**

foundation near Silver Lake in 1994, was built from timbers salvaged from the Copper River trestle bridge. The building, which is less than 50 years old, has been moved to the other side of Silver Lake, well away from the project impact zone.

The **Strelna Airstrip Cemetery (VAL-339)** is associated with the mining community of Strelna from the 1910s to the 1930s, but **is not historically significant**. A cemetery is not eligible for the NRHP unless it contains graves of persons of transcendent importance, is of relatively great age, has distinctive design values or is associated with specific events or general events that illustrate broad patterns. The Strelna Cemetery does not meet any of these NRHP Criteria Considerations.

Five other sites do not meet NRHP eligibility criteria. The **Large Depression (VAL-333)** appears to be a dozer cut that is less than 50 years old and is likely associated with construction or maintenance of McCarthy Road. The **Bermed Depression (XMC-438)** in a proposed material site near Chokosna is not historically significant and is unlikely to yield data important to the history of the local area. **Three Depressions (XMC-430)**, also near Chokosna, are likely associated with gravel prospecting or settlement in the Chokosna area. They are not historically significant and are unlikely to yield data important to local history. **Building Structural Material (XMC-233)** that was located just south of McCarthy Road near Tractor Creek in 1994, is no longer at that location. The material, which appeared to have been left at the site temporarily, has been cleaned up and the site has lost physical integrity. The **Ruins of a Wooden Platform (XMC-238)** in the vicinity of Swift Creek are not historically significant and the platform has lost physical integrity.

Cultural Resources in Potential Material Sites

The OHA investigators surveyed eight potential materials site that may be used for gravel or rock material required by the McCarthy Road relocation project. The material sites surveyed were Kotsina Flats # 1 (ADOT&PF No. 850-004-5) at Mile 1.5, Kotsina Flats #2 (ADOT&PF No. 850-004-5) at Mile 2.5, Strelna West (No ADOT&PF number) at Mile 14.4, Kuskulana Terrace (No DOT&PF number) at Mile 16.5, Chokosna/Woods Property (ADOT&PF No. 850-085-5), Esker Ridge West (No ADOT&PF number) at Mile 51.0, Esker Ridge East (ADOT&PF No. 850-077-5), and Kennicott River lower floodplain (No ADOT&PF number) about 1 mile below the old highway bridge crossing at Mile 59.1. Four historic sites were found in Kotsina Flats #1 (VAL-454, VAL-455, VAL-456 and VAL-459), three historic sites were found in the Chokosna Material Site (XMC-187, XMC-188, and XMC-438), one historic site was found in the Esker Ridge West Material Site (XMC-231), one historic site was found in the Esker Ridge East Material Site (XMC-437), and one historic site in the Kennicott River Lower Floodplain Material Site (XMC-283). All ten of these historic sites were evaluated in the preceding section, and **it is the recommendation of this investigator that none of the sites in these potential material sites meet the eligibility criteria for the NRHP**.

Potential Impacts

Potential impacts to NRHP-eligible sites are numerous due to the scale and scope of the McCarthy Road Project, which proposes five alternative alignments and a number of potential material sites. The close proximity of NRHP-eligible sites to the various alignments and material sites makes it likely that the project will have both direct and indirect impacts on many of the eligible properties. Possible impacts include changes to the historic setting or view-shed of a historic property, indirect impacts such as removal of a vegetation buffer which screens a site from increased visitation or looting, and direct impacts in which construction of the alignment(s) would have an impact on the physical integrity of the historic property. The Appendix at the end of the *Compendium* provides a summary of potential impacts on eligible properties from the various alternatives.

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