## **National Register of Historic Places** Inventory—Nomination Form

See instructions in How to Complete National Register Forms Type all entries—complete applicable sections

#### Name 1

historic Kennecott Mines

and or common Kennecott

#### 2. Location

Wrangell Mountains street & number North bank, National Creek, East of Kennicott Glacier.

Kennecott city, town

X\_ vicinity of

Alaska state

3.	Cla	ssif	icat	tion

Category	Ownership	Status	Present Use	
_X_ district	public	occupied	agriculture	museum
building(s)	_X_ private	_X_ unoccupied	commercial	park
structure	both	work in progress	educational	private residence
site	Public Acquisition	Accessible	entertainment	religious
object	in process	<u>X</u> yes: restricted	government	scientific
	being considered	yes: unrestricted	industrial	transportation
		no	military	<u>X</u> other: none

county

#### **Owner of Property** 4.

Anchorage

city, town

The Great Kennecott Land Company, Et al. (see continuation sheet) name

02

code

street & number 555 West Northern Lights Blvd., Suite 211

city, tow	vn Anchorage	vicinity of	state	Alaska	99503
5. 1	Location of	Legal Description			
courtho	use, registry of deeds, etc	District Recorder		·	
street &	number P.O. Box 8	6			
city, tow	vn Glennallen		state	Alaska	99538
<b>6.</b>	Representa	tion in Existing Surve	ys		
title A1	laska Herítage Reso	urce Survey (AHRS) has this property been d	etermined a	ligible? _	<u>X</u> yes no
date <sup>P</sup>	February 2, 1972	lede	rai <u>X</u> sta	te co	ounty local
deposite	ory for survey records 0	ffice of History and Archeology, St.	ate of Al	aska	

OMB No. 1024-0018 Expires 10-31-87

080

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received

Cordova-McCarthy Division code

Alaska

state

date entered

## 7. Description

$\frac{X}{X}$ excellent to	<u>X</u> deteriorated	Check one	Check one	ite
good	ruins	altered	moved	date
fair	unexposed			

Describe the present and original (if known) physical appearance

The Kennecott National Historic Landmark nomination encompasses the total of the nationally significant Kennecott Mines National Register District as recorded on the National Register of Historic Places in 1978. The district comprises the isolated and uninhabited mining camp located adjacent to the Kennicott\* Glacier and on the west slope of Bonanza Ridge in the Wrangell Mountains, Alaska. The nomination site is in the center of Wrangell-St. Elias National Park, 230 airmiles east of Anchorage, Alaska, and is without direct air or surface vehicle connection. A dirt road, following an abandoned railroad grade which once connected Kennecott with civilization and commerce (the Copper River & Northwestern Railroad), stops four miles south at the former satellite community of McCarthy.

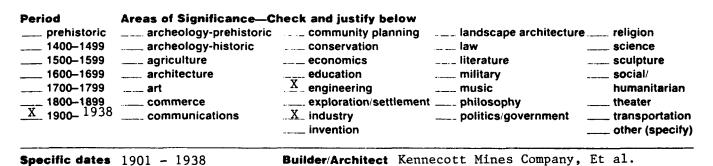
Although abandoned for nearly fifty years, Kennecott remains an unanticipated, spectacular industrial and residential sprawl in a glacial wilderness setting. The geographic setting dominates the site. To the north stand Mount Blackburn at 16,390 feet and Mount Regal at 13,845 feet. The adjacent Kennicott Glacier drains into the nearby Chitina River Valley, a ten-to-twenty mile wide lowland of spruce and birch, cut by the river and its tributaries. The district stands at the edge of this lowland at 2200 feet; the broad valley to the south, the glacier to the west, and the mountains to the north and east.

The nomination site encompasses the total of the Kennecott National Register District as recorded on the National Register of Historic Places in 1978. The site consists of the mill town and its 45 major structures and approximately 25 outbuildings, the tramway system up the mountain slope, the mines and camps at Bonanza, Glacier, Jumbo, and Erie, and the surface indications of the extensive Kennecott Mines Company operation.

#### The Milltown

The central industrial zone of the Kennecott milltown includes the concentration mill and its associated structures. The fourteen story woodframe mill with its many gables and dormers, its location on the slope above the railroad grade, and its many chutes and bins, is the dominant structure at Kennecott. In it worked half of the employees of the camp. The concentrator contains all of its original machinery: two Buchanon jaw crushers, a Stevens-Adamson Apron Feeder, a Symons Crusher,

## 8. Significance



#### Statement of Significance (in one paragraph)

During the two decade period divided by World War I, when the United States produced more than half the world's copper, the mines at Kennecott, Alaska were among the nation's largest, and contained the last of the great high grade copper ore deposits discovered in the American West. Just as mining technology was gearing up to exploit the low-grade ores that remained in the West, the Kennecott mines exposed an ore body unequaled anywhere in the twentieth century. Superlatives were used by mining journals and mining engineers to describe the rich deposit found at the Kennecott mine. Competition for the ownership and the development of the mine affected territorial and national politics and led to the Ballinger-Pinchot affair.

Unlike most Western mining companies capable of working with only high grade ore deposits, the Kennecott Copper Corporation (backed by the Guggenheims) was able to reorient into an international conglomerate owning long-term, low grade ore mines. By designing the world's first ammonia-leaching plant at the Kennecott site, the corporation was able to extract higher concentrates of ore from the low-grade ores which were once disgarded, ensuring further profits. Increased profits allowed investment and expansion elsewhere.

The camp is little changed since the 1938 closing and today provides a window into the technology and work environment of the early twentieth century. Technological artifacts remain in situ due to the site's remoteness. The mining camp, with its striking red buildings with white trim, dominated by the woodframe fourteen-story concentrator, is overwhelmed by the Kennicott Glacier and the Wrangell Mountains, which stand 14,000 feet above the camp. The camp is within the Wrangell-St. Elias National Park and Preserve/Kluane National Park (Canada), a World Heritage Site noted for its geology. The geologic formation at Bonanza Ridge created the unique high grade Kennecott ore body.

#### HISTORY

On July 4, 1900, Clarence Warner and "Tarantula Jack" Smith staked the Bonanza mine outcrop. By mid-August they and nine of their partners had

# 9. Major Bibliographical References

See continuation sheet

10. Geographi	ical Data		
Acreage of nominated property 2 Quadrangle name <u>McCarthy</u> UTM References			Quadrangle scale <u>1:250,000</u>
	8 1 69 7 8	B 0 <sub>1</sub> 7 Zone	3 9 8 0 6 8 2 5 0 8 7   Easting Northing
<b>c</b> 0 <sub>1</sub> 7 4 0 <sub>1</sub> 2 9 <sub>1</sub> 7 <sub>1</sub> 7 6 <b>e</b> 1 1 1 1 1 1 1 6	<u> 8   2   3   0   7   8</u>	D <u>0,7</u> F <u>1</u>	
Verbal boundary description	and justification	H []	
See continuation sh	neet		
List all states and counties f	or properties overl	apping state or co	ounty boundaries
state	code	county	code
state	code	county	code
11. Form Prep	ared By	<u></u>	
name/title See continuati			
organization		da	ate
street & number		te	lephone
city or town		st	ate
12. State Hist	oric Pres	ervation	<b>Officer Certification</b>
The evaluated significance of this	s property within the s	state is:	
national	state	local	
	erty for inclusion in th	he National Register	oric Preservation Act of 1966 (Public Law 89– and certify that it has been evaluated rvice.
State Historic Preservation Office	er signature		
title			date
For NPS use only			
For NPS use only I hereby certify that this pro	perty is included in t	he National Register	
I hereby certify that this pro		he National Register	date
· · · · · · · · · · · · · · · · · · ·		he National Register	date

NPS Form 10-900-a (3-82)

# United States Department of the Interior National Park Service

## National Register of Historic Places Inventory—Nomination Form

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Continuation sheet

Item number 4

Page 1

[A] Kennecott
Mr. James Harrower "Mr. Harrower" The Great Kennicott Land Co. 555 West Northern Lights Blvd., Śuite 211 Anchorage, Alaska 99503
[A] Kennecott
Mr. Lyman Benshoff "Mr. Benshoff" 7 Mile Badger Road SR. Box 60753 Fairbanks, Alaska 99701
[A] Kennecott
Mr. Paul Chizmar "Mr. Chizmar" SR Box 51414 Fairbanks, Alaska 99701
[A] Kennecott
Mr. David Cohen "Mr. Cohen" P.O. Box 2128 Anchorage, Alaska 99501
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Mr. Charles Wirschem "Mr. Wirschem" 6608 Blackberry Road Anchorage, Alaska 99502
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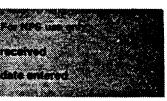


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Continuation sheet	Item number	4	Page 2
[A] Kennecott			
Mr. Joseph Shaver-Kennedy "Mr. Shaver- 5180 Frederick Dayton, Ohio 45414	-Kennedy"		
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Mr. Leonard Wasserman "Mr. Wasserman" 3130 Brighton Street			

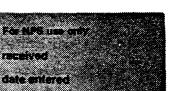
Brooklyn, New York 11235

## National Register of Historic Places Inventory—Nomination Form



Continuation sheet	Item number	4	Page	3
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Mr. William Barrickman "Mr. Barrickma 235 E. 9th Anchorage, Alaska 99501	n"			
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Item number

4

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Mr. Nicholas Olmsted "Mr. Olmsted" Kennicott via Glennallen, Alaska 99866

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Mr. Dennis Reid "Mr. Reid" 1001 W. 27th Anchorage, Alaska 99503

[A] Kennecott

Mr. Chris Richards "Mr. Richards" Kennicott via Glennallen, Alaska 99866

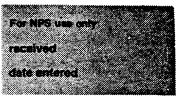
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## National Register of Historic Places Inventory—Nomination Form



Continuation sheet	Item number	4	Page 5
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Mr. Karl Hansen "Mr. Hansen" 513 E. 15th Terrace #4 Anchorage, Alaska 99501			
[A] Kennecott			
Mr. Tony Hinderman "Mr. Hinderman" Box 153 Girdwood, Alaska 99587	•		
[A] Kennecott			
Mr. Larry Hoare "Mr. Hoare" Kennicott via Glennallen, Alaska 99	588		
[A] Kennecott			
Mr. Tom Hyatt "Mr. Hyatt" P.O. Box 81159 . College, Alaska 99708			
[A] Kennecott			
Mr. William H. Johnston "Mr. Johnston 3105 W. 35th Anchorage, Alaska 99503	n"		

755 W. 12th Street

Anchorado, Alacka 99503

### National Register of Historic Places Inventory—Nomination Form



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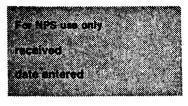
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Continuation sheet Item number Page 4 6 [A] Kennecott Mr. Kenneth Kadow "Mr. Kadow" 4671 Newcastle Way Anchorage, Alaska 99503 [A] Kennecott Ms. Patricia Kirkwood "Ms. Kirkwood" P.O. Box 843 Anchorage, Alaska 99510 [A] Kennecott Mr. Paul LaPage "Mr. LaPage" c/o Anne Wilbur 333 M Street, #201 Anchorage, Alaska 99501 [A] Kennecott Mr. Steve Lindahl "Mr. Lindahl" P.O. Box 80273 College, Alaska 99708 [A] Kennecott Mr. Michael Masters "Mr. Masters" P.O. Box 3442 Soldotna, Alaska 99669 [A] Kennecott Mr. Gerald Miller "Mr. Miller" McCarthy via Chitina, Alaska 99588 [A] Kennecott Mr. Timothy L. Mischel "Mr. Mischel" Mile 214.7 Richardson Highway Delta Junction, Alaska 99737 [A] Kennecott Mr. Michael Monroe "Mr. Monroe" 2016 Blueberry Fairbanks, Alaska 99701 [A] Kennecott Ms. Connie Moon "Ms. Moon"

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Page 1

Hancock Jigs, Colorado Impact Screens, Wilfley tables, a Door Thickener, ore bins, and sackers. The concentrator is a superlative reminder of turn-of-the-century mining technology and working conditions in Western mining camps. Built in 1910-1911, it received alterations and was doubled in size and capacity during World War I. It was little changed after 1924 and closed in 1938. Copper ore, transported from the mines above the mill, was concentrated into usable minerals through a long series of mechanical processes before undergoing chemical separation in the leaching plant.

The leaching plant stands immediately below the concentrator. A jumble of additions and extensions, it was proof of the Kennecott Company's growth and concern for efficiency. The plant, the world's first commercial ammonia leaching plant, went into operation in 1916. It allowed recovery of high percentage copper ore from ore which had formerly been considered waste rock. The leaching plant was enlarged in 1917 and again in 1918 to accommodate increased production.

The machine shop, built in 1916, is level with the grade on the west side of the main road. It is north of the leaching plant and south of the power plant. It is distinctive in design with six front bays of six-over-six light, double hung sash set in pairs. From the machine shop came the fabrication and repair of the everyday mechanical equipment necessary for the mining operation.

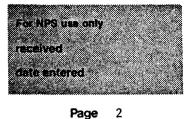
The power plant generated the lifeblood energy to power the industrial machinery. Electricity and steam heat were produced here and sent to almost every building in the mining camp. Characterized by four towering black smokestacks, the power plant was constructed in three distinct phases. The interior has a large open floor plan with a raised concrete platform forming a second floor in the west addition. Narrow sunken troughs, set into the floor, retain the piping which carries the steam from the plant. Still in place is an excellent and rare example of a large Pelton Water Turbine Generator, an Allis-Chalmers Steam Turbo-Generator, and related boilers, steam compressors, and power transmission equipment.

The general office completes the center industrial zone. Kennecott was formally established in 1906 with the construction of the log portion of the structure. As the mining operation expanded, four additions

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completed the present building. The office was the administrative nucleus for the mining operation. The building contains the company vault and still retains everyday working paper documents from the Kennecott operation.

Surrounding the industrial buildings and covering hundreds of acres of land are found the remainder of the milltown buildings. To the north of the concentrator are the railroad yard warehouses, oil storage tanks, and cottages for both railroad and mill staffs. Several of the smaller cottages have been privately restored to their former condition. To the south of the concentrator and adjacent to the abandoned railroad grade are the camp support buildings: the hospital, company stores, dairy, school, cemetery, and large three-story bunkhouses. To the north are found the homes of the Kennecott Company officials in a large residential area along a street called "Silk Stocking Loop." A tennis court, a bridge across National Creek, and a walkway lay beyond the loop.

The all woodframe Kennecott company town, every building painted red with white trim, remains a complete unit in an inspiring natural setting. There are no non-contributing structures. All were built from 1907 to 1925 and range in condition from excellent to ruinous. Several structures are restored under terms of deed restrictions placed at the time of their sale to private individuals.

#### Tramways

In order to transport ore from the mines at 6600 feet to the mill at 2200 feet, four tram lines were built to the Bonanza (16,000 feet long), Jumbo (16,000 feet long), Erie and Glacier mines. They utilized the Bliechert aerial system and they were constructed in 1909, 1915, 1916, and 1918, respectively. Towers and tension stations stand as well as the Angle Station on the line to the Bonanza mine and the Junction Station connecting the Glacier line to the Jumbo tram. A simple gravity tramway ran from the Erie mine 350 feet to a wagon road which extended from the milltown.

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Item number 7

Mine Camps

At each of the mines stood bunkhouses, mine shops, and tramway terminals. At Bonanza Camp the woodframe tramway terminus and one bunkhouse stand in deteriorated condition. Glacier Camp consists of ruins of the tramway terminus and tent platforms. Jumbo Camp, located on a talus slope, has slid down the slope of Castle Peak. One standing bunkhouse remains among the ruins on the shifting rock. Erie Camp, perched on a rugged ridge, has a three-story bunkhouse complete with recreation room and billiard table with classic lion feet.

\* Kennicott Glacier was named after Alaska explorer Robert Kennicott. The name Kennecott is derived from a misspelling of the local name.

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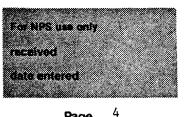
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Building Inventory

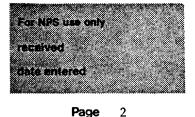
dairy barn storage building tent cottage 21 cottages apartment house recreation hall Kennecott school company store carpentry shop sauna National Creek bunkhouse east bunkhouse hospital assay office depot general office concentration mill leaching plant machine shop power plant steel and sack storage shed electric shop Kennecott cemetary tramway system with related structures 4 mines with related structures miscellaneous ruins



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staked much of the ground which would become known as the Kennecott mines. A young mining engineer, Stephen Birch, was in the area and acquired options on the claims. Backed by Henry O. Havemeyer, a New York capitalist, Birch formed the Alaska Copper and Coal Company which was promptly sued by others claiming ownership of the deposit. From 1901-1904 the Chitina Exploration Company, which claimed to have grubstaked the prospectors, and the Copper River Mining Company, which claimed legal title, dragged the suit through territorial and federal court and were denied judgement in their favor. The Supreme Court of the United States refused to hear the case.

In 1905 the Alaska Copper and Coal Company was reorganized as the Kennecott Mines Company. The Guggenheim family, controllers of the American Smelting & Refining Company smelter monopoly, and J.P. Morgan, another wealthy industrial investor, entered the enterprise and organized the "Alaska Syndicate" to fund the mine's development. Between 1905 and 1911, the syndicate spent \$25 million to build mine and mill works, a 196-mile railroad, and organize a steamship line connecting the copper port of Cordova with ASARCO's Tacoma smelter. All this occured prior to the first shipment of copper.

On April 8, 1911, the first trainload of copper, worth \$250,000, was shipped from Kennecott in 32 railroad cars. By 1916 production had reached 108,372,783 pounds of copper worth \$28,042,396. Kennecott was classed among the nation's largest mines, with those at Butte, Montana, Bisbee, Arizona, and Bingham Canyon, Utah. During 1915-1922 it ranked 3rd to 7th in production. With the building and operation of the mines and their supply line - the Copper River and Northwestern Railway - this was the largest, most costly, and complex mining enterprise ever in Alaska. But Kennecott's significance lies more in the quality of ore. Despite the general assumption that Alaska's gold was preeminent, no single Alaskan placer gold district or gold lode entity was as productive of mineral wealth as the Kennecott.

On April 12, 1915, the Kennecott Copper Corporation was formed by the Guggenheim and Morgan interests. Stephen Birch became the first president and saw to the transfer of the Alaska Syndicate holdings--the Kennecott Mines Company, the Copper River and Northwestern Railway, the Alaska Steamship Company, and the Beatson Copper Company, all in Alaska--into the new corporation. The phenomenal profits from the Alaska

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mine provided the capital to fund Kennecott's purchase of the Bingham Canyon mine in Utah and the Utah Copper Company, as well as the Braden Copper Company and other low-grade mines in Nevada, Arizona, and New Mexico. By the 1930s, while the deposit in Alaska was nearing exhaustion, the corporation had expanded to become the nation's largest copper company and an international force in the metals market. The Kennecott business organization had met the shifting realities of the mining world.

The Kennecott deposit, though rich, proved limited in extent. The operation closed in 1938 (producing an estimated \$200 to 300 million worth of copper in 28 years); the company vacated the camp and donated its railroad to the territory.

The structures at Kennecott, cumulatively, are a true vestige of an early twentieth century copper mining camp. The mill represents mining technology of the era. The copper industry was transformed during the first quarter of the twentieth-century by the ability to work large deposits of low grade ore by concentrating 2% or lower grade ore up to 50% to 80% copper concentrate, which then went to the smelter. Among other innovations were "leaching," where chemicals acted to dissolve out the mineral, then precipitate it into a concentrate, and "flotation," where oil or grease was used to separate, through a bubbling action, the mineral from its host rock. The ammonia leaching process was first successfully used on a commercial scale at Kennecott. E. Tappan Stannard perfected the process in 1915 and enabled the company to work its "low grade" (8%) ores. A flotation plant, planned earlier but delayed because of litigation between the patent holder and a number of western mining companies, was built in 1922-1923 (the year of an out of court settlement). Thus by 1924 the milling plant equalled, if not in size at least in function, all western copper mills. That year was the last year of major mining discoveries at Kennecott.

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Item number 9

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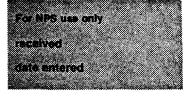
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Item number 9

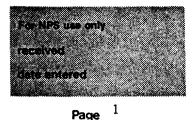
Page 2

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### National Register of Historic Places Inventory—Nomination Form

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Item number 10



#### Poperty Description

Beginning at the center point of the north end of the Copper River & Northwestern Railway roadbed bridge spanning National Creek; thence S 30 00'W, 1,100 meters to point "A"; thence N 06 30'W, 8,100 meters to point "B"; thence S 68 00"E, 5,300 meters to point "C"; thence S 01 30'E, 5,200 meters to point "D"; thence S 79 00"W, 4,200 meters to point "A".

Acreage: +/- 7,700 acres.

Quadrangle Name: McCarthy (Alaska Topographic Series)

Quadrangle Scale: 1:250,000

UTM References:

х	Zone	Easting	Northing
A	07	398850	6816978
B	07	398062	6825087
С	07	402977	6823078
D	07	403162	6817883

## National Register of Historic Places Inventory—Nomination Form

Continuation sheet

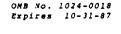
Item number 11

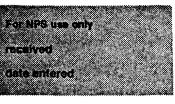
Page 1

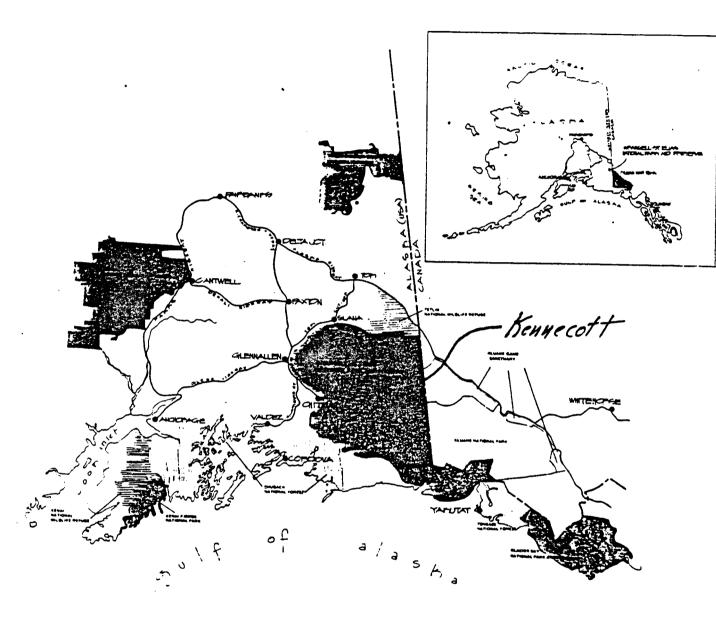
Nomination form prepared by:

Robert Pierce Administrator National Park Trust National Parks and Conservation Association 1701 Eighteenth Street, N.W. Washington, D.C. 20009

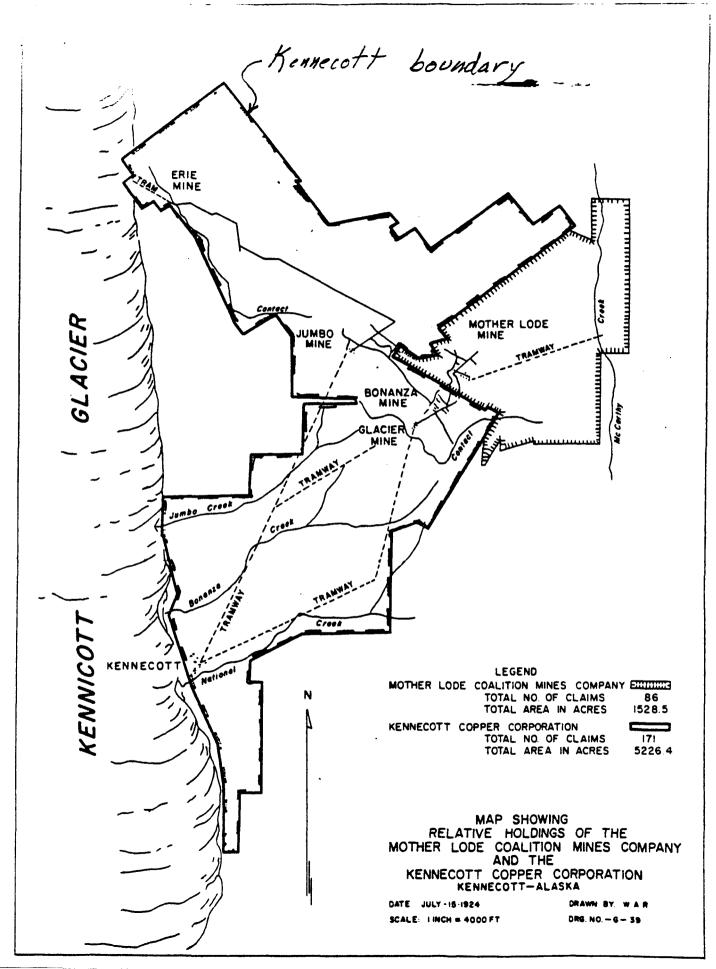
Robert Spude Regional Historian Alaska Regional Office National Park Service 2525 Gambell Street Anchorage, Alaska 99504

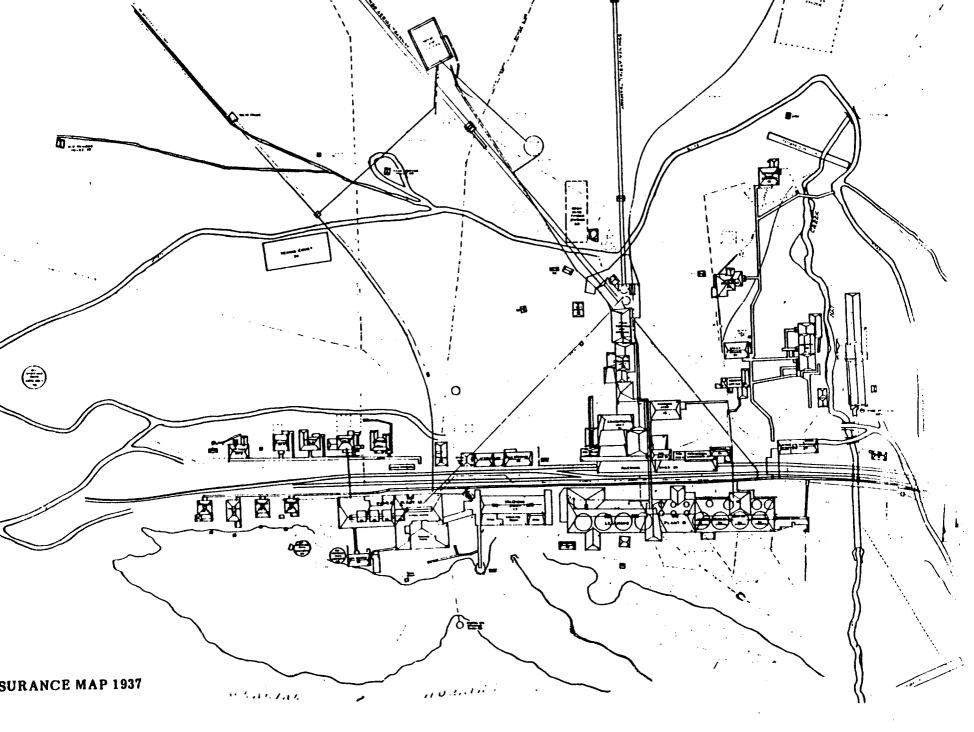


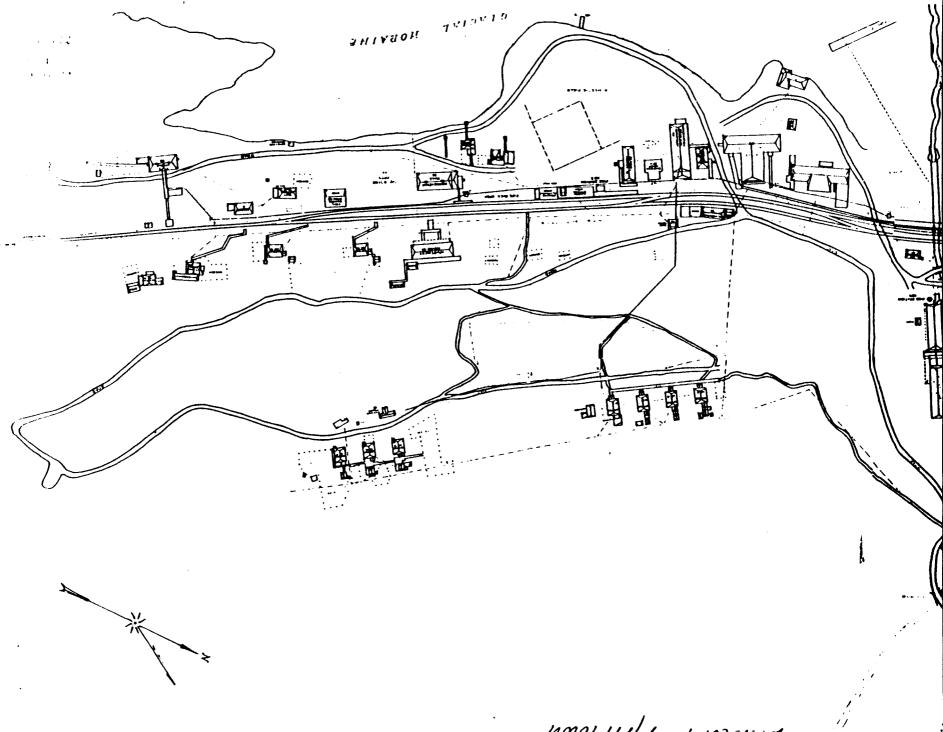




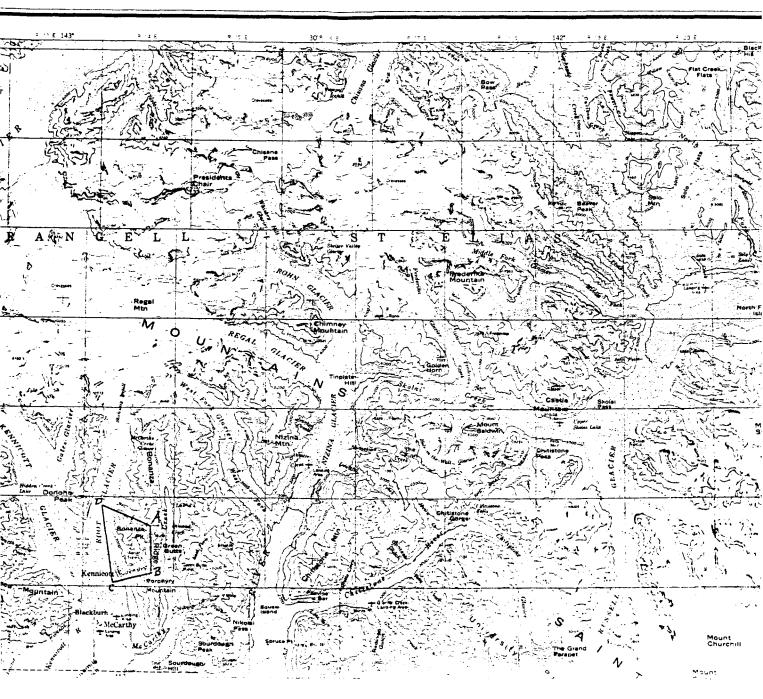


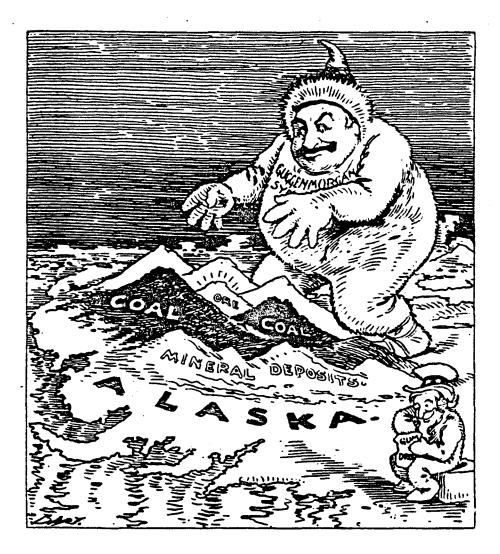






ALCOARDIN





Contemporary political cartoon of Guggenmorgan monster grabbing Alaska while Uncle Sam eats gum drops. ca. 1910

From Sullivan, Kennecott, 1981