UNNAMED LAKES #3 & #4 RDI HISTORICAL REFERENCE LIST

ITEM	AUTHOR	YEAR	REPORT NAME
1	Army Corps of Engineers	January 31, 1971	Reconnaissance Report, Section 107 Investigation, Yukon-Kuskokwim Portage, Alaska
2	Bureau of Land Management	1985	Alaska's Kuskokwim Region: A History, M. Brown, Extract.

DEPARTMENT OF THE ARMY
ALASKA DISTRICT, CORPS OF ENGINEERS
P.O. BOX 7002
ANCHORAGE, ALASKA 99501

IN REPLY REFER TO

NPAEN-PR-R

31 January 1971

SUBJECT: Reconnaissance Report, Section 107 Investigation, Yukon-Kuskokwim Portage, Alaska

Division Engineer, North Pacific

1. AUTHORITY.

This Reconnaissance Report concerning the improvement of a composite tramway-waterway portage for outboard-powered river boats between the Yukon and Kuskokwim Rivers is prepared under Special Continuing Authority, Section 107 of the 1960 River and Harbor Act, as amended, and in accordance with ER 1165-2-14. It was requested by the Village Presidents of the villages of Russian Mission, Upper Kalskag, and Lower Kalskag, Alaska.

2. EXTENT OF INVESTIGATION.

Field inspections and local contacts were made to determine existing conditions of the portage between the Yukon River and the Kuskokwim River and to assess the economic status of the area. The necessity and feasibility of improving the canal/tramway portage are considered in this study.

3. DESCRIPTION OF AREA

a. General. The Yukon and Kuskokwim Rivers are only about 30 miles apart where they emerge onto the flat delta-like tundra plain about 150

airline miles from the Bering Sea. For years the natives have used a portage in that area to pass between the two river systems. The area through which the portage passes is flat, poorly drained country (photo 1) which supports a variety of fish and wildlife. The portage area is void of any forest species except along the banks of the streams and rivers where spruce and deciduous shrubs are found. Two tramways, a cleared channel reach, and two dams to supplement the portage route were constructed in 1931 by the Alaska Road Commission.

b. Portage route. The portage route begins at the mouth of Mud Creek, three miles down the Kuskokwim River from Lower Kalskag, and follows a general northwesterly direction to the Talbiksok River, a tributary to the Yukon River. Presently the 72-mile long route consists of two tramways and a system of lakes, streams, and rivers (plate 1). Persons traversing the portage route from the Kuskokwim River follow Mud Creek upstream in a northerly direction for 3-3/4 miles, then transfer their boats to a tramway for 1/4 mile. The tramway terminates at the head of a dry slough which necessitates 1/4 mile of overland travel to a 1/2-mile wide lake connecting to the Johnson River. Travel continues westward for 10 miles by the Johnson River (photo 2) and then proceeds northerly for 15-3/4 miles up Crooked Creek to an unnamed lake. A quarter-mile debris-filled channel leads from the 2-1/4-mile long unnamed lake to Kulik Lake, a 3-1/4-mile link in the portage route. The route proceeds northerly out of the northwest sector of Kulik Lake over the northern dam and channel, a distance of 1/2 mile, to a series of lakes. These lakes

Photo 1 Aerial view of delta area

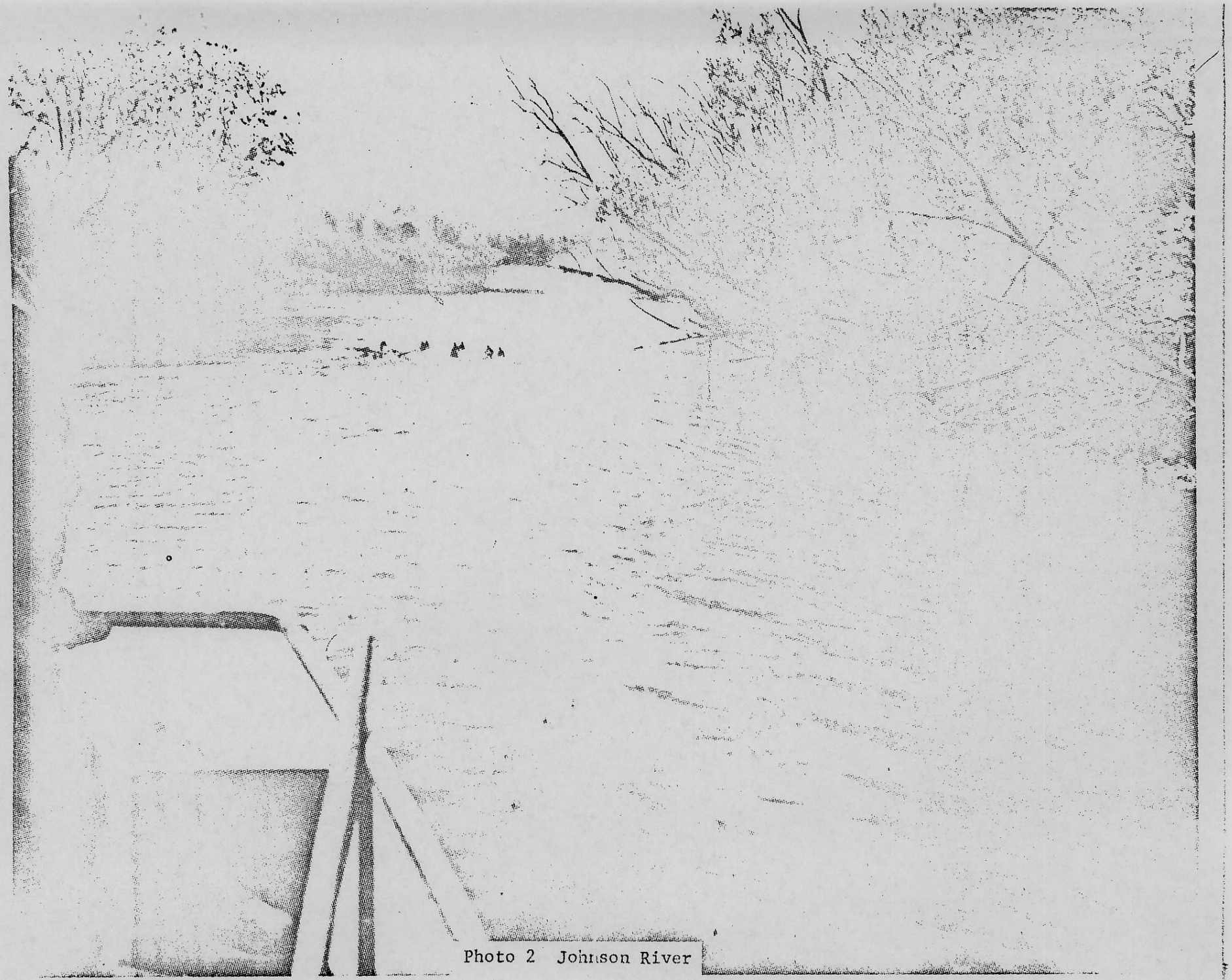

Photo 2 Johnson River

lead westerly for 1-1/4 miles to the 1/2-mile long northern tramway that joins to the Talbiksok River, a 34-mile water link to the Yukon River.

c. Navigation. Navigation season in the Kuskokwim-Yukon River area is from breakup, occurring about mid-May on the Kuskokwim River and about one week later on the Yukon River, to freezeup, occurring toward the end of October. During the summer months natives living in the region use small river boats, averaging 18 feet in length, for transportation much as other Americans use automobiles. In the winter, surface transportation is mainly by snow machine which has gradually replaced the traditional dogsled.

4. ECONOMIC DEVELOPMENT.

a. General. The present canal/tramway portage provides limited access into the interior for fishing, hunting, berry picking, and wood gathering for fuel in addition to interlinking the Yukon and Kuskokwim Rivers for family travel and communication.

b. Population adjacent to the portage route. The 1970 census figures show Russian Mission, located 7 miles north of the mouth of the Talbiksok River on the Yukon River, to have a population of 135; Upper Kalskag, located approximately 10 miles up the Kuskokwim River from the mouth of Mud Creek to have 100 residents, with Lower Kalskag, located about 3 miles up river from the mouth of Mud Creek having 80. The canal/tramway portage has received the major portion of its traffic from these people although occasionally villagers located elsewhere on the two rivers also use the portage.

c. Employment. The Federal Government is the principal employer of full-time personnel within the area. However, only a small percentage of the population is employed full time with the majority subsisting on welfare, unemployment compensation, and short periods of summer employment as fire fighters for the Bureau of Land Management. Fishing, hunting, and trapping provide the bulk of remaining cash income in the area.

d. Commerce. The Yukon and Kuskokwim River area is connected to major supply and market centers by water and air traffic only. The movement of freight by water, although seasonal, is vital to the sustained economic growth of the area. Large quantities of bulk materials and supplies are moved throughout the two river systems each summer by boat and barge. A highway system access to the Kuskokwim area has been proposed; however, such connection is many years in the future.

5. PRIOR REPORTS.

a. Army Corps of Engineer Reports. There have been two prior studies concerned with navigational improvements of this specific area; both considered a shallow draft barge canal designed for cargo transportation.

1. Canal between the Yukon and Kuskokwim Rivers. Because the Kuskokwim River entrance remains ice free for a longer period than the Yukon, river carriers and others have advocated that the two rivers be joined by a canal to permit unobstructed navigation by rivercraft between them. In response to authority of the River and Harbor Act of 22 September 1922, a preliminary examination was made of a barge channel to extend between the Kuskokwim and Yukon Rivers at a point 150 air miles from the Bering Sea. The findings of the preliminary examination indicated that such improvements

were not economically justified and were unworthy of further investigation at that time.

2. Interim Report No. 7. Interim Report No. 7, Yukon and Kuskokwim River Basins, dated 1 June 1962, covered the last of the Alaska areas to be considered in a series of reports on Harbors and Rivers of Alaska authorized by the Flood Control Acts of 30 June 1948 and 17 May 1950. It contained a short paragraph stating that future development of potential resources in the Kuskokwim-Yukon area may materially increase the volume of freight moved on the Kuskokwim and Yukon Rivers and if so, further study of a barge canal between the rivers may be justified at that time.

b. Bureau of Indian Affairs Report. The Bureau of Indian Affairs published a report entitled Field Inspection of the Yukon-Kuskokwim Tramway, Operation Mainstream Project. This report provided preliminary guidance for the reconstruction of the tramways.

6. EXISTING CORPS OF ENGINEERS PROJECTS.

No navigational improvements have been constructed by the Corps of Engineers concerning the portage between the Yukon River and the Kuskokwim River.

7. IMPROVEMENTS BY OTHER FEDERAL AND NON-FEDERAL AGENCIES.

The original improvement of the Yukon-Kuskokwim Portage was completed in 1931 by the Alaska Road Commission, and made possible more expedient small river boat transportation between the two rivers. Apparently little, if any, maintenance work was done during the ensuing period and the original structures (two dams and two sections of the tramway) deteriorated

to the point that they were no longer usable by the 1950's. During 1969 natives from the three nearby villages attempted to rebuild the overland route through an Operation Mainstream Program (Department of Labor funding). They repaired one dam and boat lift above Kulik Lake and both sections of tramway (photos 3 and 4).

8. IMPROVEMENTS DESIRED.

a. The Yukon-Kuskokwim canal/tramway has been a priority project for the delta people for many years. What the people want and need is a means for travel by outboard-powered river boats between the Kuskokwim and Yukon Rivers. During 1969, Russian Mission, Upper Kalskag, and Lower Kalskag residents worked on the canal/tramway route project. The villagers feel that they alone cannot further develop this canal/tramway to its full potential without technical and financial assistance.

b. Representatives of the portage area residents expressed their desires as to what improvements need be made at a meeting in Anchorage on 2 March 1970 between Corps personnel, personnel from the Operation Mainstream Project, and themselves. Also, their desires were made apparent to Corps personnel making a reconnaissance trip of the portage area in June 1970.

9. DIFFICULTIES TO NAVIGATION.

As discussed above, after the deterioration of the 1931 portage construction, Operation Mainstream attempted to rehabilitate the portage. The labor came from natives of the villages of Russian Mission and Upper and Lower Kalskag. Due to lack of technical and engineering assistance,

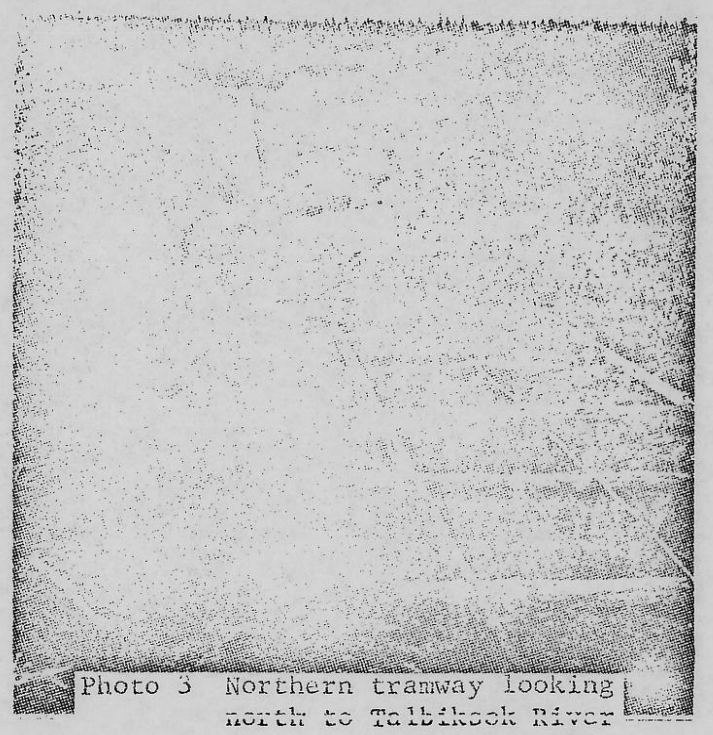

Photo 3 Northern tramway looking north to Talbikook River

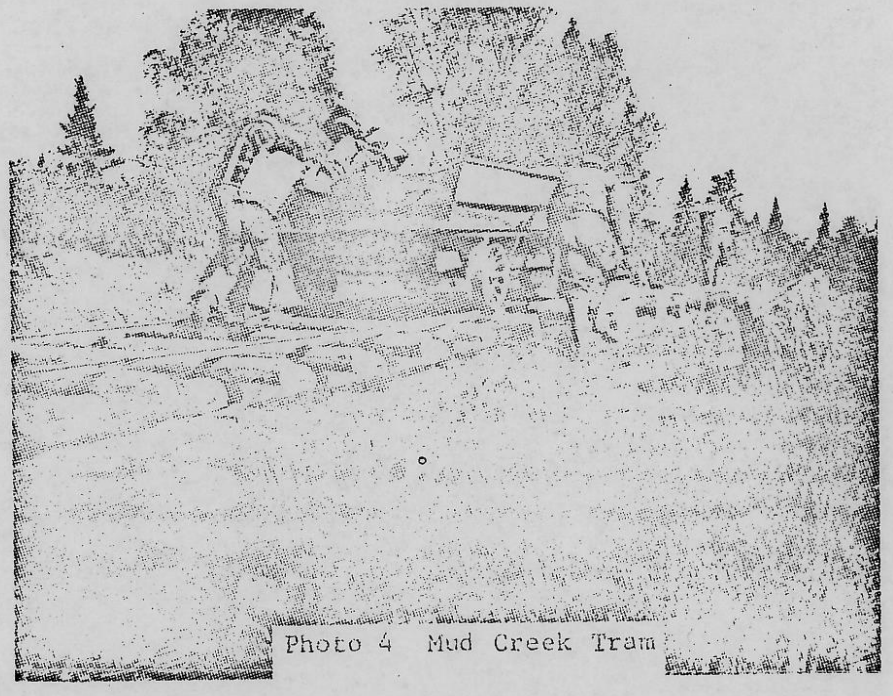

Photo 4 Mud Creek Tram

they were unable to completely rehabilitate the portage route. Portions left incomplete are as follows:

a. The original Mud Creek Dam (checkpoint 1, plate 1) was constructed by dozing sandy silty material that exists along the banks into the creek. No provisions were made for a spillway and with overflow occurring, the left abutment has eroded (photo 5). This creates a problem in that the Mud Creek Channel is not navigable due to insufficient water depths. Also, a swinging boom with a hand winch once used to hoist boats over the dam has since been destroyed.

b. The overland portage shown on plate 1 as checkpoint 3 connects the tram to a lake which provides access to Johnson Creek. By direct route, the distance is 1/4 mile. A slough, which terminates near the end of the tram, connects to the same lake. The distance between the lake and tram through the slough is approximately 1/2 mile. The slough was dry at the time of the field inspection in June 1970; however, the native guides stated that the slough is normally flooded even though the depth is insufficient for the use of outboard motors. Several successive dry years have lowered the surface water elevation in the Kuskokwim and Yukon Delta by several feet.

c. Crooked Creek, which flows into the Johnson River, was very low at the time of the field inspection. Its navigable depth and width of the channel was marginal for the entire distance navigated. The depth became so shallow that progress beyond a point (see plate 1) 3-3/4 miles south of the unnamed lake was not possible (photo 6).

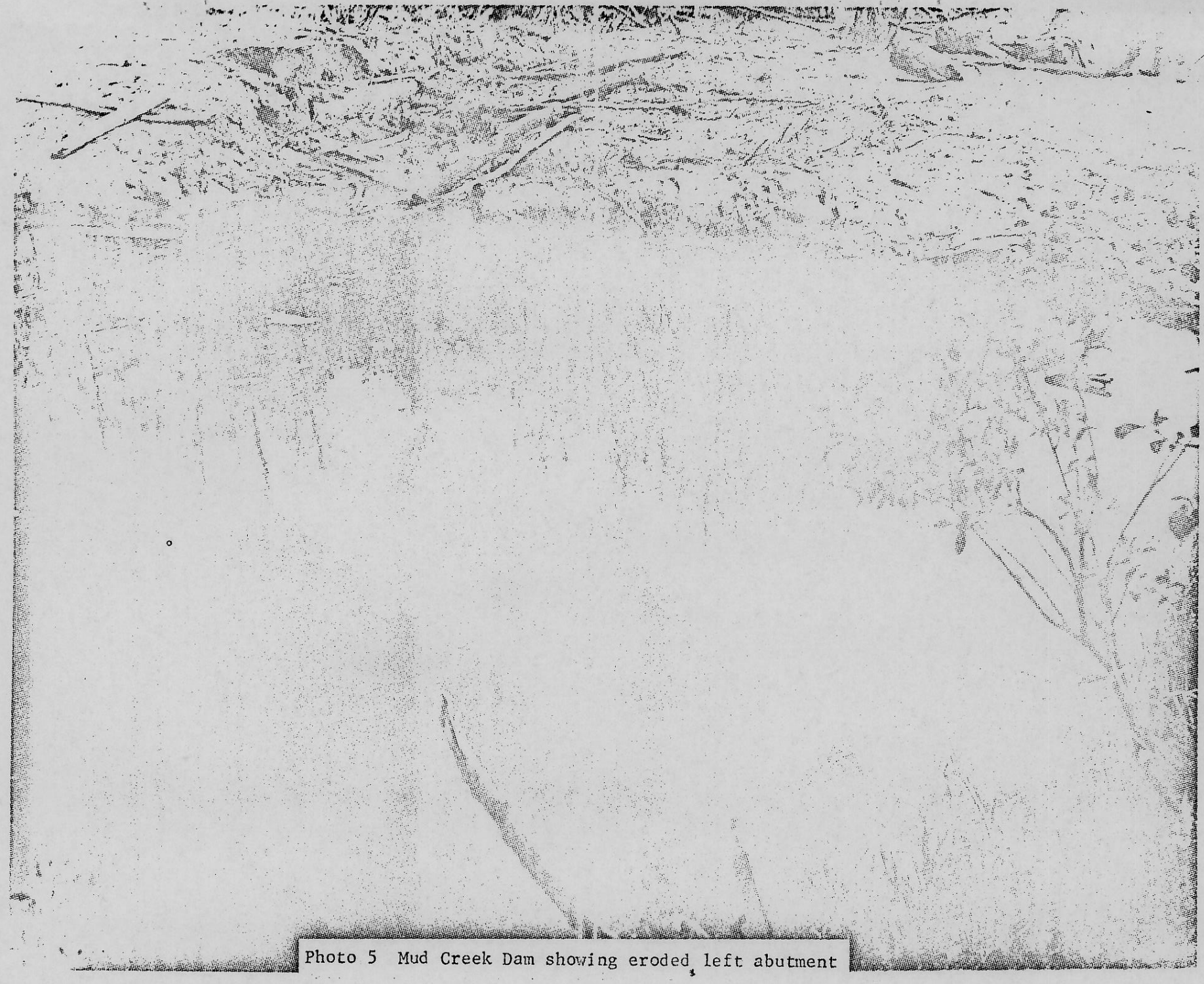

Photo 5 Mud Creek Dam showing eroded left abutment

Photo 6 Crooked Creek near section 35, water 1½ feet deep

d. Portions of the channel between Kulik Lake and an unnamed lake in section 3 are debris filled (plate 1).

e. About 1,000 feet of channel through the marsh connecting a lake and the northern tramway near checkpoint 5 is unnavigable (plate 1).

10. PLAN OF IMPROVEMENT.

A possible plan of improvement consists of the restoration of Mud Creek Dam and boat lift and providing a suitable conveyance across 4-1/2 miles of unnavigable channel (3-3/4 miles of upper Crooked Creek, 1/2 mile from the end of Mud Creek Tramway through a slough to the lake adjoining Johnson River, and 1/8 mile each at the southern end of the tramway leading to the Talbiksok River and between Kulik Lake and the unnamed lake).

a. Dam and boat lift. Two alternative methods to restore the Mud Creek Dam and boat lift are considered. The first alternative involves rehabilitating the old dam such that overflow will occur through a culvert-type spillway in the middle section, thus reducing the chances of a washout around the abutments as occurred at the old site. A swinging boom and a hand winch would be employed to hoist the boats over the dam. The second alternative considers a dam with a weir-type spillway. An upstream timbered cutoff wall and a timber flume spillway would suffice. The dam should be located just downstream from the original, where the channel narrows. The spillway would be used as a passageway for moving river boats from the Kuskokwim River to Mud Creek by placing a winch upstream of the dam. The second alternative is of a permanent nature

providing the more expedient and practical means of transferring boats from the river into the creek and is thus used in this analysis.

b. Improved conveyance. Because of the remote location of the portage, the complete lack of commercial facilities, and the near impossibility of overland travel during the summer, the scope of navigational improvements should be limited to what can be accomplished with the minimum of mechanized equipment. For these reasons and the fact that the unnavigable portions of the portage are located in swampy terrain, road or tramway construction across these problem areas was not considered economically feasible. The solution appearing most feasible was channel improvement. June 1970 field investigations portrayed frozen soil and ice at the surface of the creek bottoms and along the banks, but thawing would occur later in the summer. The surface of the permafrost will be encountered at a deeper depth along flowing creeks; therefore, the construction of channel improvements should be routed along existing drainages. The medium to be excavated during midsummer thawing would be a saturated, sandy silt and excavation using explosives would be advantagous over other alternatives of excavation. Using an estimated explosive yield of 500 pounds per 100 feet of channel, in a grid spacing, would produce a channel of 10 feet bottom width with a usable 4-foot navigation depth.

11. COST ESTIMATE.

a. While the project proposed is rather simple in scale, there are some very complex problems and high costs related to the labor force

housing and logistics should this project be accomplished through normal Federal contracting procedures. Using this approach, the project cost is estimated at $750,000 with 75% related to the above-mentioned labor subjects. It can be seen that this construction cost is an extreme expenditure for a project benefiting only a few hundred people. In an effort to bring the construction cost down to a more realistic figure, a Government-hired labor type project was analyzed. It was assumed that labor would be available through utilization of the local native labor force at a pay rate comparable to that given in fire fighting. This approach both lowers labor cost and eliminates the cost of labor housing. This method of construction totals to a project cost of $290,000 with cost features as follows:

Labor	$ 90,000
Materials and Equipment	130,000
Contingencies	40,000
E + D, S + I	30,000
Total Federal First Cost	$ 290,000

b. Assuming no operation and maintenance cost, the estimate of annual charges for the improvements at a 25-year project life using a 5-1/8 percent interest rate results in an annual project cost of $21,000.

12. BENEFITS.

a. The traditions of a subsistence economy in the immediate vicinity of the canal/tramway portage are still very much in existence. Natives of the area estimate that about 60 families (300 to 400 people) would regularly use the portage, if improved, during the spring and

summer months. For purposes of calculating benefits attributable to the canal/tramway portage improvements, it is assumed these 60 families will not use the portage in its present condition. Using the portage for travel into and across the interior would open new areas for subsistence (picking berries, gathering wood for fuel, fishing, and hunting) in addition to the social factor of a more economical mode of travel for visitation and communication. It is estimated that these above opportunities attributable to the portage would reduce each of the using native families' annual living budget needs by $150. This would result in a net annual benefit of $9,000 (60 X $150).

b. River freight consists of food supplies, fishing equipment, and fuel delivered to the villages on the Lower Yukon only twice during the year. Should these residents run short of any items, they presently must have them air freighted in by bush airlines. Should the portage be improved, the residents of the Lower Yukon could travel by river boat to the commercial store at Lower Kalskag to purchase goods. Also, many supplies presently purchased from the Yukon River firms would be bought at the Lower Kalskag store because of lower cost. It is assumed 20 Yukon River families would actually take advantage of the lower trade costs on the Kuskokwim and each family would make two trips per season, for a total of 40 trips per season. It is estimated that the average boatload of supplies would save the Yukon River people $25.00 per trip relative to the Yukon River area prices. This would benefit the area by $1,000 (40 X $25) of annual living cost.

c. Due to State control of the quantity of commercial fish taken in the Kuskokwim River, the residents of Upper and Lower Kalskag have stated they would fish commercially in the Yukon River if river boat access were available. To estimate the benefits related to portage improvement from this dual fishing operation, it was assumed that under present conditions (no access between rivers) a Kuskokwim River resident would have to own two river boats, one located for fishing on each the Kuskokwim and Yukon Rivers. Fishing nets, motor, and supplies could be air freighted annually between operations. Assuming a five-year life on the extra boat and considering the air freight cost of 1,000 pounds of supplies, the result is an annual operational cost of $250. With 30 Kuskokwim area residents fishing, this totals to a yearly cost of $7,500. Cost of transporting equipment by an improved portage is estimated at $40 per resident, or $1,200 for 30 fishermen. Thus, portage improvement results in an annual equipment transportation savings of $6,300.

d. Total portage improvement benefits are given as follows:

Subsistence	$ 9,000
Supplies	1,000
Fishing	6,300
Total Annual Benefits	$16,300

13. COMPARISON OF BENEFITS AND COSTS.

This analysis results in a benefit cost ratio of 0.78 to 1.0 $\frac{(16,300)}{(27,000)}$, which shows that the proposed plan of improvement is not economically justified.

14. COORDINATION WITH OTHER AGENCIES.

Comments received from the U.S. Fish and Wildlife Service relate that blasting in the interior basin would cause no irreversible effects on species present; thus, no blasting control dates were required.

15. DISCUSSION.

a. Problem. Local residents have recently accomplished partial rehabilitation of the portage-tramway system between the Yukon and Kuskokwim Rivers. They now desire further improvements to the water course.

b. Plan of improvement. The most feasible plan of improvement consists of the restoration of Mud Creek Dam and boat lift and channel enlargement of 4-1/2 miles of unnavigable channel. Economic analysis utilizing the most favorable construction methods resulted in a benefit to cost ratio of 0.78 to 1.

c. Local sponsored project. Should local residents acquire additional funding for portage improvement similar to the previous Operation Mainstream funding (residents supplying the labor and logistics), technical assistance could be provided by the Army Corps of Engineers in the form of project design, field layout, field safety control, and construction management.

16. CONCLUSIONS.

From data presented and discussed in this report, it is concluded that excavation of 4-1/2 miles of channel and the construction of a dam and winch at the mouth of Mud Creek are not economically justified at this time.

17. RECOMMENDATIONS.

I recommend that no further consideration be given at this time to Federal construction of a navigation project for improvement of the canal/tramway portage that connects the Yukon and Kuskokwim Rivers.

for Paul Laycock Jr LTC, CE
A. C. MATHEWS
Colonel, Corps of Engineers
District Engineer

EXTRACT* OF

ALASKA'S

KUSKOKWIM RIVER REGION

A History

By

C. Michael Brown
Bureau of Land Management
State Office
Anchorage, Alaska

1985

* The original document is over 800 pages in length. This extract was compiled to support the State of Alaska's Recordable Disclaimer of Interest Application for the Aniak River. The font type and paragraph spacing has been modified to reduce paper. A full version of this document is available through the Alaska Resources Library & Information Services (ARLIS).

EDITOR'S INTRODUCTION

The U.S. Bureau of Land Management (BLM) is currently transferring title to about 145 million acres of land to the State of Alaska Native corporations in compliance with the Alaska Statehood Act of 1958 and the Alaska Native Claims Settlement Act of 1971, respectively. A serious impediment to the conveyance of land title is the unknown acreage and location of nontidal navigable waters in Alaska.

By authority of the Statehood Act of 1958 and the Submerged Lands Act of 1953, the State of Alaska owns the beds of tidal waters and nontidal navigable waters unreserved as of January 3, 1959, the date of Alaska Statehood. Submerged land acreage of navigable waters unreserved as of this date may not be charged against the State's entitlement under the Statehood Act; and by virtue of the fact that ownership of these submerged lands passed to the State in 1959, may not be included in conveyances of land title. On the other hand, lands underlying nonnavigable waters as well as those submerged lands in a reserved status in 1959, remain in the public domain or in trust for the riparian owner.

During the 1960s the BLM made determinations of navigability for water bodies on lands to be conveyed to the State. After the passage of the Alaska Native Claims Settlement Act and the subsequent promulgation of regulations requiring, among other things, the BLM to make navigability determinations for waterways on lands to be conveyed to the Native corporations and to account for the submerged land acreage, the State quickly asserted its claim to potentially navigable waters on ANCSA-selected lands by two methods. First, the State provided the BLM with its definition of navigable waterways and a and a set of maps known as Water Delineation Maps illustrating waterways on ANCSA-selected lands that the State considered to be navigable. Second, the State routinely notified Native corporations in the instance of a proposed conveyance that the BLM may be attempting to convey lands underlying navigable waters owned by the State since 1959. Well aware of the differences between the BLM and State definitions of navigability, and the State's position that these differences must one day be resolved by the courts, many corporations excluded in their selection applications most waterways identified by the State as navigable. Consequently, whenever the BLM made a determination of navigability contrary to the State's claim and charged the submerged land acreage to the corporation's land entitlement, the corporation appealed to the Alaska Native Claims

Appeal Board for a ruling on the question whether the submerged lands were in fact Federal lands or State lands in 1959.

In the late 1970s, as the BLM prepared to resume land conveyances to the State and to accelerate conveyances to the Native corporations, the BLM and the State agreed that there was a need for more information about the physical character and history of waterways as routes of travel and transportation. This information would satisfy BLM's need to make timely determinations of navigability; and it would facilitate the BLM's and the State's need to develop test cases of navigability for the courts. Thus, in 1977, the BLM let a major contract to the University of Alaska to research pertinent information from the literature about Alaska waterways. Completing the project in early 1979, the contractor provided BLM with a great deal of valuable information about Alaskan water bodies, information that was and is used to support determinations of navigability in the land conveyance programs. However, the contractor provided insufficient information about many minor waterways, some of them located on lands to be conveyed to the State or the Native corporations. The need for additional documentary research and possibly field investigations was apparent.

In 1979, representatives of the BLM and the State of Alaska met several times to discuss and decide upon methods by which: 1) the BLM could make timely determinations of navigability in connection with the land conveyance programs; 2) the BLM and the State could reach agreement on what waterways were clearly navigable and nonnavigable under BLM and State criteria; and 3) the BLM and the State could identify water bodies that best reflect differences in the BLM'S and the State's criteria of navigability for the purpose of litigation. The decisions that were made then are still valid today, although some have been modified as necessary to take into account unexpected developments.

Three alternatives in establishing priorities for administrative determinations of navigability were identified: 1) make determinations only for water bodies on land to be conveyed to the Native corporations and the State on a township-by township basis; 2) make determinations for all nontidal water bodies in Alaska on a regional or subregional basis; or 3) make determinations for nontidal water bodies on a township-by-township basis as well as on a regional or subregional basis.

It was decided to adopt the third alternative. This entailed the formation of three independent but interacting teams: one in the BLM State Office to make navigability recommendations in connection with the State and ANCSA land conveyance programs; the others in the BLM State Office and State Department of Natural Resources to prepare factual reports on waterways in a region or subregion. These highly detailed reports, based upon the best information available, are useful to the BLM in making recommendations for waterways on land to be conveyed to the Native corporations and the State. Once the final draft of the report has the approval of the State and other parties as a technically adequate document, the BLM will have the means to make reliable and consistent determinations for entire waterways. This in turn will give the State the opportunity to identify waterways that best illustrate differences in BLM and State criteria of navigability for development of test cases. As these differences are settled by the courts, the BLM and State criteria will eventually be the same. Whatever decisions are reached by the courts, the BLM will have a source document on which to rely in reviewing the validity of previous determinations in light of the courts decisions.

While the first alternative would have met the immediate need for determinations in land conveyance programs, it would have in the long run generated many problems of an administrative and legal nature. With an accelerated land conveyance program, it would have been impossible to collect and analyze a great deal of information about water bodies, much less to prepare thoroughly documented and well-reasoned rationales for determinations. The high probability that incorrect and inconsistent determinations would be made, and that disputes over the fact relating to a waterway would be taken to the courts, was all too clear. In this eventuality, the BLM would have been repeatedly forced to research and write reports to defend (or change) determinations of navigability for the use of the Regional Solicitor. On the other hand, the second alternative, which would entail the preparation of reports on a watershed, subregional, or regional basis, would not have met the pressing need for navigability determinations on State- and ANCSA-selected lands. Without a much larger staff, the BLM would not have been able to research, analyze, and synthesize a great deal of information into written reports needed to determine navigable and nonnavigable waters on these lands. These lands are scattered throughout Alaska, and involve many waterways--too many to be covered adequately in a short time frame. Yet it is clear that these reports will be needed

more and more as questions of navigability are brought before the courts, and as land managers reviewing proposed actions on a waterway attempt to determine ownership of the submerged lands.

Alaska's Kuskokwim River Region is the third such report issued by the BLM. Researched and written by the lead historian in the BLM Alaska State Office with the assistance of Joan Antonson, the report summarizes geographic knowledge about the region and its water bodies; traces the history of explorations, mining, hunting, fishing, and trapping activities, as well as communities; describes in detail water and land transportation developments in the region; and finally describes the process by which the BLM reached a determination of navigability for water bodies on land conveyed or in the final stages of being conveyed to the State or Native village and regional corporations. The BLM has relied upon some of the information in this report in making navigability determinations for water bodies on land conveyed or to be conveyed; it will continue to consult the report as needed in future conveyances. Later, the report will be revised to take into account public comments and to include information from the BLM land records pertaining to those water bodies about which little or nothing is presently known.

C. Michael Brown

Lead Historian

INTRODUCTION

(See page 1 of original document)

This report is designed to aid government land managers in the identification of navigable waters in the Kuskokwim River region. The report describes the geography and history of exploration in the area, presents an historical overview of the mining industry, identifies the principal settlements, and traces the history of water and land transportation developments in the region. In addition, the report summarizes the steps by which the U.S. Bureau of Land Management (BLM) reached navigability determinations for water bodies in the region.

Under the provisions of the Alaska Native Claims Settlement Act, Native village and regional corporations selected most of the land along the Kuskokwim River and Bay. Most of these lands have been conveyed or are in the last stages of being conveyed to the corporations. This means that the BLM has made navigability determinations for title purposes for most tributaries of the Kuskokwim River and rivers and creeks emptying into Kuskokwim Bay. This report identifies the navigable waters in the region; it does not include a discussion of every river, creek, or lake that the BLM considers or determined to be nonnavigable. Only those nonnavigable water bodies about which there is documentary information, is described in the report. Thus, if the water body is located on land selected by or conveyed to a Native village or regional corporation, and if it is not specifically mentioned in Chapter Six of this report, the reader is correct in assuming that the BLM considers the water body to be nonnavigable.

The report incorporates much of the information presented in a report on the upper Kuskokwim basin which the BLM released on May 6, 1980. Researched and written by the lead historian in the BLM Alaska State Office, the upper Kuskokwim report was originally intended to include the entire Kuskokwim basin within its scope. However, following the BLM's decision to convey lands to MTNT, Incorporated and Doyon, Limited, the Native corporations appealed many of the BLM's determinations of navigability in the area to the Alaska Native Claims Appeal Board. This action, together with a recent decision of the Board on the navigability of the Nation and Kandik rivers in central Alaska, which significantly modified Departmental navigability criteria, spurred the BLM to reconsider its position on the navigability of water bodies in the area. Research on the lower Kuskokwim region was thus suspended and the

report on the upper Kuskokwim basin written. This report was used to make additional navigability determinations for water bodies in lands selected by the Native corporations.

From early 1980 to mid-1981, Joan Antonson researched and wrote a draft report on the middle and lower Kuskokwim areas before terminating her employment with the BLM. The lead historian subsequently merged the upper Kuskokwim report with Antonson's report, and expanded the report with information obtained from BLM land records.

This report draws upon a wide variety of sources. Local newspapers, Geological Survey bulletins, records of the Coast and Geodetic Survey, Alaska Road Commission, Corps of Engineers, and the BLM, and the pioneering works of Wendell H. Oswalt, proved to be the most valuable sources of information. The papers of the Territorial governors, the Fish and Wildlife Service, and the Alaska Department of Fish and Game were examined but not researched to completion. These records, in addition to those of the BLM pertaining to Native allotments, headquarters, and trade and manufacturing sites, and small tracts, may yield additional pertinent information about use of water bodies in the region for the purpose of travel.

Many people contributed their time and skills to the preparation of this report. The librarians of the Alaska Resources Library, the Z. J. Loussac Library, and the librarians of the Alaska at Anchorage and Fairbanks, aided the writer in locating rare books. Joan Antonson's research notes and draft report greatly facilitated the writer's task. Chapter Four is largely her work. James Ducker and Dwight Tuttle provided constructive criticisms and encouragement. Last, and most important, the secretarial staffs of the BLM Division of Resources and Division of ANCSA and State Conveyances gave exceptional service in typing the various drafts.

CHAPTER ONE

THE KUSKOKWIM RIVER REGION

(See Page 28 of original document)

Only eighty-nine miles long, the Aniak River drains an area of 2,230 square miles. Aniak River empties into the Kuskokwim River from the south at rivermile 177 near the western end of the Kuskokwim River gorge. The river heads in Aniak Lake, a small lake in a valley bordered by high mountains, not far from a low pass to the head of the Kisaralik River. The river flows north in a wide valley, and passes to the west of Gemuk Mountain. Upon leaving the mountainous section, the river is joined by Salmon River and Kipchuk River from the southwest. Both of these rivers head in the Kilbuck Mountains and enter the Aniak River at rivermile 56. From the confluence of the Salmon and Kipchuk rivers, the Aniak River gradually shifts its course from north to northwest. At rivermile 32, the river receives the Buckstock River from the east. This river heads in the Buckstock Mountains and descends from elevations of one thousand to six hundred feet in a few miles. The river then meanders to the Aniak River. From the confluence of the Buckstock River, the Aniak meanders across a low, swampy bottomland with numerous small lakes. According to one report, the Aniak River flows in several shifting channels that cross back and forth in a braided pattern. 27/

Chapter One -- The Kuskokwim River Region

27. Curtis V. McVee, "Notice of Proposed Easement Recommendations for the Village of Akiachak," October 13, 1976, file F-14823-EE, ANCSA file.

CHAPTER THREE

MINING

(See page 121 of original document)

In 1910, three prospectors named Harry Buhro, E. W. "Kid" Fisher, and Fred Labelle, grubstaked by the well-known miner Luther C. Hess of Fairbanks, joined the rush to George River. Meeting with little success on that river, they headed for Goodnews Bay in the spring of 1911. As they were returning to Georgetown, they decided to prospect the Aniak River basin, having learned that a lone prospector named Old Man Keeler had discovered gold in that area the previous summer. In August 1911, Buhro made a strike in the gravels of Marvel Creek. A short while later, the three men also found gold on Fisher and Dome creeks. 48/

Although they discovered gold on several other tributaries of Salmon River, including Cripple, Loco, Porcupine, Timber, and Eagle creeks, and Fox Gulch, miners focused their attention on Marvel Creek. A hydraulic plant was installed on the creek in 1913. In 1926, Chris Dahl and August Wilson operated a hydraulic mine for Luther Hess on Marvel Creek. In 1931, they allegedly recovered gold valued at $27,000. This operation, annually employing six to eight men, continued until 1938 when the claims were leased to a new company, Marvel Creek Mining Company. Partners in the company included Hess, Henry DuRand and Fritz Awe. During the winter of 1938-1939, the new company installed a dragline and bulldozer on the property; and in 1966, moved a dredge from Nyac to the creek. The dredge operated until the 1970s. Another company, the Canyon Creek Mining Company, owned by Jens Kvamme and sons, moved from the Kwethluk River to Marvel Creek where they operated between 1959 and 1971 with draglines and sluice boxes. 49/

Chapter Three -- Mining

48. Iditarod Pioneer, October 21, 1911; Maddren, "Gold Placers of the Lower Kuskokwim" (Bull. 622), p. 301; Maddren, Fieldbook No. 408-A, USGS Records. For grubstaking the men, Hess received one-third ownership in the claims.

49. Kusko Times, January 2, 1926; Smith, The Mineral Industry of Alaska in 1938 (Bull. 917-A), p. 61; Alaska Division of Mines and Minerals, Report for the Year 1966 (College: Alaska Department of Natural Resources, 1966), p. 10.

CHAPTER SIX

WATER TRANSPORT

(See page 406 of original document)

Prior to the gold rush period, the Aniak River was probably a Native trade route. According to Lieutenant L. A. Zagoskin, Kuskokwim Natives returning from the Nushagak River country descended the river in light, one-place baidarkas. The Russian traders evidently never adopted the route, although they did not fail to investigate it. In a story recorded by Zagoskin, the son of chief factor Lukin described his experiences with a Russian trade expedition that descended the river in four three-place baidarkas loaded with supplies. Lukin described the upper reaches of the river as meandering, extremely swift, and full of sweepers. 351/

In the first gold rush to the Kuskokwim River in the winter of 1900-01, a few prospectors doubtlessly made their way into the headwaters of Aniak River. Little, however, is known about their experiences. In 1904, Duncan McDonnell reported in Nome his belief that he and E. L. Rabidou were the only white men who had ever ascended the river in a canoe. He added that many prospectors went up the river during the winter. 352/

With the discovery of gold on Marvel Creek in 1911, a large number of prospectors stampeded to Aniak River. In early September, 0. Hofseth in Iditarod confirmed the discovery of gold on Aniak River, and reported that he had met a number of prospectors at Georgetown bound for the mouth of the Aniak River on the steamer Quickstep. He believed that the prospectors would require thirteen days to pole up the river to the diggings as the current was very swift. 353/ U.S. Commissioner E. J. Stier described Aniak River as a large and swift river, one that was difficult to pole up. He noted, however, that a party of three prospectors succeeded in reaching Salmon River by boat. 354/ A short while later, a local newspaper in Iditarod reported that J. M. Pickle with his wife succeeded in poling a boat up the river to the strike. 355/

With the opening of navigation in the spring of 1912, a second wave of prospectors stampeded to the headwaters of Aniak River. In view of a shortage of supplies in the new mining camps, the Northern Commercial Company announced plans to establish a trading post on Aniak River at the supposed head of steamboat navigation,

which was said to be about sixty miles up the river. From that point small sternwheel boats would be used on the remaining distance of thirty miles to the diggings. At the tune, it was believed that steamboats could not be used on the river. In any case, W. H. Golder, the company agent at Georgetown, had the steamboat Alice with 110 tons of supplies attempt to ascend the Aniak River. 356/

Evidently the steamboat was unable to ascend the river, for reports later that summer indicated that only small boats on the order of poling boats could be used on the river. According to one Iditarod newspaper, two men with a poling boat, preferably those of the "shovel-nose type," should have no difficulty in ascending the river to the mouth of Marvel Creek in ten to twelve days. In support of this claim, the reporter noted that Tony Zimmerman and another man ascended the river a distance of ninety miles in eight days with a poling boat loaded with 1,800 pounds of supplies. In late June, geologist J. F. Newsom left Flat for Georgetown, where he hired George Fredericks to pilot a "fast launch" up the Aniak River as far as it could be taken. From that point, Newsom then intended to take a poling boat with a prospector named Taylor to guide him to the diggings. 357/

The journey up the Aniak River was doubtlessly a difficult one. One prospector working on Marvel Creek in the early 1910s recalled a trip he once made to the Kuskokwim River for supplies. Descending the Salmon and Aniak rivers in a small boat was easy, he wrote; he made the trip to the Kuskokwim River in twenty hours with "nothing to do but sit comfortably and steer the boat to keep it in the channel." The return trip to Marvel Creek was a quite different matter. It took two men "at least fifteen working hours of constant concentration and vigilance" for twenty days to pole and line their boat loaded with two tons of supplies up the river. Once they reached the Salmon River landing, they had to carry the supplies on their backs for six miles over the hills to Marvel Creek. 358/

In later years, some people continued to travel to the headwaters of Aniak River by boat, although most preferred to use the Tuluksak River and the Ophir Creek trails. In 1914, William Acheson and a party of seven men from Iditarod reportedly ascended Aniak River in a poling boat to the "head of navigation," forty-five miles upriver, in fourteen hours when the river was at a "pretty high stage of water." In the same summer, Arthur W. Johnston, J. A. Davidson, Walter Soule, and Frank Moran, all well-known Alaska miners with prospective dredging ground on Cripple Creek, investigated Aniak River as a possible route for the transportation of a dredge to the headwaters. They

ascended the river in a "large power boat," reportedly the first of its kind on the river, a distance of about forty miles to a roadhouse. According to Soule, the steamboat Alice could have easily ascended the river. 359/

Through the years, miners and trappers traveled on the Aniak River in small boats. In 1937, a local newspaper reported that the river was navigable for small boats for a distance of sixty miles. For the transportation of supplies to Marvel Creek, most miners used a caterpillar trail extending from the village of Aniak to the diggings. The miners on Marvel Creek worked only in summer, residing at Aniak during the winter. 360/ In the early 1940s, the USGS reported that the river was "not as favorable for navigation with small boats as are most of the other large streams of the central Kuskokwim region," as it flowed in several shifting channels that crossed back and forth in a braided pattern. 361/

Some insight into conditions on Aniak River comes from the account of a float trip down the river by Sepp Weber in late August 1970. Weber with his fiancee Brigitte Bittlingmaier descended the river in two collapsible Klepper kayaks, each weighing seventy-five to eighty pounds. On August 14, after portaging from Nishlik Lake, they began their trip down a small creek flowing into the Aniak River. For some time they had to line the kayaks down the narrow creek, but once the creek widened to four or five feet, they were able to ride their kayaks, and soon reached the "swift and obstacle-free Aniak River."

They paddled and drifted down the clearwater river for a day or two, and reached the tree-line. Rain forced them into camp for a day, but they decided to continue the trip owing to a shortage of food. After several days of rain, Weber estimated that the river had risen about four feet. The river character had changed radically. "The clear, swift one we had known was gone, and in its place was a raging torrent, muddy and full of uprooted trees, the water spilling over into low-lying areas," he wrote. Drifting trees and sweepers required their fun attention on the river. The braided character of the river presented a problem, for as Weber wrote, "We never quite knew which channel to take." Once Weber was swept into a sweeper and fen into the river. His companion on one occasion was swept onto a driftwood pile. On one late afternoon after several days, Weber wrote, "The river disintegrated completely, with water boiling and rushing through the trees and under huge log jams. Manhandling the kayaks, we balanced on logs, cut through thickets, hauled the boats through log jams and barricades." After "paddling, lifting, carrying, and climbing through this unbelievable maze of fallen trees and driftwood," they reached a "more confined river" down

which they could paddle. Not long after they reached a point where the river broadened and meandered in wide bends through the forest with a less forceful current, they passed an old cabin, "the first sign of civilization on the Aniak River." In late afternoon on the following day, they reached the Kuskokwim River. 362/

The BLM first considered this river as a potentially navigable waterway in 1975 when identifying possible easements on lands selected by Aniak Village. Proposed easements in the village selection area included a trail from Aniak to Tuluksak via the mouth of Ophir Creek, a trail along the Aniak River from Aniak to Nyac, and a campsite at the mouth of Doestock Creek. On September 18, 1975, a BLM official met with Native leaders at Aniak to discuss the proposed easements. The leaders stated that the Aniak - Ophir Creek - Tuluksak trail had not been used for thirty or forty years. The Aniak - Nyac trail was used primarily by miners. While not opposed to a campsite easement at the mouth of Doestock Creek, the leaders saw little need for the easement as the place received very little if any use. They added that Marie Ann Ledlow's Native allotment was located there. 363/

Taking the Native leaders' comments into consideration, the BLM easement task force approved all but the campsite easement at the mouth of Doestock Creek, and recommended a continuous easement on the banks of Aniak River as it was a "heavily" used river for fishing, hunting, and general recreation purposes. Moreover, the task force recommended that Aniak River and Aniak Slough be determined navigable. 364/

The Kuskokwim Corporation subsequently notified the BLM that it opposed both proposed trail easements as the trails were not currently in use. No comments were made regarding the proposed navigability determinations. 365/

Following the issuance of easement regulations, the BLM Anchorage District Office again recommended easements for the Aniak - Tuluksak and Aniak - Nyac trails. The proposed streamside easement was deleted. In addition, the District Office recommended that Aniak River, Aniak Slough, and Doestock Creek be determined navigable and major waterways. Aniak Slough was considered to be an interconnected slough of the Kuskokwim. Aniak River and Doestock Creek were considered to be susceptible to navigation. More specific information about these two streams was not presented. 366/

In late April 1982, BLM officials met with representatives of The Kuskokwim Corporation, Calista Corporation, and the State of Alaska to discuss the proposed easement, navigability, and major waterway

determinations for Aniak Village and others. The Kuskokwim Corporation agreed to the Aniak - Tuluksak trail easement, provided that the trail was used in the winter only. The corporation opposed the Aniak - Nyac trail easement as the trail had not been used in the last decade. Miners on Tuluksak River used airplanes or the Aniak River to supply their operations. When asked if barges could be used on the Aniak to move mining equipment and supplies, the corporation representative replied that it would be "tough going." No specific comments were made regarding the proposed navigability determinations. 367/

The BLM stipulated the Aniak - Tuluksak trail easement for winter use only, and deleted the proposed Aniak - Nyac trail easement as "access to public land and resources can be gained using the navigable Aniak River." Aniak Slough was determined to be an interconnected slough of the Kuskokwim, hence navigable. Both Aniak River and Doestock Creek through the conveyance area were determined to be navigable "because of their susceptibility to navigation." 368/

A week later, the BLM determined the upper reaches of Doestock Creek in the Little Russian Mission Village conveyance area to be navigable. The BLM Anchorage District Office first recommended this stretch of the creek be deter-mined navigable in 1980 because the creek was susceptible to navigation. More specific information was not presented. The Kuskokwim Corporation, Calista Corporation, and the State of Alaska agreed with the proposed determination. 369/

Chapter Six – Water Transport

351. Zagoskin, Travels in Russian America, p. 207.

352. Nome Semi-Weekly Nugget, December 24, 1904.

353. Iditarod Pioneer, September 9, 1911.

354. Iditarod Pioneer, February 10, 1912.

355. Iditarod Pioneer, July 13, 1912.

356. Ibid.

357. Ibid.

358. Harold and Zora Peckenpaugh, Nuggets and Beans (New York: Carlton Press, n.d.), p. 70.

359. Iditarod Pioneer, July 18, 1914, January 9, 1915.

360. Kusko Times, March 19, 1937.

361. Cady, The Central Kuskokwim Region, p. 11.

362. Sepp Weber, "1,000 Miles by Kayak," Alaska Magazine, 37 (August, 1971): 33-36, 56-58. For additional information about the physical character and contemporary uses of the Aniak, see Kenneth T. Alt, Inventory and Cataloging of Sport Fish Waters of Western Alaska, Federal Aid in Fish Restoration Study G-1-P, Vol. 18 (Juneau: Alaska Department of Fish and Game, 1977).

363. Garold T. McWilliams to File, n.d. [1975], file F-14831-EE, ANCSA file.

364. "Notes," December 23, 1975, Patrick C. Beckley to Files, April 2, 1976, Curtis V. McVee, "Notice of Proposed Easement . . . Aniak, April 18, 1977, file F-14831-EE, ANCSA file.

365. Glenn W. Fredericks to Joint Federal-State Land Use Planning Commission, May 31, 1977, file F-14831-EE, ANCSA file.

366. Clifford D. Ells to State Director, May 5, 1980, file F-14831-EE, ANCSA file.

367. Martin L. Karstetter and Robert E. Hiller, Jr. , to Files, May 17, 1982, Edward J. McNamara to Bob Arnold, July 20, 1982, file F-14831-EE, ANCSA file.

368. Robert W. Faithful to Glenn Fredericks, August 20, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 23, 1982, file F-14831-EE, ANCSA file.

369. Cliff D. Ells to State Director, May 5, 1980, Martin L. Karstetter and Robert E. Hiller, Jr., to Files, May 17, 1982, Robert D. Arnold to Chief, Division of ANCSA and State Conveyances, August 23, 1982, Decision to Issue Conveyance, September 30, 1982, file F-14926-EE, ANCSA file.