

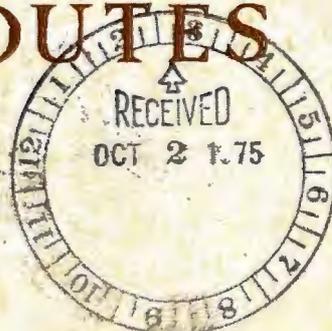
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CHAEOLGY and HISTORY ALONG ALASKAN NATURAL GAS ROUTES

VOLUME ONE



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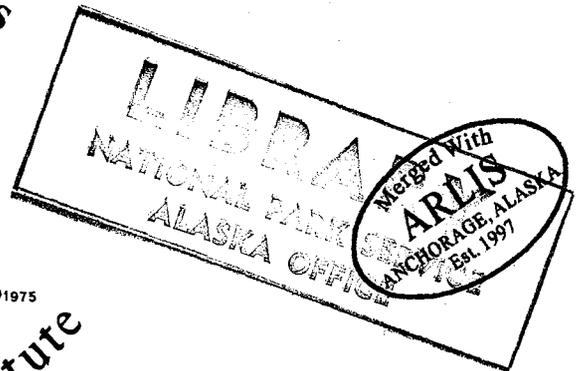
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A Study of Archaeological and Historic Potential Along the Trans-Alaskan Natural Gas Pipeline Routes

Related To An Application Filed
In Docket Number CP 75-96, et al.
September 24, 1974

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Volume One

by

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VOLUME ONE

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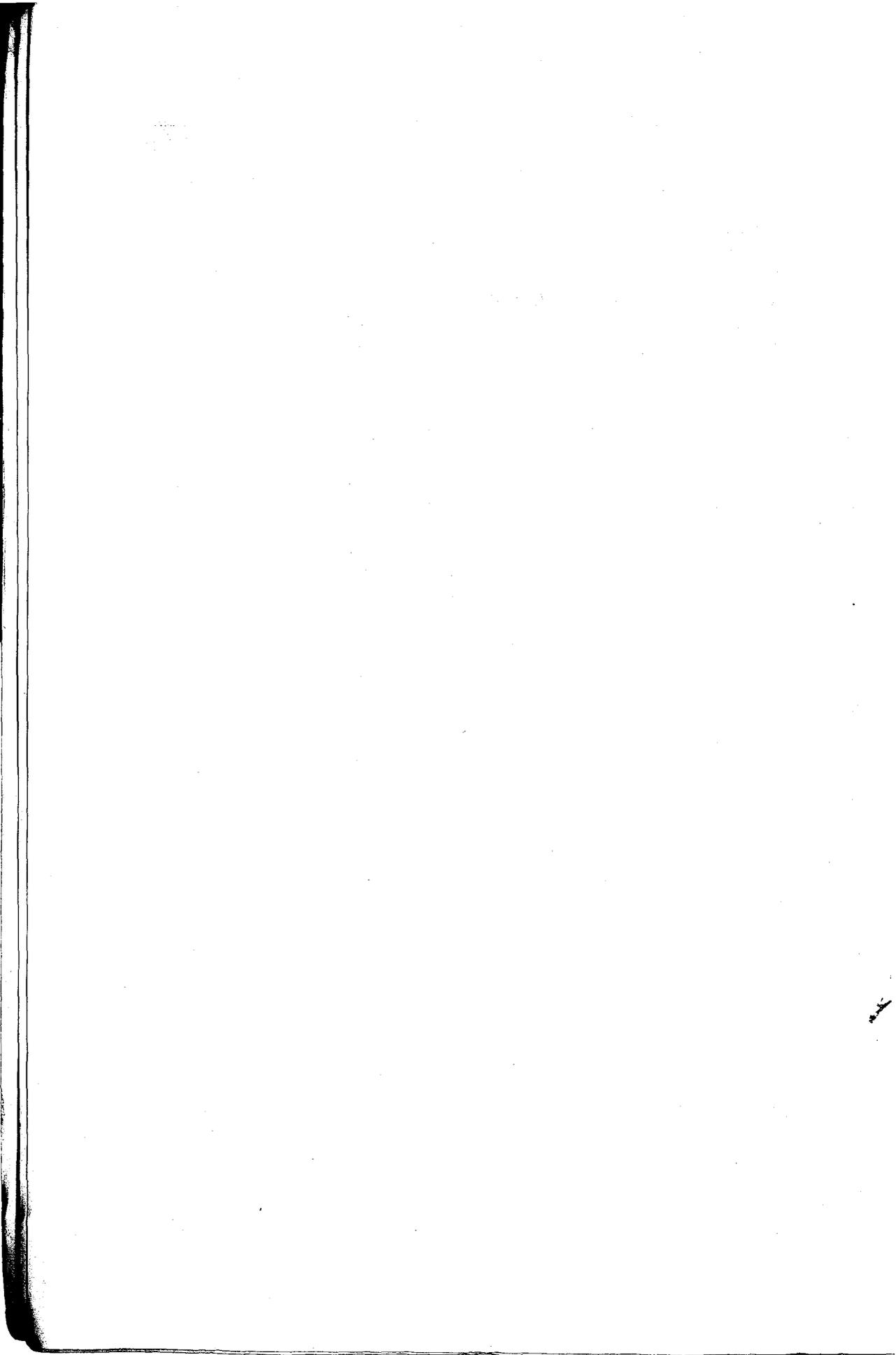
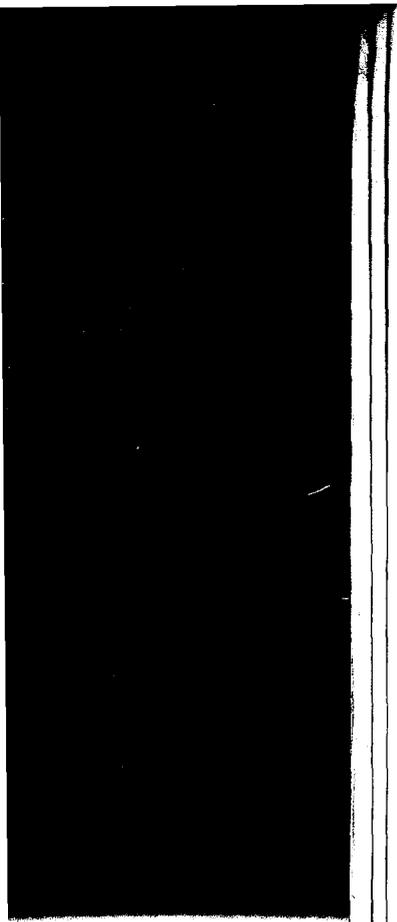
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14 March 1975

Federal Power Commission
Office of Energy Systems
825 North Capitol Street, N. E.
Washington, D. C. 20426

Gentlemen:

Submitted herewith is the report requested under your contract number FP-1752 related to archaeological and historical potential on or along natural gas pipeline routes in Alaska proposed by the El Paso Alaska Company.

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Over three thousand miles of possible pipeline routes were considered by us and these were divided into twenty-seven segments totally within the United States (Alaska) and one entirely within Canada. Our summaries and evaluations for each segment are given in the sections of the report corresponding to the segment numbers arbitrarily assigned from north to south.

The summation of our evaluation, judgment, and verification of the assessment by the El Paso Alaska Company can be found in the "AFTERWORD" of this report.

With kindest regards, we remain

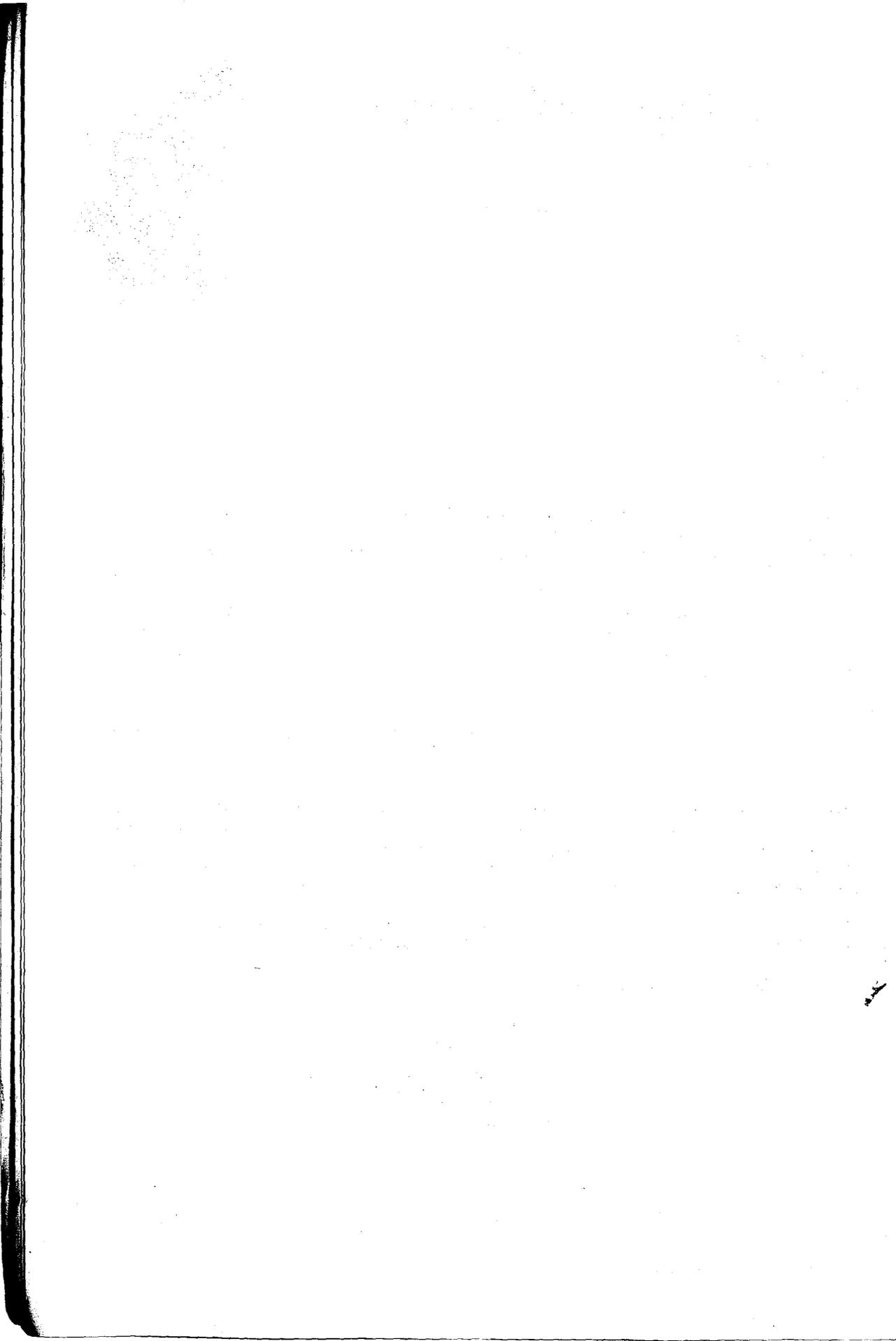
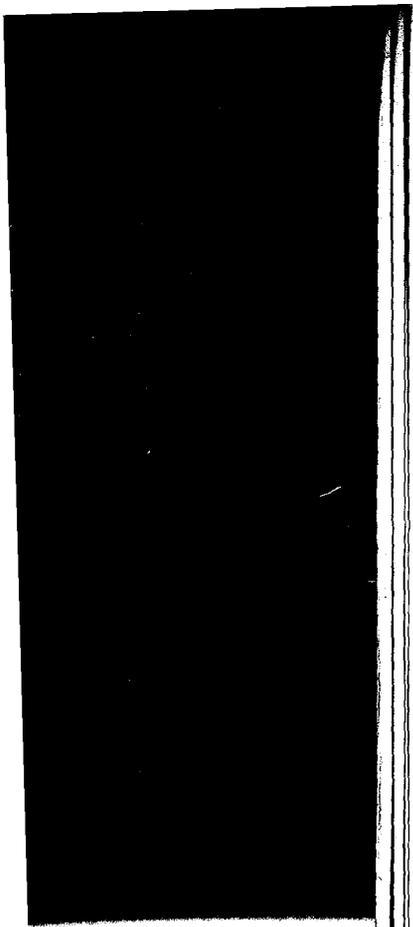
Respectfully,
IROQUOIS RESEARCH INSTITUTE


Bernard W. Poirier
Director



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BACKGROUND

The events leading to this two volume study of history and of archaeology in the north start with the discovery of vast oil and gas deposits in an area of Alaska north of the Brooks Range. This area is commonly called the "North Slope" because all the streams in the discovery area flow northward across the plains to the Beaufort Sea.

Readers familiar with recent events in Alaska should pass on to the "Introduction" where the criteria and goals for this study and investigation, commissioned by the Federal Power Commission, are set forth.

This first volume describes and evaluates the historic and archaeological potential of sites on or near the pipeline routes proposed on September 24, 1974, by the El Paso Alaska Company.

The second volume will contain a similar report for the pipeline routes proposed on March 21, 1974, by Alaskan Arctic Gas Pipeline Company.

On January 23, 1975, the Federal Power Commission consolidated all related proposals to one common Docket No. CP 75-96 et al.

The following is a summary of major events leading to the proposal by the El Paso Alaska Company, of major considerations involved in evaluating the proposal, and of the major factors influencing the Federal Power Commission's decision to have this work prepared.

ALASKA - THE GREAT LAND

Alyeska - so the Aleuts called the endless mountains, forests and tundra to the east of their islands. The land still dazzles the visitor with glacier-studded mountain ranges, smoldering volcanos, arctic tundra and migrating herds of wild animals, and above all - her people: the indomitable Eskimo hunters, strong-willed Indians, resolute Aleuts, the gold rushers and sourdoughs, the Alaskans today, and the new oil and gas engineers wresting treasure from a hostile and magnificent environment.

Alaska is an enormous state and contains over a half million square miles. It has four time zones and if placed on a map to scale of the contiguous forty-eight states, Alaska stretches from California to Florida and in its center is the crown jewel of mountains, Mt. McKinley. Point Barrow, northernmost tip of the United States, thrusts into the bleak Arctic Ocean.

Of the state's 265 villages, towns and cities, two-thirds have no access to railroad or to highway. Transportation is by air or water, on land, by snowmobile or occasionally by dog team. Over one hundred communities have no communications other than occasional short wave, disturbed by the aurora borealis. Transportation, traditionally a major issue in the north, has compounded hazards twice a year during the annual freeze-up of waters and the spectacular break-ups.

Most of the small villages are populated by Aleuts, Indians and Eskimos who in some measure still depend on food-gathering for subsistence and are generally involved in seasonal employment or public assistance. Year-round employment has been scarce and where it does exist is likely to be held by non-Natives. In many areas, income is low. In every area, the cost of living is high.

BLACK GOLD

In 1968, oil was discovered at Prudhoe Bay on the North Slope of Alaska. Initial tests indicated the discovery was a major one but its location in the tundra and permafrost would pose considerable problems in developing the field and in getting the oil to market. Little was known about this area of the north.

In February, 1969, three large companies announced their intention to finance and build a trans Alaska pipeline system. They were British Petroleum (BP), Atlantic Richfield (ARCO), and Humble Oil (now Exxon). The pipeline would cross the state to transport the crude oil from Prudhoe Bay to the port of Valdez in the southern part of Alaska. Requests for Federal rights-of-way and construction permits were filed in June, 1969. In 1969, the National Environmental Policy Act of 1969 (NEPA) was enacted. The new law required the study of the probable environmental impact before any action could be taken on a project such as the pipeline when there was reason to believe there would be a significant effect and impact upon the environment.

Shortly after the passage of NEPA, various environmental groups filed legal suits with respect to the proposed pipeline, and in a series of court cases, the Secretary of the Interior was enjoined from granting the pipeline permits because NEPA had not been complied with and because the permit application requested the grant of a right-of-way in excess of that authorized by the Mineral Leasing Act of 1920. Legal suits by fishermen and by Natives have also been instituted for various reasons.

During the period from 1969 to 1974, considerable design changes were made by the pipeline applicants and task forces from the Department of the Interior and from other specialized Federal and State agencies, drafted, and revised the environmental and technical guidelines and technical stipulations attached to the Federal right-of-way permit issued to the pipeline applicants (TAPS) in early 1974.

The Department of the Interior published a six volume Environmental Impact Statement in 1972 and in late 1972, the court ordered injunction against the Secretary of the Interior was temporarily lifted, but in early 1973, a Federal appellate court reversed the lower court's action and reinstated the injunction because of the failure to comply with the Mineral Leasing Act of 1920. The appellate court did not rule on the complex environmental issues of the case, and the United States Supreme Court declined to review the decision of the appellate court. The issue was then taken up by the Congress.

Congress responded by passing the Trans Alaska Pipeline Authorization Act which was signed into law in November, 1973.

NEW NATIONAL POLICY

The Authorization Act contains Congressional findings that "the early development and delivery of oil and gas from Alaska's North Slope to domestic markets is in the national interest, that the earliest possible construction of a transAlaska oil pipeline...will make the extensive proven and potential resources of low-sulfur oil available for domestic use and will best serve the national interest" and that the Final Environmental Impact Statement published by the Department of the Interior fulfilled the requirements of NEPA. The Mineral Leasing Act was also amended to permit the grant of temporary land use permits sufficient to construct the System.

The Authorization Act imposes no-fault liability on the owner companies to any public or private party for any damage caused to property or to the environment which results from activities in connection with TAPS in an amount up to \$50 million for each incident. Above such amount, liability would be determined on the basis of ordinary rules of negligence. In addition, the Authorization Act creates the Trans-Alaska Pipeline Liability Fund, to be funded by a fee of five cents per barrel collected from each owner of crude oil at the time it is loaded on board ship at Valdez. These fees will be accumulated until the Fund reaches \$100 million and will later be reimposed if necessary to maintain the Fund at such amount.

Strict liability for any damage, from the time vessels carrying TAPS oil leave the terminal facilities at Valdez until the time the oil is discharged at ports under the jurisdiction of the United States, is imposed on the owner and operator of the vessel, jointly and severally, for the first \$14 million of allowed claims relating to any one incident. The Fund is made liable for the balance of the claims allowed up to a maximum of \$100 million for any one incident. Any unpaid portion of a claim in excess of such amount may be asserted and adjudicated under other applicable law.

The Authorization Act further prohibits the export to any foreign country of crude oil transported over the System except upon a Presidential finding subject to Congressional review that the proposed export will not decrease the crude oil supply in the United States and is in the public interest.

The Agreement and Grant of Right-of-Way for the Trans Alaska Pipeline (the Federal Permit) was entered into as of January 23, 1974 between the United States Government, acting through the Secretary of the Interior and the several TAPS participants. The terms of the Federal Permit require continuing supervision of construction, operation and maintenance of the System by an Authorized Officer designated by the Department of the Interior.

All construction plans must be reviewed and approved by the Authorized Officer before work covered by such plans can begin, and the Authorized Officer has the authority at any time to order the suspension of construction or operation, or order a modification, of the System if he deems it necessary in order to protect the public health or safety or to protect the environment from "immediate, serious, substantial and irreparable harm or damage" or in his judgment the TAPS participants are failing or refusing to comply with the Federal Permit or any of his orders.

In addition, the TAPS participants are required to dismantle and remove the System after it has ceased to be operated and are liable for damage to the United States property or natural resources resulting from the construction, operation, maintenance or dismantling of the System.

The Stipulations attached to the Federal Permit set forth in detail environmental and technical criteria which must be followed in the design, construction, operation and dismantling of the System. The Environmental Stipulations provide, for example, that construction be carried out so as to minimize damage to fish and wildlife habitat and to the tundra and that the aesthetic value of the area be preserved. The Technical Stipulations include requirements as to valve locations, seismic design, modes of construction, water crossings and erosion control, permafrost protection and numerous other matters.

Under the Right-of-Way Lease (the "State Permit"), entered into on May 3, 1974, the State of Alaska leases to the TAPS participants the use of State lands. The State Permit contains provisions generally parallel to those of the Federal Permit; a State-appointed Pipeline Coordinator will serve in a capacity similar to the Federal Authorized Officer, approving construction plans and enforcing compliance with Stipulations which parallel those of the Federal Permit. TAPS since has changed its name to the Alyeska Pipeline Service Company (APSC or Alyeska).

In addition to the supervision of the System under the Federal and State Permits, other Federal and State agencies will regulate the impact of the System on the environment in various respects. Alyeska has applied and will apply for numerous Federal and State permits which will be necessary from time to time.

The Administrator of the Federal Environmental Protection Agency will insure compliance with the requirements of the Clean Air Act and related regulations and will have responsibility for insuring that discharges into waterways comply with applicable limitations. Coast Guard regulations will govern the movement of the estimated two to three tanker arrivals and departures per day required to move the pipeline oil south from Valdez. A vessel traffic control system will control ship movements through Prince William Sound and into the Port of Valdez.

TODAY ON THE NORTH SLOPE

It is expected that the main reservoir in the Prudhoe Bay field will be operated under a unit agreement among the lessees of interest in the field. Under such an agreement, all of the production from the reservoir will be allocated among the lessees on a basis to be agreed upon. Although in 1969 the principal lessees entered into a letter of intent to allocate oil production on the basis of oil originally in place, negotiations largely ceased during the delay in the issuance of the permits for APSC and a formal agreement has not yet been entered into.

The Prudhoe Bay field has been divided into two areas of approximately equal size for the purpose of development and operation. BP Alaska Inc., a wholly owned subsidiary of BP, is the operator of the western portion and Atlantic Richfield Company (ARCO) is the operator of the eastern portion of the field. The initial development plan provides for about 130 wells spaced throughout the field. The oil will flow from the wells to gathering centers (or flow stations) where gas and water will be separated from the oil. After separation, the oil will be pumped to APSC pump station No. 1 and the gas will be pumped to a central gas compression plant initially for reinjection into the reservoir.

As of December 31, 1974, 70 production wells had been drilled. Four gathering centers, which are now under construction are scheduled to be ready for operation in the latter part of 1977, will be capable of handling at least 1,200,000 barrels per day of crude oil output. It is anticipated that two additional gathering centers will be placed in operation by mid 1978.

The total cost of field development and facilities required to commence production in the Prudhoe Bay field, which will be shared by the lessees in proportion to their interests under the unit agreement, is currently estimated at approximately 1.9 billion, of which approximately \$530 million had been spent as of December 31, 1974. This estimate includes approximately \$82 million for gathering centers and field pipeline systems, \$500 million for drilling and associated operating costs, \$180 million for the gas compression plant and \$80 million for a power station.

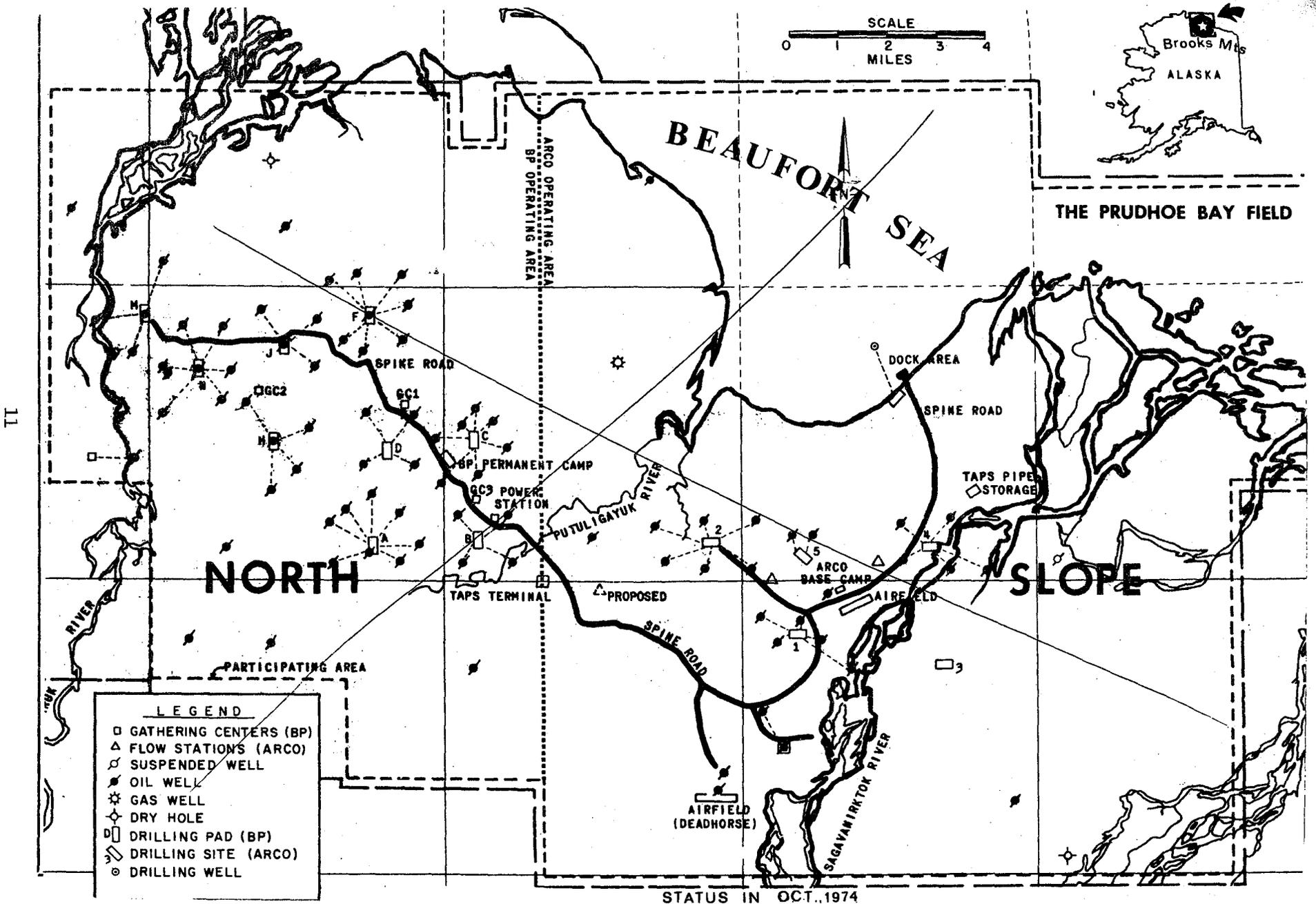
The facilities described above will permit initial production from the Prudhoe Bay field at a rate of 1,200,000 barrels of oil per day and, if expanded, would permit an increase to approximately 1,600,000 barrels of oil per day. It is impossible to predict with certainty the maximum efficient rate of production. It is estimated that a production rate of approximately 1,500,000 barrels per day could be sustained for six to eight years, or, alternatively, that a production rate of 1,200,000 barrels per day could be sustained for a longer period.

Additional wells will be necessary after the start of production of the field in order to sustain or increase such rates. Water injection will be introduced at some time to sustain, or to decrease a decline in, the rate of production and to increase the amount of oil recovered. Other recovery methods may also be applied. Any decisions as to the timing and number of additional wells and the introduction of water injection and other recovery techniques will depend on the economics of such action and reservoir behavior and will include consideration of environmental matters. The State of Alaska must approve the field's maximum efficient rate of production and the rate at which the field is permitted to produce from time to time.

NATURAL GAS

Until a gas pipeline is available, produced gas will be reinjected into the reservoir. No production plan for gas has been agreed upon but some tentative sales commitments by owners have been announced.

El Paso Alaska on September 24, 1974, filed an application with the Federal Power Commission in Docket No. CP75-96 under Section 7 of the Natural Gas Act seeking a certificate for the construction and operation of a pipeline from Prudhoe Bay on the Alaskan North Slope to Gravina Point, Alaska, and an LNG tanker transport system capable of delivering the gas to the contiguous United States. The application on March 21, 1974, by Alaskan Arctic Gas Pipeline Company in Docket No. CP74-239 (Alaskan Arctic) may be a competing application for a pipeline from Prudhoe Bay through Canada to the lower 48 states. Other applications associated with that of Alaskan Arctic cover projects to carry the North Slope gas to the east and west coast of the contiguous United States.



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The current operators on the North Slope believe that continued reinjection of gas will have no material detrimental affect on production rates of, or the amount of oil ultimately recovered from, the main reservoir in the Prudhoe Bay field.

Oil and gas have been encountered in several wells in the Lisburne formation which is located at a greater depth than the main reservoir of Prudhoe Bay field. Further drilling will be necessary to establish the economic and commercial value of these accumulations.

The State of Alaska has a 12.5% royalty interest in crude oil production. This interest entitles the State either to take in kind 12.5% of the "wellhead price" of all such production ("wellhead price" is, in effect, the price which the crude oil is sold minus all costs of transporting the oil to the point of sale).

The State of Alaska has a severance tax which provides for the imposition of a tax on oil produced from the Prudhoe Bay field equal to the higher of (a) approximately 8% of the gross wellhead price of the oil produced or (b) approximately 27 cents per barrel of oil produced. The latter rate is subject to adjustment depending on the specific gravity of the oil and the wholesale price index for crude oil in the United States. The severance tax on gas is currently 4% of the gross wellhead price. In addition, the State imposes an annual ad valorem tax at a rate of 20 mills (two cents per dollar of assessed valuation) on all oil and gas exploration, production and pipeline equipment. For the purposes of such tax, APSC will be valued on the basis of actual cost during the construction period and thereafter on the basis of actual cost less depreciation or economic value.

The future value of the proved reserves in the Prudhoe Bay field depends upon a number of factors, including the world price of oil as of time to time primarily by the major petroleum exporting countries, regional factors affecting the price of oil within the United States, the magnitude of future discoveries which could supply the United States market, the level of future demand, and the costs, including tax costs, of bringing the Prudhoe Bay field to market.

A utility corridor was established by the Secretary of the Interior through which the APSC's crude oil pipeline will be constructed, although with some delay in the original construction schedule.

In addition to the crude oil pipeline project, an equally important aspect is that of land ownership in Alaska.

The Alaska Natives Claims Settlement Act (PL 92-203, 18 December 1971) (ANCSA) requires that Alaska's Natives, Indian, Eskimo and Aleut, select 40,000,000 acres of land for themselves before the end of 1975. Much of this 40,000,000 acres being selected by the Alaska Natives is mapped and known only in general terms. Many of the Natives in the majority of areas where most selections are to be made rely on subsistence garnered from the land. Some 200 villages have selected a minimum of 69,000 acres for a total of about 22,000,000. A dozen tribal regions will select about 16,000,000 before the end of December 1975. The remaining 2,000,000 acres are being selected by individuals or set aside as historical sites and so forth. Village selections were made by the end of 1974, and regional selections will be made by the end of 1975.

In competition with the Natives in selecting available lands are the State of Alaska and the Federal Government. Prior to PL 92-203, the State had patented only 5,000,000 acres of the 104,000,000 allowed under statehood. It also had 8,000,000 tentatively approved and 11,500,000 under applications. Before the enactment of PL 92-203, the Federal government had withdrawn some 70,000,000 acres for national parks, forests, refuges, reserves and other public interest goals. The Secretary of Interior has designated 83,470,000 acres for Federal withdrawal under PL 92-203.

By choice and by circumstance, many Native Alaskans still live by subsistence hunting, fishing, trapping and gathering in areas through which most pipeline segments are proposed. Until recent years, the dual concepts of land ownership and of land use have often been alien in the bush and only now is there a maturing of reconciliation and understanding between these concepts. Meanwhile, the intrusion of a new influence in an undisturbed area tends to be more severe than the impact of the same type of influence in an already disturbed area. A house-to-house survey of subsistence habits in 1972 showed that over 11,000 acres in the Noatak area were required to support traditional food and clothing needs for one man for one year.* The measure of impact on an area therefore goes beyond the simple quantification of impact in cash terms, and beyond the total preservation values of traditional land use patterns in the modern world.

*

"Under the foregoing formula, each village would, theoretically, select at least 69,120 acres. The more remote villages, heavily subsistence oriented, face a significant selection trauma. The Tuluqmiut Eskimo of Anaktuvuk Pass, for example, has traditionally required over twice as much land to support only one hundred individuals. They ranged at one time over an area exceeding 3200 square miles with a population with fluctuated between 25-100 individuals. (Campbell, 1968). The question immediately arises; which of the 92,160 acres to which they are entitled should the Tuluqmiut choose? Further, given the shifting nature of animal migrations, how widely must they range outside their own village boundaries? This concept is further illustrated by conditions in the Point Hope, Kivalina, Noatak area. (Foote and Williamson, 1966). The combined population of these areas is 744, yet in terms of land acres per person required by these subsistence patterns, the human carrying capacity of the land computes to one person per 8,643 acres (exclusive of their use of the sea and its marine animal resources). Not only does population far exceed carrying capacity, but the seasonal land use patterns for all three areas overlap extensively and present potential ownership problems. New survey data suggests that over 11,000 acres provide one man/year subsistence."

Alaska Federation of Natives, Inc. and The Arctic Company, Ltd., SURVEY INVESTIGATION OF ALASKAN NATIVE LAND USE PRIORITIES, A PRETEST FOR ESTABLISHING DECISION CRITERIA, Copyright, 1973, The Arctic Company, Ltd., Falls Church, Virginia. By Nancy Yaw Davis, Ph.D., Robert Lee Humphrey, Jr., Ph.D., Michael D. Musillo, Bernard W. Poirier, and Willie L. Hensley to National Science Foundation.



TRAVEL OVER THE ICE PACK

This turn-of-the-century photo from the National Archives shows the white man's adaptation of the Native Alaskan's technique to cross pack ice to reach open sea.

NATIONAL INTEREST LANDS

National interest lands are classified pursuant to section 17(d)(2) of the ANCSA and are lands withdrawn from all forms of appropriation under the public land laws, including the mining and mineral leasing laws, from selection under the Alaska Statehood Act; and from selection by regional corporations. The Secretary was directed to withdraw up to 80 million acres of d-2 lands for possible inclusion into the four national conservation systems. The d-2 lands not included in the four systems of reclassified for Native or State Selection did revert to public interest lands (d-1) on December 18, 1973.

PUBLIC INTEREST LANDS

Public interest lands (d-1) are lands classified pursuant to section 17(d)(1) of ANCSA and are lands withdrawn from all forms of appropriation under the public land laws, including the mining (except for metalliferous minerals) and the mineral leasing laws, to insure that the public interest in these lands is properly protected. The Secretary has withdrawn approximately 43 million acres of d-1 lands within the State of Alaska and is authorized to classify and reclassify these lands to open them to appropriation under the public land laws in accordance with his classification.

NATIVE ALLOTMENT LANDS

The Alaska Native Allotment Act of 1906 (34 Stat. 197) authorized the Secretary of the Interior to allot individual Natives title up to 160 acres - in up to four separate tracts - of lands they use and occupy. Such allotments must be non-mineral in character. No improvements were necessary; all that had to be certified was "substantially continuous use and occupancy." The Bureau of Land Management is now recording, mapping, and processing Native Allotment claims.

FACTORS AFFECTING THE SCOPE OF THIS STUDY

In its filing to the Federal Power Commission, El Paso proposes to build a "Trans-Alaska Gas Project" by which natural gas from the North Slope will be transported by pipeline to a terminus on Alaska's southern coast where a liquefaction plant will convert the natural gas to liquified natural gas (LNG). The LNG would then be transported by LNG tankers over marine routes to a corresponding regasification facility on the West Coast.

El Paso identifies in its filing a total of over 4,000 miles of possible routes for a pipeline through Alaska, and identifies a preferred, or Prime Route of an 809 mile, 42" buried pipeline route to Gravina Point in Prince William Sound, a route often parallel to the crude oil Alyeska pipeline now under construction.

The Federal Power Commission is making an environmental evaluation of several routes in Alaska which are proposed for natural gas pipelines. The Iroquois Research Institute has prepared in this volume for the Commission a study of the traditional, cultural, historical and archaeological importance and potential of sites that may be on or near the routes proposed by the El Paso Alaska Company.

The Iroquois Research Institute has reviewed the archaeological and historical portions of the El Paso Alaska Company application related to the proposed prime and alternate pipeline routes and the proposed liquefaction plant site and alternative sites on a geographical basis. El Paso's assessment was verified against known and potential historic and prehistoric sites.

The criteria applied in the evaluation of properties possessing historical architectural, archaeological or cultural value has been the National Register Criteria set forth in the National Historic Preservation Act of 1966 and Chapt VIII, Advisory Council on Historic Preservation (Part 800). Properties identified are those which are included in or eligible for inclusion in the National Register.

A literature and museum search for pertinent data on site areas has been conducted, resulting in a summary of known historical and archaeological data concerning the proposed El Paso project.

This evaluation has examined the historic and cultural significance to native groups of lands traversed by the proposed routes and sites, independent of El Paso's archaeological/historical assessment, and has been reported on a regional or corridor basis rather than by specific geographical coordinates.

This report includes documentary correspondence with the Alaska State Historic Preservation Officer; National Park Service Pacific Northwest ^{West} Regional Office, Seattle, Washington; and the Department of Anthropology, Alaska Methodist University, Anchorage, Alaska. A record is included in the Appendix of any meetings held with pertinent State or Federal officials during the course of the contract, plus the status of current research, unpublished works, and any relevant investigations planned for the future made known during the study which started on January 28, 1975. The archaeological portions cover all the early periods leading to the Historical portions starting with the Russian introduction in 1741.

Bernard W. Poirier
Director
Iroquois Research Institute

EXISTING REGULATIONS IN ALASKA FOR HISTORIC
PRESERVATION DURING CONSTRUCTION PROJECTS

1. Between the U. S. Government and the Trans-Alaska Pipeline permittees (Alyeska)--"Stipulations for proposed Trans-Alaska Pipeline", 28 February 1972; revised and effective 23 January 1974:

"1.9. Antiquities and Historical Sites

"1.9.1. Permittees shall engage an archeologist approved by the Authorized Officer to provide surveillance and inspection of the Pipeline System for archeological values.

"1.9.2. If, in connection with any operation under this Agreement, or any other Agreement issued in connection with the Pipeline System, Permittees encounter known or previously unknown paleontological, archeological, or historical sites, Permittees shall immediately notify the Authorized Officer and said archeologist. Permittees' archeologist shall investigate and provide an on-the-ground opinion regarding the protection measures to be undertaken by Permittees. The Authorized Officer may suspend that portion of Permittees' operations necessary to preserve evidence pending investigation of the site.

"1.9.3. Six copies of all survey and excavation reports shall be filed with the Authorized Officer."

2. Alaska Construction Manual, Department of Highways (June 1972):

"1.10.00 Archeological and Paleontological Salvage:

"It is national and state policy to preserve historical and pre-historical objects such as ruins, sites, buildings, artifacts, fossils and other objects of antiquity that may have significance from a historical or scientific standpoint for public use.

"On a construction project, when it appears that a significant historical or prehistorical object has been or is about to be encountered the engineer should immediately take steps to preserve same and shall notify the district engineer. The district engineer will advise the University of Alaska, Department of Anthropology and Geography, of the facts and permit them to inspect the site to determine the advisability of salvaging the objects."

3. Standard Specifications for Highway Construction 1972:

"When the Contractor's excavating operations encounter remains of prehistoric people's dwelling sites or artifacts of historical or archaeological significance, the operations shall be temporarily discontinued. The Engineer will contact archaeological authorities to determine the disposition thereof. When directed by the Engineer, the Contractor shall excavate the site in such a manner as to preserve the artifacts encountered and shall remove them for delivery to the custody of the proper state authorities. Such excavation will be considered and paid for as extra work."

ADZ

A cutting or planing tool with the blade's cutting edge in a line horizontal to the handle.

AEOLIAN DEPOSITS

Sediments and sedimentary rocks which are mostly composed of wind-blown material.

ALLUVIUM

A general term used to designate the sand, silt, and mud deposited by a stream or river, along its banks or upon its floodplain, during periods of high water.

ANADROMOUS FISH

A class of fish which ascend rivers from the sea for breeding purposes.

ANGLE BURIN

See Burin

ANTICYCLONE

An air mass with high barometric pressure relative to its surroundings, rotating in the opposite direction of the earth's rotation, and varying from a few hundred miles to several thousand miles in size. Usually accompanied by bright, clear weather.

ALPINE TUNDRA ECOSYSTEM

Characterized by barren rocks and rubble interspersed with low plant mats, both herbaceous and shrubby.

ARTIFACT

Any object or part of an object that was made or altered by man.

ASSEMBLAGE

The piecing together of the findings of an archaeological site, including all the types of activities, artifacts, burials, etc. The term also denotes all the artifacts which have context together

BARB

A projection on the head of a weapon, such as a spear or arrow, that anchors the head in place after it enters the flesh of an animal.

BASALT

A fine-grained, igneous rock, dark grey or black.

BEDROCK MONUMENT

Bedrock projecting above surrounding landscape.

BELUGA

Commonly called the white whale, this is a mammal of the dolphin-purpoise family that reaches a length of 10 to 18 feet.

BIFACED

A term describing an artifact that has been worked both front and back.

BIPOLAR (TECHNIQUE)

A tool-making technique producing flakes from both ends of a core.

BLADE

A parallel-sided narrow, long flake, fairly flat and thin, and often fairly large. Also lamellar flake.

BLADE, NOTCHED

A blade with a notch in it, probably used to prepare a shaft or to point an arrow.

BLOWOUT

A valley or depression blown out by the wind in areas of shifting sand or light soil.

B. P.

Before present.

BORER

A variety of hand ax which is smaller than normal and has its point drawn out in a narrow spike shape. It is cylindrical, with a sharp edge, and is used to make holes in materials.

BOTTOM-LAND SPRUCE-POPLAR FOREST ECOSYSTEM

A tall, relatively dense forest system usually found along level flood plains and low river terraces, with a generally dense undergrowth consisting of high and low shrubs and other plants.

BURIN

A flake tool for sculpturing or engraving. It is characterized by a blade with sides sliced obliquely at one end so that they form a narrow chisel edge when they meet.

BUTCHERING SITE

See Kill site

CACHE

A secure place for concealing, preserving, and storing provisions or implements.

CAMP SITE

An archaeological site characterized by the presence of a hearth, and a tool inventory including, for instance, skin preparation tools, fleshing tools, engraved objects, implying domestic or leisure related activities occurring over a period longer than one night.

CHERT

A fine-grained rock similar to flint.

CHIPS

The small waste pieces that result when a stone is flaked or chipped into an implement.

CHIPPING, STONE

Shaping stones by chipping.

CHIPPING STATION

A site where lithic material has been chipped and flaked as evidenced by the great amount of debitage.

CHISEL

A flint tool whose cutting part is made in a thin edge, so that its cutting line lies parallel to the flakes plane.

CHUKCHI

The most easterly inhabitants of Siberia.

CLAN

A kin group where membership is reckoned either through the mother's of father's ancestral line only; usually a member must marry outside this kin group. A clan provides mutual security, legal help, government, marriage regulation, economic relationships, religion, ceremonies, property regulation, social control, and role assignment. Members of a clan usually live in one locality with common property. The members usually trace their descent from their original ancestor, who may exist only in the mythological past and can be either human, animal, or a spirit or feature of the landscape.

COASTAL WESTERN HEMLOCK-SITKA SPRUCE FOREST ECOSYSTEM

A dense evergreen forest system. In poorly drained lowland areas it is associated with Low Brush-Muskeg Ecosystems.

COMPOSITE HOUSE

A structure consisting of several rooms or houses joined together.

COMPLEX

A group of related traits or characteristics that combine to form a complete activity, process, or culture unit. Lithic complexes are identified by the presence of several key implements or tool types in association.

COMPONENT

An archaeological site or level within a site that represents one manifestation of a geographically and chronologically limited culture unit.

CONTACT PERIOD

The period from the mid-18th century to the late 19th century during which white men first arrived in Alaska.

Core

A piece of flint, obsidian, or stone from which flakes were struck to make implements.

CULTURE

All that which is non-biological and socially transmitted in a society, including artistic, social, ideological, and religious patterns of behavior, and the techniques for mastering the environment.

DALL SHEEP

A large white wild sheep. (*Ovis montana dalli*)

DART

A barbed harpoon.

DEBITAGE

Flaking and chipping debris.

DEFLATED SITE

See Blowout

DENDROCHRONOLOGY

A method of determining dates from the examination and comparison of the growth of tree rings.

DIACHRONIC STUDIES

The analysis of culture change, through time and space.

DIAGNOSTIC ARTIFACT

A sufficiently distinct artifact feature or artifact type which can be placed into an existing cultural tradition.

DIFFUSION

The transference of elements of culture from one society to another.

DISCOIDAL SCRAPER

A disc-shaped scraping tool.

ECOSYSTEM

The basic unit in ecology. It includes organisms and their non-living environment, each interacting and influencing the properties of the other. It has characteristic vegetation with associated animal and/or human community. It may be defined and studied in various sizes as long as the major components are present and operate together to achieve some sort of functional stability. Vegetation, as the only means of converting solar energy, air, minerals, and moisture into forms sustaining animal life, determines the basic pattern of natural and human environment.

END BLADE

A blade attached to the end of any tool or weapon to serve as a cutting edge.

EOCENE

Earliest geological epoch in the Tertiary Period extending from seventy million to forty-five million years ago.

ETHNOARCHAEOLOGY

The use of ethnography and native informants to aid in the location and interpretation of archaeological sites and materials.

ETHNOGRAPHY

The descriptive study of the cultures of living peoples.

FACET

One of several small, flat, or nearly flat, surfaces or an artifact.

FIORD ESTUARIES MARINE ECOSYSTEM

This zone is protected from direct pounding of sea waves. Since the water stratifies (by temperature-levels) high plant production is limited to early spring. Kelp, intertidal seaweeds, and varying densities of one-celled plants are found. Animal life is essentially that of Wave-Beaten Coasts.

FLAKE

Any piece of stone removed purposefully from a larger stone.

FLAKEKNIFE

A flake sharp enough to be used as a knife just as struck from the core, although it may be further sharpened or refined by additional chipping.

FLAKING

See Chipping.

FLAKING, PRISMATIC

A fairly advanced method for making flint implements.

FLAKING STATION

See Chipping Station.

FLINT

A very hard smooth stone, highly desirable for fashioning into tools and weapons because of the extremely sharp edges obtained by flaking or chipping.

FLINTS

A term popularly used to denote all chipped and flaked stone artifacts.

FLINT KNAPPING

See Flint Chipping.

FLUTED POINT

A bifaced weapon point with one or both faces thinned at the center from the base toward the tip. The thinning permits the insertion into a shaft that has been split to receive it.

FLUVIAL

Meaning river, and used by geologists and physiographers to denote a river as the agent shaping the earth or depositing sediment.

GLACIAL TILLS

Coarsely graded sediments composed of clay, sand, gravel, and boulders deposited by mountain or continental glaciation.

GRAVER

A small, pointed stone tool used to engrave bone, antler, or ivory.

GRAVER FACET

A flake scar that results from holding the flake or blade vertically and striking a vertical blow at that point.

HABITAT

The environmental setting in which a plant or animal lives; including food sources, shelter and suitable climate.

HAMMERSTONE

A round stone which is used to hammer.

HAND AX

A superficially flaked core-tool, with a sharp edge between the trimmed upper and lower faces. These heavy triangular artifacts were probably general utility weapons.

HARPOON

A shafted weapon with detachable head used for hunting sea mammals. A line fastened at one end to the head is secured at the other end by the hunter, so that when the head of the weapon enters the flesh of the animal, a tug on the line rotates (toggles) the head enough so that it cannot be pulled out.

HEARTH

The pavement, which can be lined with clay or stones or may be just a depression, used for fire.

HIGH BRUSH ECOSYSTEM

These are dense to open deciduous brush systems of three major types: extensive coastal alder thickets with well-developed grass and fern layer below, flood plain thickets, and birch-alder-willow thickets, dense or open, found near the tree line in interior Alaska.

HOUSE PIT

A house built by embedding the floor in the ground over the site of a pit before erecting the superstructure.

HUMIC SOIL, HUMOUS

Black or brown organic soil material formed from decayed or decomposing animal or vegetable matter.

HYDROLOGIC REGIONS

These are major geographic/physiographic areas which are defined with reference to the drainage of principal rivers, bays, or areas of the sea.

IGNEOUS ROCK

Rock produced by a solidification of molten material within or on the surface of the earth.

IN SITU

A term applied to an object found in its natural position or place in the rock or earth in which it was first placed or formed.

INTRUSIVE

A term applied to an object found in a soil level in which it was not originally formed or deposited.

KAMES

These are irregularly shaped mounds and depressions associated with glaciated regions.

KILLSITE

Indicated by the presence of points, butchering tools, lance points, arrows, spear, and faunal remains.

LAMELLAR FLAKE

See Blade

LANCEOLATE

Narrow and tapering to a point at the peak.

LENSES, ICE

A layer of ice found in permanently frozen ground.

LICHEN

A small, mosslike plant that grows extensively in the north. This is a primary food for caribou and reindeer.

LITHIC

Stone

LOESS

A yellowish and nonstratified silty material carried by the wind and deposited at a distance. Loess deposited on the surface continues the process that occurs in the dry and cold steppe flanking glaciers.

LOOK-OUT SITE

A high place, as on a cliff, with various tools, flaking debris, and lack of faunal remains.

LOWLAND SPRUCE-HARDWOOD FOREST ECOSYSTEM

Characterized by dense to open lowland forest of evergreen and deciduous trees, with small bogs and muskegs in depressions.

LOW BRUSH, MUSKEG-BOG ECOSYSTEMS

Vegetation in this ecosystem is varied, but commonly consists of a thick sphagnum moss mat, lichens, low shrubs and cotton grass, with shrubs dominant in the exposed and drier areas.

MESOLITHIC

The cultural period between the Paleolithic and Neolithic periods, from about 10,000 B.C. to 8,000 B.C., when farming and pottery first appeared in the Near East. This cultural stage reached other places at later times.

MICROLITHS

Very small stone tools formed from small prismatic flakes. They occur in geometric forms, often set in rows in slots cut in wood, bone, or antler implements. Most common types of stone tools, such as blades, cores, burins, etc. are found in these small forms.

MIDDEN

A refuse mound, usually associated with habitation sites.

MOIST TUNDRA

Characterized by a complete ground cover varying from continuous cottongrass tussocks with sparse growth of other sedges and dwarf shrubs to areas where tussocks are scarce and dwarf shrubs are dominant.

MORaine

The deposits of boulders and other debris carried down on a glacier's surface and dropped when the ice melts.

MUSKEGS

A sphagnum or peat bog, especially one with grassy tussocks.

NATIVE

An individual with Aleut, Eskimo or Indian parentage in Alaska.

NEOLITHIC

The cultural period beginning about 8,000 B.C. in the Near East and later elsewhere, characterized by ground and polished stone and bone tools, pottery, domesticated animals, and cultivated grain.

NIVATION

Freezing followed by thawing.

OBLIQUE FLAKING

Where the flaking scars are directed diagonally across the face of the specimen, joining so smoothly as to give the impression of a single flake scar.

OBSIDIAN

Volcanic glass.

PALEOINDIANS

The people who inhabited the New World during and just after the last glacial advance (c. 10,000 B.C.). They lived by hunting large animals, now extinct, such as the mammoth, with finely made stone weapons.

PALEOLITHIC

This was the period when man had his beginnings and gradually began to improve his techniques of chipping stone tools. This period ended about 10,000 B.C.

PALEONTOLOGY

The study of fossils.

PATINATED

Possessing a surface changed or mellowed by long use or exposure to the elements.

PEAT

Partially carbonized vegetable matter, such as accumulates in a swamp.

PERCUSSION FLAKING

The technique of shaping a stone through removing flakes by blows struck with another stone or with a heavy bone or piece of wood.

PERMAFROST

A layer of soil at a variable depth beneath the earth's surface in which the temperature has been below freezing from a few years to several thousands of years.

PHYSIOGRAPHIC REGIONS

Regions which are defined in reference to the large-scale land forms in the area.

PICTOGRAPH

A cartoonlike character intended for communication rather than art.

PIT HOUSE

See House Pit

PLEISTOCENE

The glacial epoch, extending from 1 1/2 million years ago until about 10,000 years ago.

POINT, PROJECTILE

An implement which probably served as the tip of darts, lances, arrows, and other devices used in hunting.

POLYHEDRAL CORE

The many-faceted core remaining after the removal of a quantity of blades.

POTSHERD

A piece or fragment of broken pottery.

PRESSURE FLAKING

The process of removing chips or flakes from a piece of stone by pressure rather than by a direct, hard blow.

PRESSURE RETOUCH

Sharpening, edging, or re-edging a tool or weapon by pressure flaking.

PTARMIGAN

A northern game bird of the grouse family.

RADIOCARBON DATING

A method of determining the age of an organic specimen by measuring the degree of disintegration of its carbon-14 atoms.

RETOUCH

A secondary removal of small flakes from a stone artifact for the purpose of sharpening or resharpening the edge.

SCRAPER

An artifact used for rasping or cleaning hides. They are named by the position of their cutting edge, as end scraper, side scraper, or by their shape, turtle back, snub-nosed, or thumb scraper.

SHAMAN

An individual who is believed to derive power directly from the supernatural which he often uses for purposes of healing.

SIDE BLADE

A blade attached to the side of a tool or weapon to serve as a cutting edge.

SPALL

To break around or break into smaller pieces; a piece broken off in making a core tool; a fragment or a chip.

STAGE

A level in an historical-developmental sequence. A given cultural stage may be reached at different times in different areas.

STRATIGRAPHY

Natural, often differing, deposits that have accumulated in one place over a period of time and now lie layered in the earth's surface, the oldest deposits being the deepest. Cultural materials are dated relative to each other by their position in the stratigraphic levels.

STRIKING PLATFORM

A small flat surface on a lump of flint on which it is possible to strike the kind of blow needed to fashion an implement.

TENT RINGS

Stones used to hold tent-coverings down, usually forming a ring.

TERRACE

A bench-like feature, bordering a stream valley, which is a remnant of a former valley floor now dissected by the stream.

TEST TRENCH, TEST PIT, TEST EXCAVATION

Where a random selection of points in a presumed site are dug, in order to locate approximate boundaries of the site, or depths of deposits.

TIDE-MIXED ESTUARIES AND MARITIME ECOSYSTEMS

This is a zone of depths of less than 200 feet with tides as primary mixing forces (causing relatively small temperature variation) allowing high plant production. Certain areas are characterized by heavy sedimentation. Tides and tidal currents are extreme, with tidal flats common.

TRADITION

A major large scale space-time cultural continuity, defined in reference to persistent configurations in single technologies or total cultures, occupying a relatively long interval of time and a quantitatively variable but environmentally significant space.

TRAIT

Any single element of culture.

TRANSVERSE FLAKING

Horizontal parallel flaking produced by the removal of narrow flakes which begin at either edge and join so smoothly that they often give the impression of forming a single flake scar.

WEIR

A fence of wood or stakes placed in a body of water to catch fish. Fish pass along a funnel into a basket, from which they cannot escape.

WET TUNDRA ECOSYSTEM

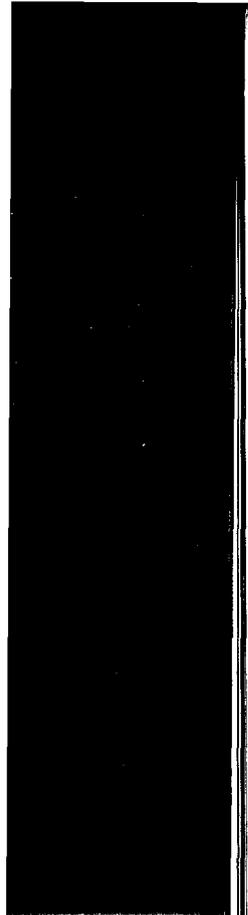
Usually found in areas with little topographic relief. Dominant vegetation is sedge and cottongrass forming a mat rather than tussocks. A few woody and herbaceous plants occur on the drier sites, and rooted aquatic plants occur along the shorelines and in the shallower waters of the numerous lakes.

WINTER HOUSE

See Pit house.

ULU

A woman's knife, crescent shaped with a wooden handle.



INTRODUCTION

The primary goal of this report is the identification and evaluation of actual or potential historic and prehistoric sites and properties on or near any of the natural gas pipelines proposed by the El Paso Alaska Company in its formal application and filing to the Federal Power Commission on September 24, 1974.

The criteria used for this investigation include:

1. The inventory of registered, recorded, reported or known sites and properties within five miles of any point on or along the proposed El Paso pipeline routes.
2. Where the pipeline route was imprecisely defined, we determined, on a reasonable geotechnical basis, a corridor within which the alignment would probably be located, and then the sites were inventoried within the limits of five miles to either side of these corridor limits.
3. Sites or properties which could reasonably be qualified by some groups under the terms of the National Historic Preservation Act are included.
4. A separate inventory and evaluation was made for the historic phase and for the prehistory phase. The separation between the two is the date of recorded introduction of European culture; i.e. Russian discovery in 1741. Most architectural properties fall in the historic category.
5. A separate inventory was also attempted where possible, to identify and evaluate indigenous sites and properties of native groups.

A serious reviewer will anticipate the many problems inherent to a study involving imprecise variables, including undefined alignments, dearth of verified or rigidly controlled data, and the handling of thousands of separate entries. We made extensive use of archaeological and historical computerized retrieval data from the Alaska Department of Natural Resources, Division of Parks, and trail inventory maps and computerized retrieval data from the Alaska Department of Highways. An attempt was made by direct mail and by newspaper advertizing to acquire data from rural villagers, from individuals with unique knowledge of isolated terrain, and from recognized authorities on Alaskan history and prehistory.

Parallel reviews of United States and Canadian archives as well as of private archives in Canada and the United States were performed; including those of the Hudson Bay Company (Manitoba) and of several religious missionary organizations in Alaska and in Canada.

It was necessary to reconcile principal avenues of investigation with the environmental setting within which the evaluations would have more meaning. Consequently, the organization or presentation of the report became problematic. Should it be on a historical basis according to recognized eras or on the basis of physiographic provinces or of hydrologic regions? The smallest common reference was a "segment", a portion of a pipeline route independent of any or all other disciplined categories. Eventually, this presentation format was adopted since it could more easily be incorporated into others.

Transportation corridors and wildlife migratory patterns have dominated Alaska's history for over 10,000 years. It is not surprising, then, that the potential for archaeological and historical "finds" will be along any alignment of a transportation route through Arctic terrain, since modern man is forced by the environment to use the same natural corridors as prehistoric man

DESCRIPTION OF SITE DESIGNATION CODES

Several types of alpha-numeric codes are used in this assessment to designate the "addresses" of known sites along the proposed pipeline routes. The type of code used is determined by the particular source from which information on a given site was gathered.

ALASKA HERITAGE RESOURCE SURVEY INDEX

Sites referenced in the Alaska Heritage Resource Survey Index (AHRSI) are designated by a 6 character address code which consists of a three letter locational identifier followed by a 3 digit suffix. The suffix serves as a unique numeric identifier within a given U. S. Geological Survey quadrangle map and since it is sequentially assigned, it provides a running count of total sites identified within any given location. For example, the code PSM003 indicates a specific site in the Phillip Smith Mountains quadrangle. It also indicates that at least two other sites have been identified within this quadrangle. The numeric suffix carries no locational significance. For each address code in the AHRSI locational data is provided through specific map coordinates.

SITES NOT REFERENCED IN THE AHRSI

Sites which were identified through internal research conducted at Iroquois Research Institute (IRI) include locations in both Alaska and Canada. Those sites located in Alaska are assigned the 3 letter locational code described above, followed by an 'R' and sequentially assigned a numeric identifier which is again unique within any given quadrangle. In contrast to the AHRSI referenced sites, the numeric identifiers assigned by IRI simply begin with '1' rather than '001', and therefore, only consist of one or two digits. Sites identified by IRI which are located in Canada consist of an 'R', plus a sequentially assigned 1 or 2 digit numeric, followed by the alpha-numeric Canadian Archaeological Site Designator. Thus all sites identified by IRI carry the 'R' indicator, while no sites referenced in the AHRSI are so identified.

Due to the special constraints of maps and the necessity of preserving site integrity from despoliation by artifact hunters and curio seekers, numeric historic-archaeologic locales (HAL) have been assigned along all proposed pipeline routes. Known archaeological and historical sites are map referenced in relation to the HAL nearest which they are located.

A HAL is designated as (34) or (45) etc., on maps in this Introduction.

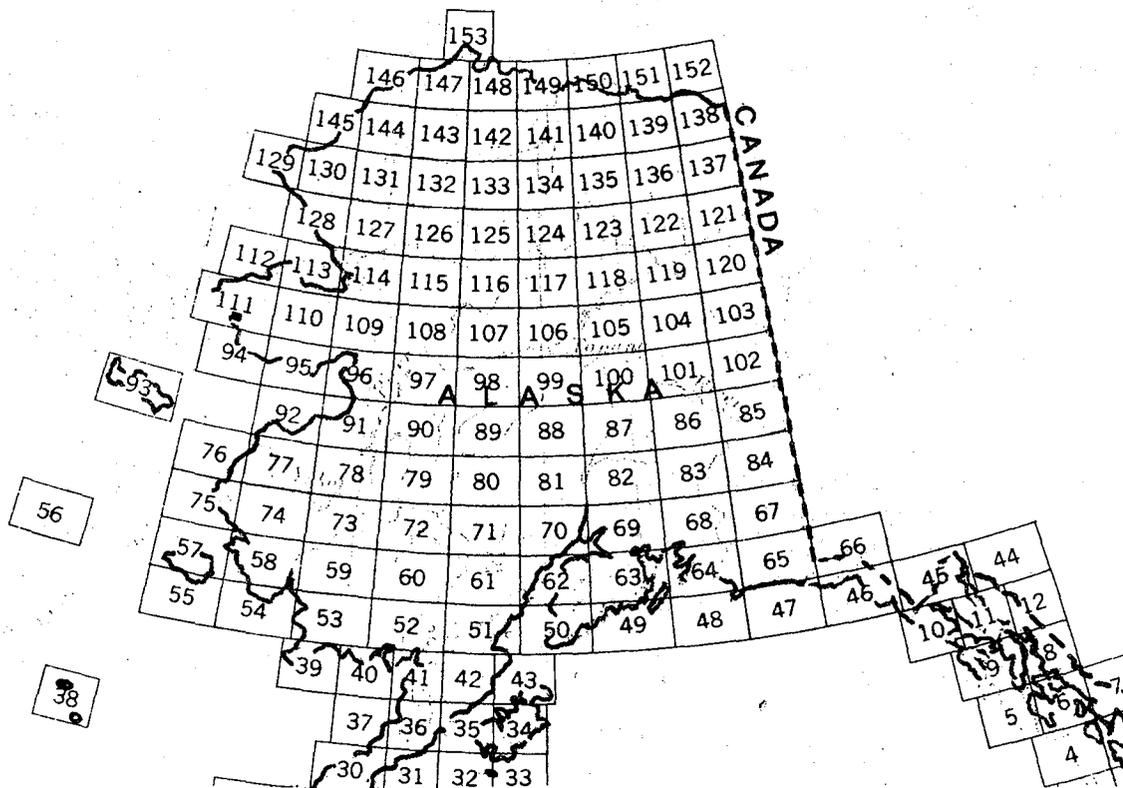
ARCHAEOLOGICAL METHODOLOGY AND CRITERIA FOR EVALUATION

The methodology employed in this assessment has resulted in the most complete survey of archaeological and historical resources possible without field verification. Initially, archaeological sites were arbitrarily defined as any occupation which falls into the pre-contact period in Alaska, or sites of uncertain cultural affiliation. All available references in the historical and scientific literature on the areas traversed by the proposed El Paso Alaska Company pipeline were located and abstracted. The computer banks of the Alaska Heritage Resource Index were tapped for all recorded sites in the region. The proposed alignment closely follows the Alyeska oil pipeline route in some areas, but diverges sharply in others. While the Archaeological Studies Along the Proposed Trans-Alaska Oil Pipeline Route (Campbell 1973) was of immense value in locating sites and significant clustering, the present assessment has gone much beyond the Alyeska survey both spatially and chronologically.

TIME-LAG AND DATA GAP

If the AHRSI is complete, all known archaeological and historical sites discovered by the Alyeska survey should be recorded here, however, a number of gaps in the index have been noted, possibly due to time lag between the survey and the subsequent programming. Letters of inquiry were then addressed to all individuals, universities museums, etc., who might have knowledge of the real or potential resources of the pipeline corridor and requesting them to identify these as specifically as possible.

INDEX Cross references



USGS MAP NUMBER 1:250,000

HERITAGE SURVEY INDEX CODE

45	Skagway	85	Tanacross	ANC	Anchorage
49	Blying Sound	86	Mt. Hayes	BET	Bettles
50	Seldovia	87	Healy	BVR	Beaver
51	Iliamna	88	Mt. McKinley	CHN	Chandalar
61	Lake Clark	100	Fairbanks	COR	Cordova
62	Kenai	101	Big Delta	FAI	Fairbanks
63	Seward	105	Livengood	GUL	Gulkana
64	Cordova	106	Tanana	HEA	Healy
66	Mt. St. Elias	117	Bettles	ILI	Iliamna
67	McCarthy	118	Beaver	KEN	Kenai
68	Valdez	123	Chandalar	LIV	Livengood
69	Anchorage	124	Wiseman	MMK	Mt. McKinley
70	Tyonek	134	Chandler Lake	MSE	Mt. St. Elias
81	Talkeetna	135	Philip Smith Mtns.	NAB	Nabesna
82	Talkeetna Mtns.	140	Sagavanirktok	PSM	Philip Smith Mtns.
83	Gulkana	141	Umiat	SAG	Sagavanirktok
84	Nabesna	150	Beechey Point	SEL	Seldovia
				SEW	Seward

HERITAGE SURVEY INDEX CODE (Cont'd)

SKG	Skagway	TAL	Talkeetna	TAN	Tanana	TLM	Talkeetna Mtns.
TNX	Tanacross	TYO	Tyonek	UMI	Umiat	VAL	Valdez
WIS	Wiseman	XBD	Big Delta	XBS	Byling Sd.	XCL	Chandler Lake
XLC	Lake Clark	XMC	McCarthy	XMH	Mt. Hayes		

Once this information was gathered, the process of abstracting all pertinent data on each of the 722 recorded sites was begun. This involved recording such facts as artifact totals and descriptions, the presence or absence of stratigraphy in the site, possible cultural relationships of the artifacts, radiocarbon dates where available, whether or not the site was tested or excavated, any available analysis of the functional nature of the site (killsite, lookout, chipping station, campsite, etc.) and any available data on possible impaction from the pipeline itself.

Concurrently, all the known sites were plotted as accurately as possible on U.S.G.S. quadrangle maps of Alaska. This included not only sites within the arbitrary 5 mile corridor alignment, but any sites of particular significance which lay nearby. Thus, it became possible to identify localities of high archaeological potential based upon the clustering of known sites as well as the proximity of other important finds.

The information was then segregated and summarized for each of the 28 segments identified on the area map No.1 (page 18) and the potential finds and impaction dangers evaluated. The criteria for evaluation were: 1) probable antiquity of sites where known, 2) spatial extent and vertical depth, 3) possibility of stratigraphy, 4) number of artifacts and features recorded, 5) functional site type, 6) proximity of other significant sites and features, and 7) danger of impaction. Recommendations for further survey and dangers to known resources were made on this basis.

Since the recorded sites for any segment in all probability form only a small portion (about 6%) of actual occupation areas, a further geostatistical and topographical survey was done to identify zones of high archaeological potential. Two basic criteria were employed: confluences of major rivers, and tributary streams; and bluffs on or near river basins or lowland flats which had a high probability of use as lookout stations or campsites. By this criteria alone, some 3,623 potential sites have been located within an accuracy of a few hundred yards and the relative potential for as yet undiscovered occupation in each area has been noted.

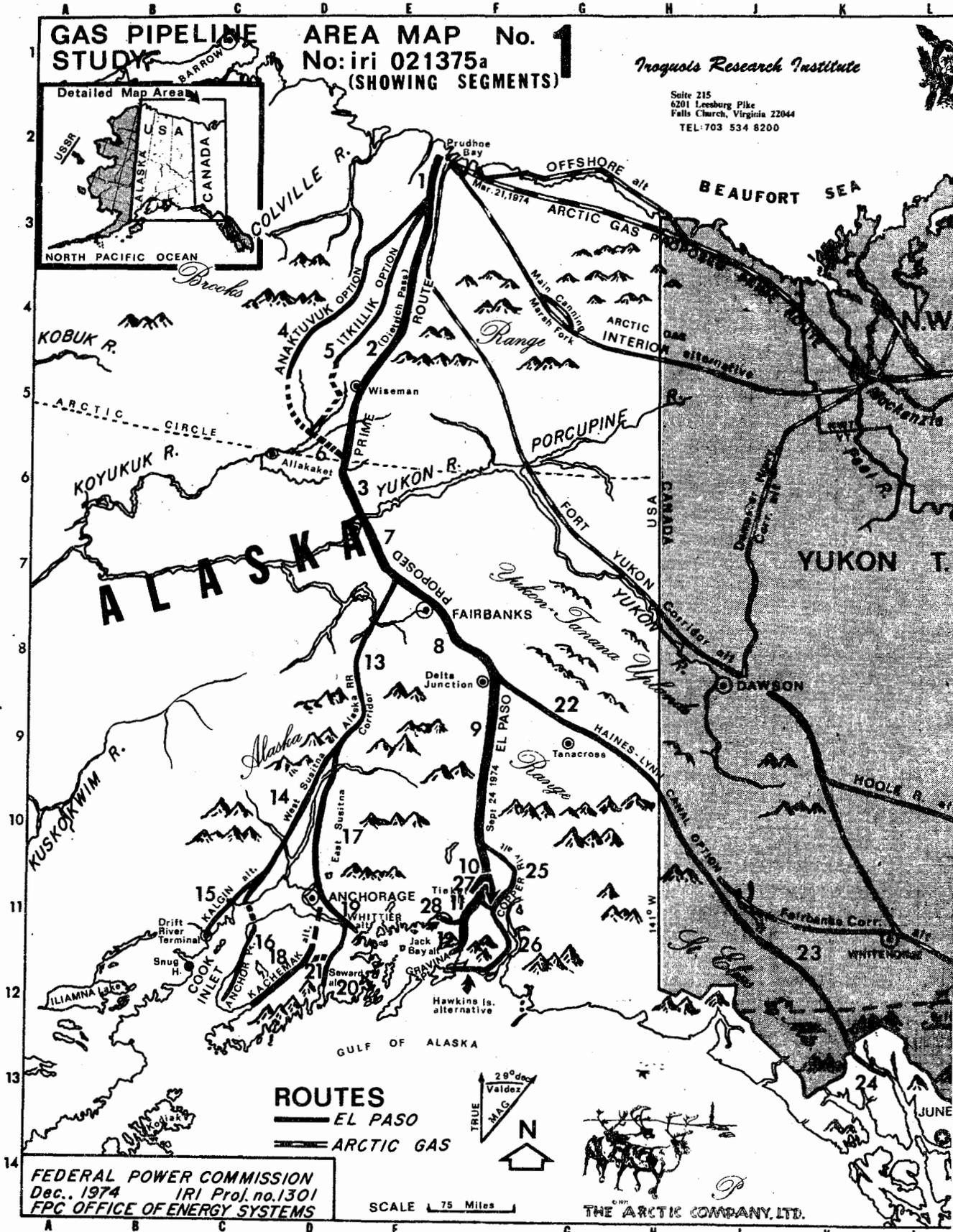
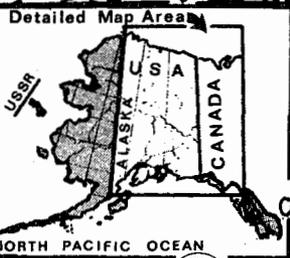
Although the present assessment of known and recorded sites appears to be relatively complete, the high potential for prehistoric occupation in all zones clearly indicates the absolutely imperative need for field survey and verification. This is supported by statements from the scientists involved in the Alyeska survey as well:

"I think our work rather conclusively proves that there will be a large number of sites impacted by El Paso Construction, of greatest importance is the need for advance survey and testing with excavation of large sites (or re-routing of the pipeline)."
(Cook pers. comm. 1975)

GAS PIPELINE AREA MAP No. 1
STUDY No: iri 021375a
 (SHOWING SEGMENTS)

Ingovalis Research Institute

Site 215
 6201 Leesburg Pike
 Falls Church, Virginia 22044
 TEL: 703 534 8200



ROUTES
 — EL PASO
 - - - ARCTIC GAS



FEDERAL POWER COMMISSION
 Dec., 1974 IRI Proj. no. 1301
 FPC OFFICE OF ENERGY SYSTEMS

SCALE 75 Miles



"Not until the routes are actually staked out and field teams have been able to go over the ground can we really say very much about (the area's) archaeological potential ...The only way to evaluate the archaeological potential of any of these proposals is to stake out the actual route and then check it out carefully on the ground."

(McKenna pers. comm. 1975)

Our independent assessment of the El Paso Alaska Company route makes it clear that dependence upon the Alyeska survey and AHRS Index alone is not sufficient to safeguard against impactation.

It is recommended that in the next phase and with sufficient lead-time prior to precise alignment staking, the areas of high archaeological potential be examined by field-qualified teams headed by professional personnel, including archaeologists, historians or other disciplines as appropriate.

This would reduce any possibility of conflict of interest and would assure that no potentially valuable information on the prehistory of this critical area is lost. Archaeological data in a disturbed context is often scientifically useless and it is this unique feature which makes extreme care a necessity.

Further, it is recommended that all members of the pipeline survey and construction teams be instructed in the recognition and handling of archaeological sites and materials. This could be done with the publication of a simplified handbook which could then be distributed to any individuals who might come in contact with sensitive localities in the field. It is our recommendation for a professional group to be instructed in field procedures and in uniform data collection prior to assignments in the field.

ARCHAEOLOGICAL DESCRIPTION OF AREA

As the Alyeska survey has demonstrated, the proposed El Paso pipeline corridor will traverse areas which encompass the entire chronological range of the human occupation of Alaska. It is almost certain that the earliest ancestors of the American Indian crossed the Bering Strait when a land bridge of continental proportion was exposed there as a result of lowered sea-levels during the last (Wisconsin) glacial advance of the Pleistocene epoch. Sites such as Kogruk in Anaktuvuk Pass (Campbell 1961a) and the Putu Site (Alexander 1968, 1971) on the Sagavanirktok River may both represent occupations by PaleoIndian big game hunters closely related to the Upper Paleolithic cultures of Eurasia. Possible dating of these sites ranges between 18,000 and 10,000 years ago, and they may be among the earliest representatives of their type.

It is essential to clarify the dating and cultural affiliations of these cultures if we are to understand the origin and development of American Indian culture in the interior. Other sites on the alignment, such as Healy Lake (Cook 1969), are clearly related to a probable subsequent movement of people from Siberia to Alaska who had begun to adapt to Arctic coastal-hunting conditions, and whose material culture has been styled as the PalaeoArctic Tradition by Anderson (1968). This latter tradition apparently formed the base for a number of subsequent cultural developments which eventually crystallized as distinctive Eskimo culture in the area around Bering Strait about 6000 years ago.

The pipeline route also crosses areas which may contain sites pertinent to later Eskimo movements and adaptations and areas of Eskimo-Indian contact. (Campbell, 1973)

Since this is one of the few areas left in the world still occupied by big game hunting cultures, the possibilities for diachronic studies and ethnoarchaeological research are extremely important. Extrapolation from ethnographic research on recent Eskimo groups to archaeological data on cold-climate hunters in prehistory, can yield invaluable information in reconstructing the lifeways of ancient man. Protection of both the ethnographic and archaeological context of human habitation on the proposed gas pipeline is of the utmost importance.

An archaeological chart and drawings of prehistoric artifacts are provided on the last two pages of this section following the description of historic criteria employed in this investigation.

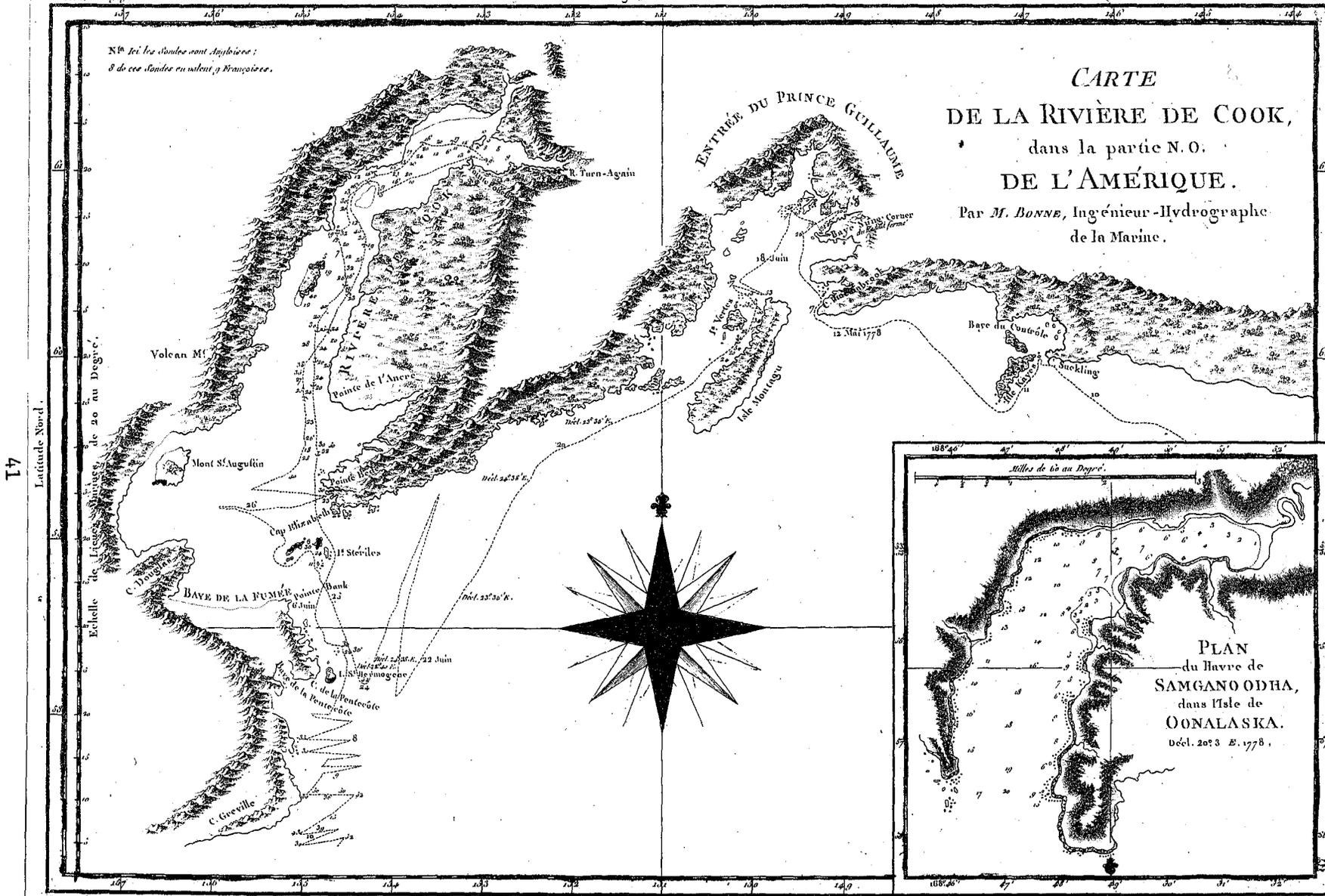
HISTORIC METHODOLOGY AND CRITERIA FOR EVALUATION

The generalized methodology for historical evaluation is the same employed in the assessment of the preceding archaeological evaluation with these respective changes. It was determined that for historical analysis the archaeological/historical criteria would be developed into separate units or phases. The historical phase has been defined as all time after 1741 - the Russian "discovery" of Alaska and the subsequent introduction of European culture.

Although the date of European contact has been established by the Russian entry to Alaska as early as 1741, other European contacts were made in the southern reaches of Alaska: the Spanish Explorations of 1774-1780, the English Explorations by Captain James Cook in 1778, and the French Explorations of 1786. The accompanying map of 1785 shows the extent of early explorations in southeastern Alaska.

N^o Ici les Sables sont Angéliques :
S de ces Sables en blanc y Françaises.

CARTE
DE LA RIVIERE DE COOK,
dans la partie N. O.
DE L'AMÉRIQUE.
Par M. BONNE, Ingénieur-Hydrographe
de la Marine.



Bonne Fil. del.

André scul.

From this established date, 1741, the impact of modern, European man is documented by historic evidence that has been recorded, documented, and referenced. Iroquois Research Institute reviewed for verification all data from historical and archaeological resources with the National Register of Historic Places, the National Park Service, the Department of the Interior, the United States Forest Service, the Department of Agriculture, and the Alaska Department of Natural Resources, Division of Parks, and the Alaska Heritage Resources Survey Index.

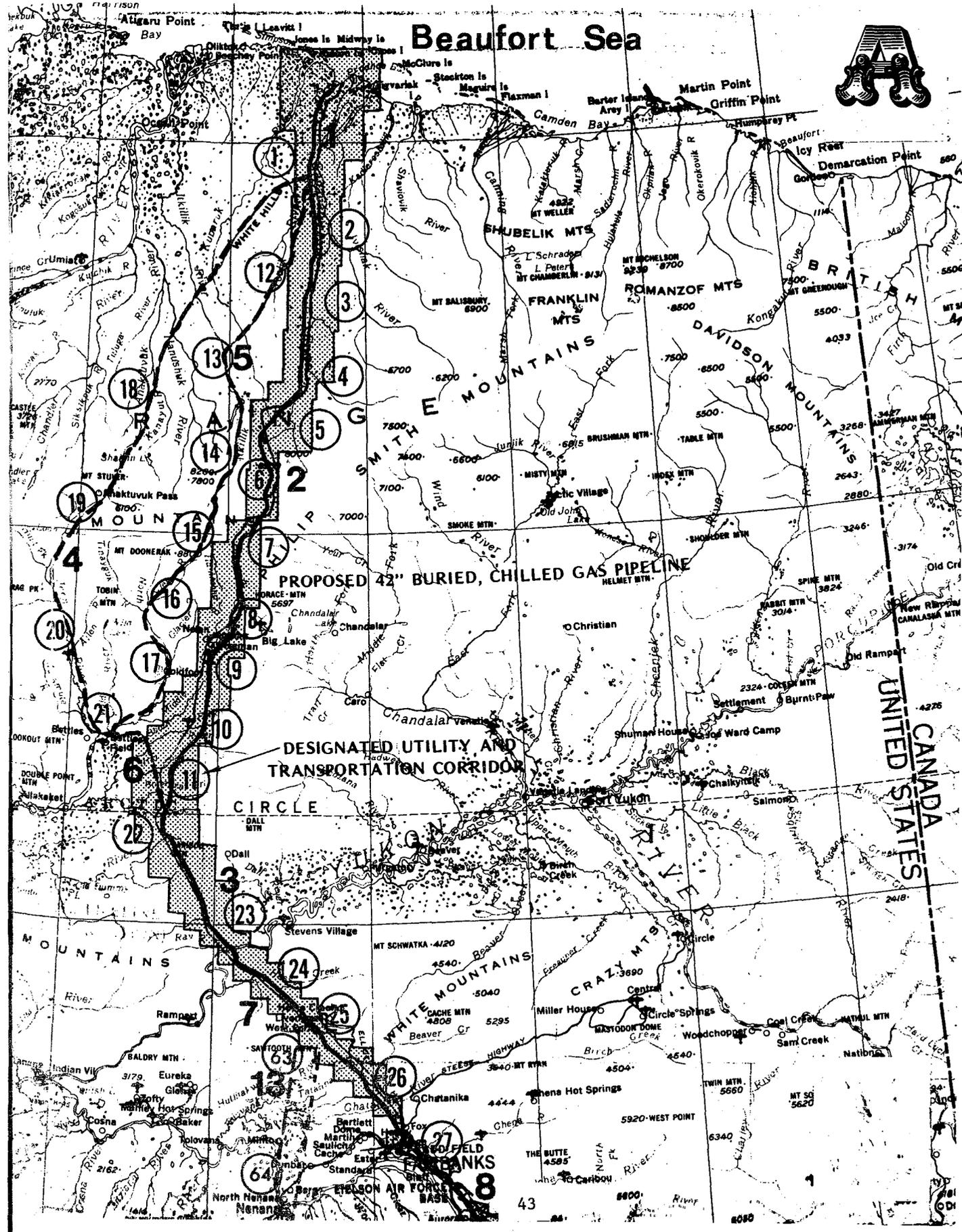
Based upon our research, the inventory of historical sites appears to be complete. However, due to the vast magnitude of the proposed alignments, the various corridors probably contain many unrecorded sites. These potential sites can only be discovered and documented during actual pipeline survey and construction. This reconnaissance would have to be made by qualified field investigators, as set forth in the preceding archaeological section. In order to preserve both potential and known historic sites along the pipeline route from pillage, Iroquois Research Institute strongly recommends that survey and construction crews be familiarized with the regulations set forth in the Federal Antiquities Act of 1906, and the National Historic Preservation Act of 1966.

ACKNOWLEDGMENTS

In a work of this nature, investigators are reliant on the good effort of others, those who have published or who have prepared work for later publication, and those who have intimate knowledge so valuable for the good conclusion of a sectorial study in depth, as is this case.

We wish to thank all those who took the time to reply in writing and whose replies are contained in the Appendix. In particular we want to single out those who contacted us and who actually directed us to valuable data that otherwise would have remained unavailable: Dr. Dennis J. Stanford at The Smithsonian Institution; Dr. Herbert Alexander at Simon Fraser University; Dr. John M. Cambell at the University of New Mexico; Shirlee Anne Smith, Archivist for the Hudson's Bay Company Archives for the Province of Manitoba; Renée Jaussaud at the National Archives of the United States; Father Renner at College, Alaska and Father Cossette, S.J. at St. Jérôme de Terrebonne, (and Fathers J. Marsan, O.M.I., Alberta, and G. Carrière, O.M.I., Ottawa; Robert Faylor at Arctic Institute of North America; Father D. Levasseur, O. Montréal; Howard Rock, Editor of the Tundra Times for his timely aid in our meeting deadlines; Ted Swem and the Alaska Planning Group at the Department of the Interior for their disciplined reference materials; and all those who made contributions in time and talent.

Beaufort Sea



PROPOSED 42" BURIED, CHILLED GAS PIPELINE

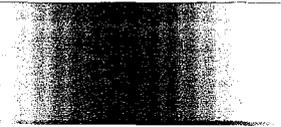
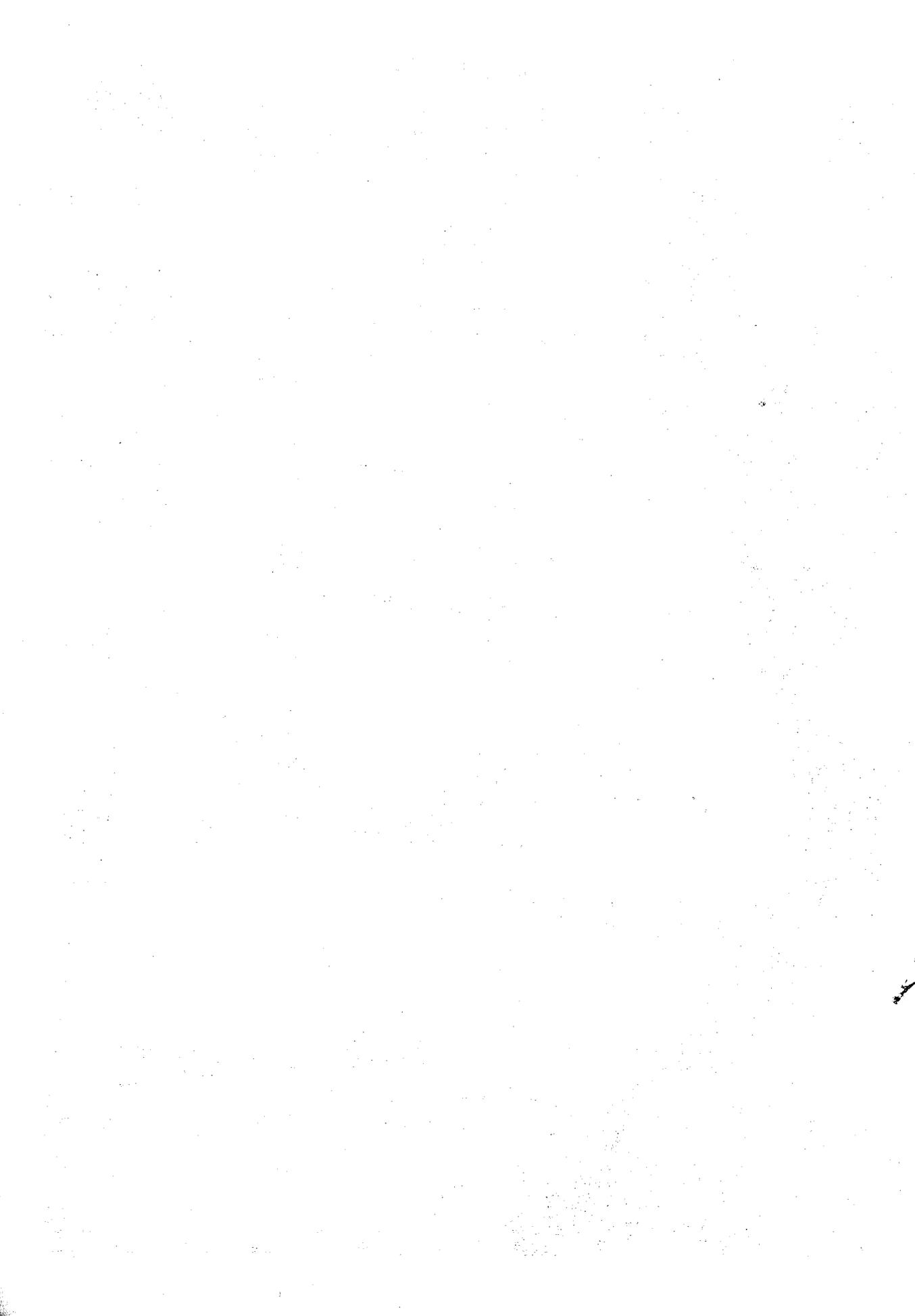
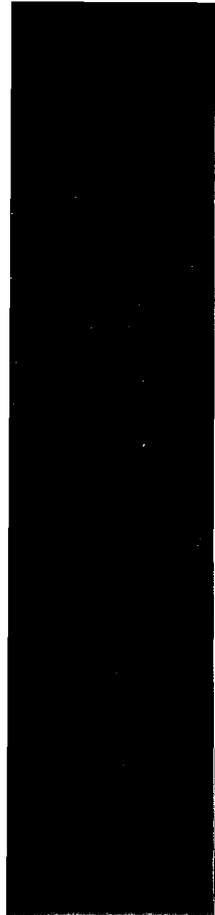
DESIGNATED UTILITY AND TRANSPORTATION CORRIDOR

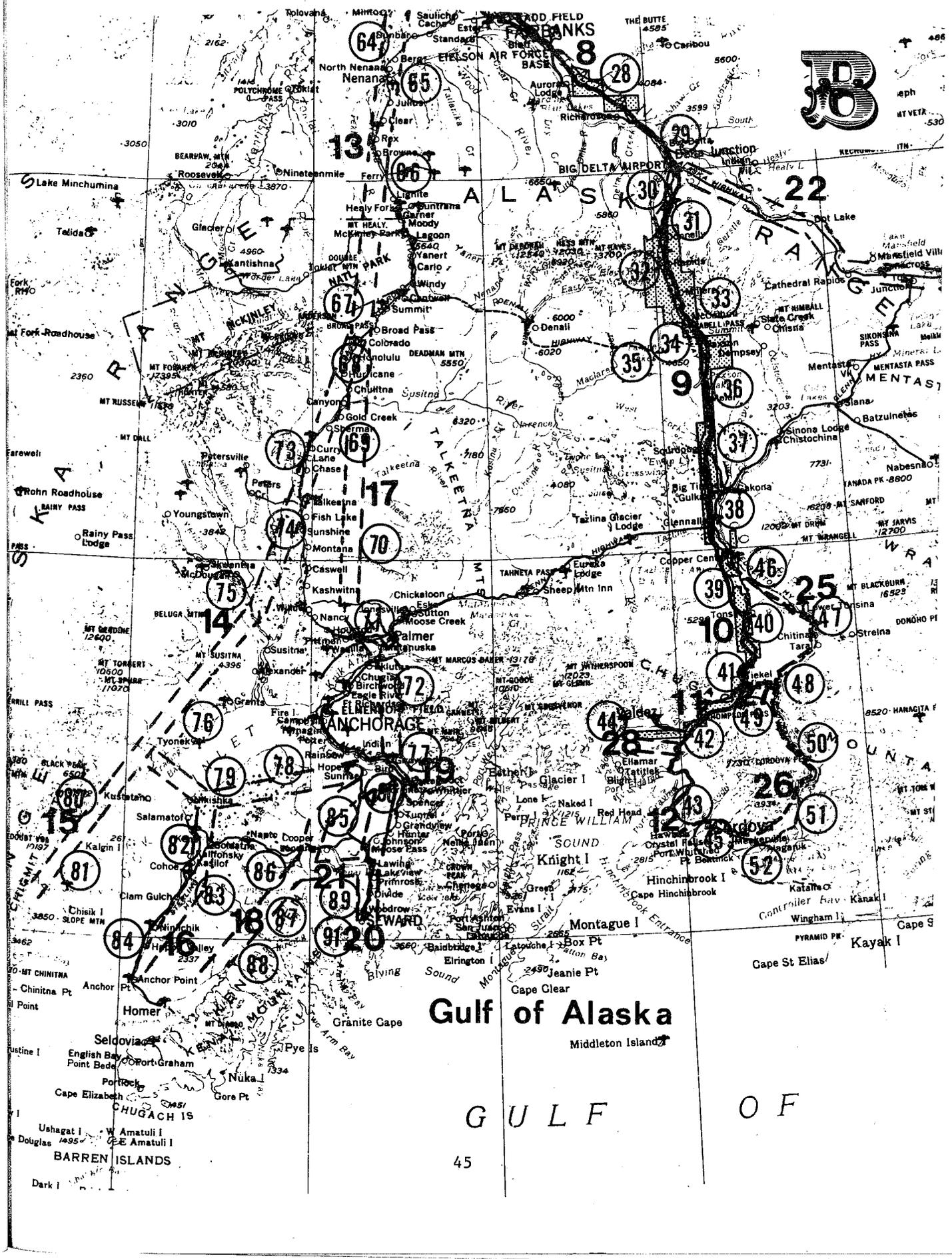
CIRCLE

CANADA
UNITED STATES

WELLS
BANKS

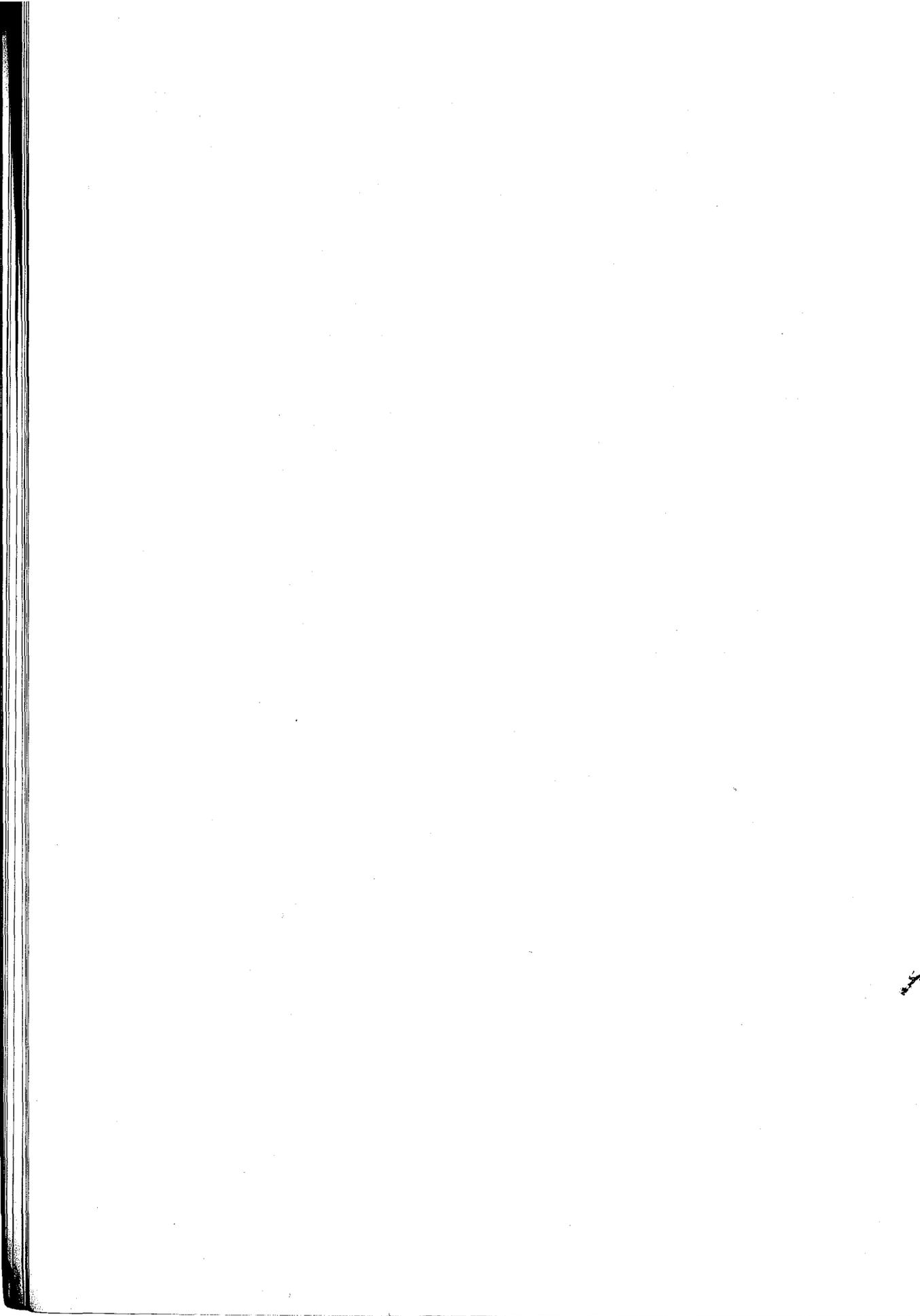
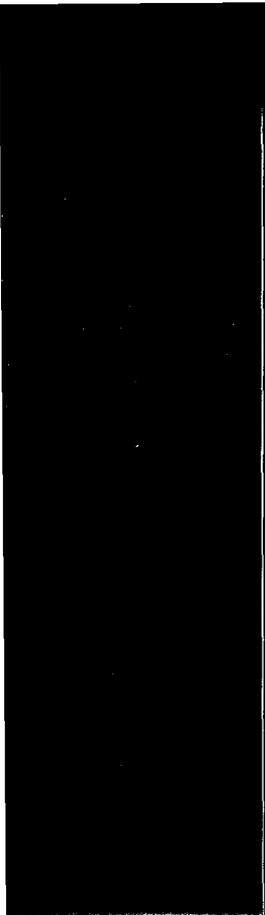
43





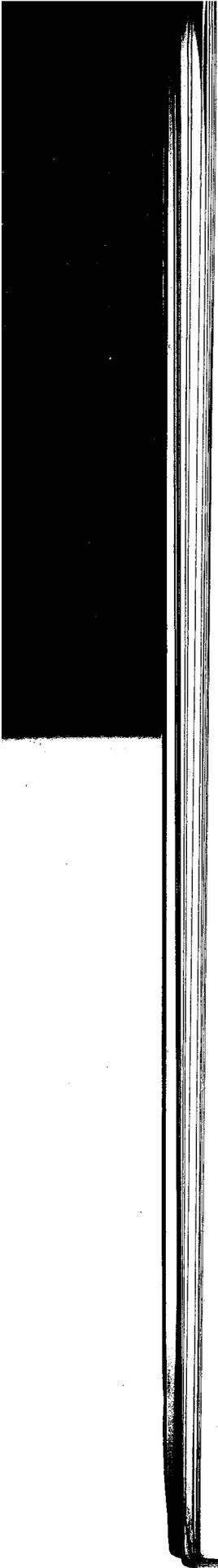
Gulf of Alaska

G U L F O F

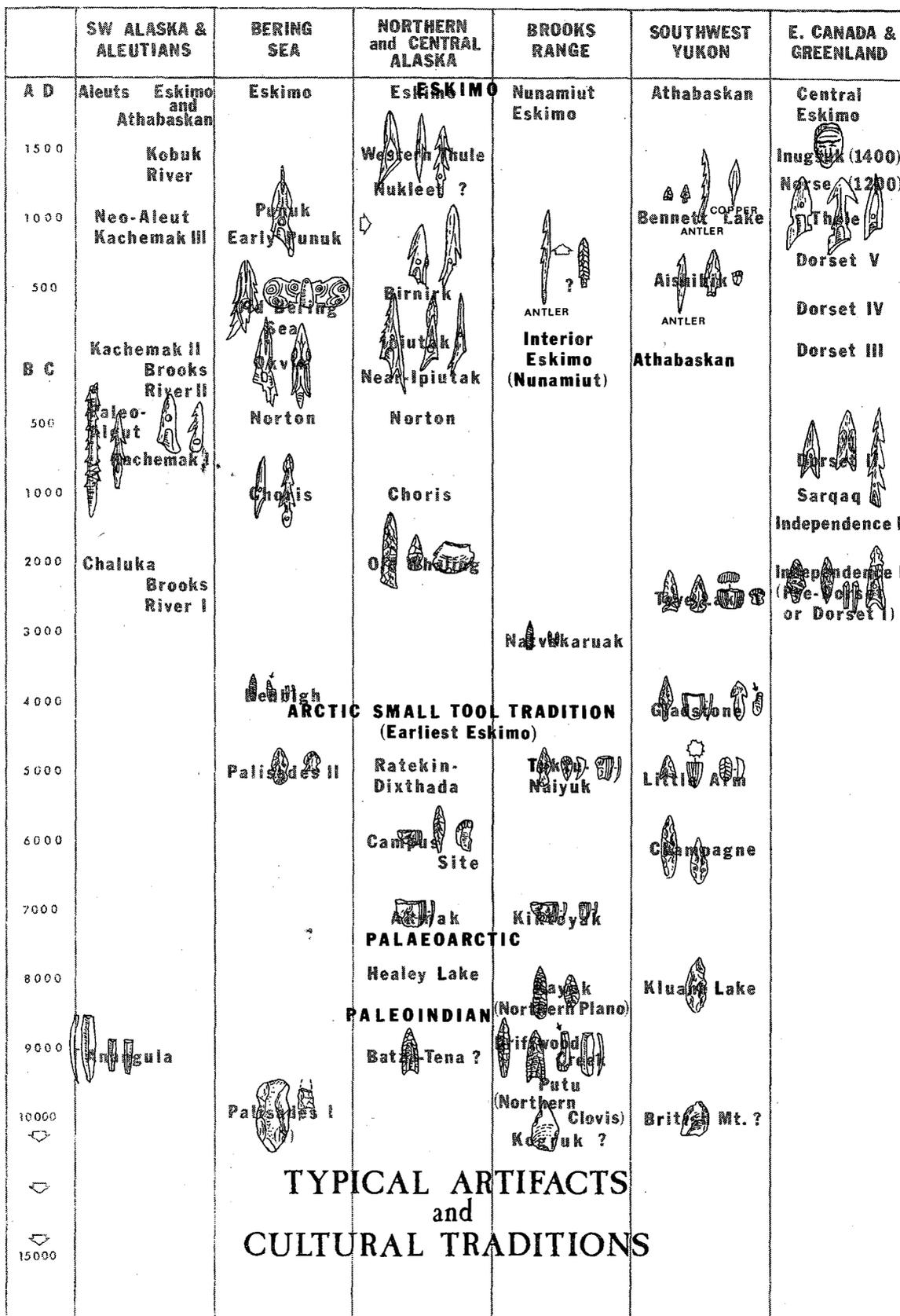




ALASKA



CULTURAL CHRONOLOGY FOR THE ARCTIC AREA





SEGMENT ONE

DESCRIPTION

Prime Route Segment One follows the crude oil pipeline from the Prudhoe Bay production fields at the north, south to the junction of the Itkillik and Anaktuvuk options near Bettles Field.

ENVIRONMENTAL SETTING

This segment is the beginning of the proposed pipeline and generally follows the west bank of the Sagavanirktok River. At this point (about 69°50' N) the segment joins the Itkillik and Anaktuvuk Optional routes which extend across the Brooks Range west of the prime route. Except for oil field workers at Prudhoe and Deadhorse, the segment is essentially unpopulated.

Although this area has an arctic climate with a mean annual temperature of about 10°F, precipitation is light, averaging only about 6-8 inches annually throughout the segment. An important climatic factor in this area is the extremely high average windchill values which occur with regularity on the coastal plain bordering the Arctic Ocean. Extreme winter cold, concurrently with windblown snow, limits human activities and the amount of tall-growing vegetation which can persist.

Surficial geology in this segment consists of older coastal deposits interstratified with alluvial materials and some local glacial drift. These materials overlie older sedimentary rocks as much as 10,000 feet thick which contain the oil and gas-bearing strata of the North Slope. This segment is in the Arctic Coastal Plain Physiographic Province.

Poorly drained deep silty soils with a thick organic mat occupy this coastal plain area. Permafrost is continuous and usually at shallow depths. Organic deposits in depressions occupy significant portions. Upland portions of the Coastal Plain have poorly-drained silty and clayey soils. The soils of broad drainages are wet, shallow and gravelly.

All these soils have severe limitations for any use, principally because of permafrost and the associated poor drainage.

Low average annual precipitation, permafrost, and low average annual temperatures combine to severely limit surface water resources in the East Arctic Hydrologic sub-region. Spring run-off from melting snow stored in the Brooks Range causes high seasonal fluctuation in flow of major streams draining across the Arctic Plain into the Arctic Ocean. Except for bottoms of major streams, surface waters are frozen throughout the winter and summer drainage of smaller streams is slow and meandering. Thaw lakes and stream-bank erosion cause frequent changes in stream courses.

In this segment Wet Tundra vegetation occupies a small area bordering the Arctic Ocean. The remainder of the segment goes through Moist Tundra or High Brush bordering the Sagavanirktok River. No forest occurs in this region.

Although several species of freshwater fish are relatively abundant, there are no commercial fisheries in the area. Limited subsistence fishing for char and cisco is conducted by Kaktovik residents on Barter Island and Griffin Point, both at some distance from this pipeline segment. Locally, there is limited sport fishing by construction workers, Natives and a few fly-in anglers.

Including sea-birds, this area provides habitat for at least 142 species of birds. Migratory birds from all four continental flyways follow inland routes and the Arctic Coastal Plain to their Alaskan and Canadian nesting grounds. The only significant colony of nesting snow geese in Alaska is found at the mouth of the Sagavanirktok.

Although grizzly bears, foxes, and wolves are found in limited numbers in this corridor, the important land mammal is the barren ground caribou of the Porcupine River Herd (numbering about 120,000) which migrate across and calve near the pipeline segment.

The social and economic setting of this segment is entirely determined by the development of the North Slope petroleum resources.

This segment parallels BLM Corridor Number 26 (from Prudhoe to the Yukon River Bridge) along the Sagavanirktok River. The segment contains no proposed d-2 lands or Native deficiency lands. It is within lands withdrawn by the Secretary of the Interior for a utility corridor.

ARCHAEOLOGICAL SUMMARY

There are three recorded sites from this segment. On the shore of Prudhoe Bay near Heald Point is an Historic Eskimo site which is known to have been occupied during the late 1930's and early 1940's. This site, designated XBP 005, was excavated by an Alyeska survey party and socio-economic patterns of the inhabitants were reconstructed on the basis of information from informants. Although traditional camp sites are often utilized intermittently for several centuries, the excavation at XBP 005 apparently revealed no earlier cultural levels.

Sites R-1 and R-2 on this segment were discovered by an earlier survey party (Solecki 1973) and the former was partly excavated at that time. The tentative identification of the site as belonging to the Arctic Small Tool Tradition suggests a possible very early Eskimo occupation of the area. R-2, located 625 feet south of R-1, produced only one questionable artifact.

ARCHAEOLOGICAL EVALUATION

It appears that the historic Eskimo site discovered by the Alyeska survey (XBP 005) will reveal little new information, but the adjacent shoreline of Prudhoe Bay which lies on the pipeline corridor between Point McIntyre and Heald Point should be carefully surveyed before construction or surveying for further evidence of early occupation.

The region contains all the ecological pre-requisites which would have been attractive to pre and post contact Eskimo hunting bands, and it is quite possible that earlier sites in the area could reveal important information on North Alaskan Eskimo origins. The presence of Arctic Small Tool materials might clarify the eastward diffusion of this earliest Eskimo culture, and the region also lies along the coastline traversed by the Thule emigrants moving east from the Birnirk site at Point Barrow.

HISTORICAL SUMMARY

Along the Beaufort Sea the prominent land points played a vital role in the historical record of man in the Arctic. Such prominent names, like Point Barrow, Cape Simpson, Beechey Point, Prudhoe Bay, Flaxman Island, Demarcation Point, and Mackenzie Bay have all been recorded as having significant historical value. In particular, Beechey Point and Prudhoe Bay are areas where modern history has evolved in the Arctic.

BEECHEY POINT (70°29'20"N, 149°09'30"W)

Beechey Point is a point of land on the coast of the Beaufort Sea, twenty-five miles east of the mouth of the Colville River on the arctic plain. It was named by Sir John Franklin on August 17, 1826. He described it as "a more westerly hummock that has been distinguished by the name of my friend Captain Frederick William Beechey, Royal Navy (R.N.), at which point our discoveries terminated."

Beechey Point first became historically significant when Franklin explored that coast in July and August, 1826. He had planned to meet Captain Beechey near Barrow to complete the exploration of Northwest America, but Franklin and his crew disappeared on another expedition in northern Canada in 1847. Subsequent searches for Franklin motivated intense exploration in the Arctic and these became known as the Franklin Searching Expeditions of 1849 to 1854. The engraving on this report's cover was made in 1855 and based on a hand drawing made during one of these searches in 1854.

PRUDHOE BAY (70°22'N, 148°22'W)

Prudhoe Bay extends 9.6 miles between Herald Point and Point McIntyre on the Beaufort Sea. Located fifteen miles southeast of Beechey Point, it was named by Sir John Franklin, R.N., on August 16, 1826.

On July 24, 1837, the Prudhoe Bay region and Beechey Point was reached by Thomas Simpson and Peter Warren Dease, officers of the Hudson's Bay Company.

Other English explorations within the Arctic Area of Prudhoe Bay and Beechey Point to search for the Franklin Party occurred in 1849, when Lt. W.J.S. Pullen, R.S., travelled the Arctic Coast from what is now Wainwright Inlet to Fort Simpson. In 1850, Commander T.E.L. Moore, R.N., travelled from Point Barrow to Cape Simpson. In August of that same year, Captain Robert McClure, R.N., sailed from Point Barrow along the coast to the Mackenzie River. Captain Richard Collinson, R.N., Commander of the "Enterprise," passed Point Barrow in July 1851 and made observations along the coast. Between 1852 and 1854, Commander R. Maguire, R.N., and John Simpson, his ship's surgeon, named and reported Eskimo names of Arctic land features within this area.

The only areas of major habitation of white people in this area were the Hudson's Bay Company's trading posts to the south and to the east (Brooks Range and Mackenzie Bay and River areas), settlements for hunting purposes, and on-shore camps of American Whalers. Not until the 1840's did the American whaling industries' shipping fleets really enter the Arctic Ocean and Beaufort Sea through the Bering Strait in search of whales.

In this era, whalebone for ladies' corsets was valued at five dollars a pound, thus one whale was worth five to ten thousand dollars in whalebone alone. Hence it is easy to comprehend how this Arctic industry brought to the Natives of the North Slope not only trade goods, but also the profit motives of the white man. Measles, influenza tuberculosis, and venereal diseases were introduced.

From the 1840's to the early 1900's, the Arctic whaling industry flourished. Natives established year-round residences on the coastal shores - closer to the source of trade goods and ships. Employees of the whaling fleets journeyed inland for exploration and mass slaughter of the game. The white men affected the cultural life of the Arctic Ocean area through many channels: the Russian-American Company; the Hudson's Bay Company; the sale of Alaska to the United States in 1867; the competition between natives and whalers, between whalers and whalers and between traders and whalers. All of these had a severe impact on the historical heritage of the Prudhoe Bay and Beechey Point area.

On board the KARLUK

CHRISTMAS, 1913

72.5° N, 168° W.

. . . Dinner as usual was at half past four. I confess that I felt homesick & thought of other Christmas dinners. We sat down to a menu laid out and typewritten by McKinlay. Murray produced a cake which had been given in Victoria for this particular occasion and which he had kept carefully secreted. Dinner, which was a great credit to Bob the cook, was followed by cigars & cigarettes and a concert on the Victrola which had been presented to the ship by Sir Richard McBride. We had records that played both classical & popular music, vocal & instrumental, and we kept this up with singing to a late hour. Malloch wrote a Christmas letter of many pages to his father, a letter which alas was destined never to be delivered

—Captain Robert A. Bartlett

Mixed Pickles Sweet Pickles

Oyster Soup
Lobster
Bear Steak
Ox Tongue

Potatoes Green Peas
Asparagus & Cream Sauce

Mince Pie Plum Pudding
Mixed Nuts
Tea Cake
Strawberries

"God Bless You Merry
Gentlemen; may nothing
you dismay!"

FROM THE CARCASS OF A WHALER

HISTORIC EVALUATION

Although the whalebone industry in the Arctic Ocean area declined in 1908, the concentration of Native settlements still centered around Point Barrow and the Bering Strait. The knowledge of the activities of the Natives in this precise area, however, is scarce. Only one site, LEFFINGWELL Camp on Flaxman Island, is identified by the National Register of Historic Places in this area.

HISTORIC TRAILS

No historic trails are crossed by Pipeline SEGMENT ONE.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #1

XBP 005. HISTORIC. Prudhoe Bay #1. This historic Eskimo site, occupied during the late 1930's and early 1940's, measures 100 x 140 meters and is bordered by steep banks and beaches. Family and cultural life has been reconstructed with the aid of informants. Houses, a cabin and caches have been excavated.

SAG R-1. ARCHAEOLOGICAL. This site, partly excavated, is located on a terrace remnant at Franklin Bluffs near Hawk Creek. Of the 173 specimens recovered, there were 2 artifacts, 1 double angle microburin, 1 micro-borer, and 6 retouched flakes. There is a possible Denbigh affiliation.

SAG R-2. ARCHAEOLOGICAL. This site, 625' south of SAG R-1, consisted of one questionable artifact.
(Solecki 1973)



ESKIMOS June 18, 1882

This photo, taken by a U. S. Army Signal Corpsman, is of Ooglaamie (Barrow) Natives and is unusual by the hunting camp "teepee" on the North Slope.



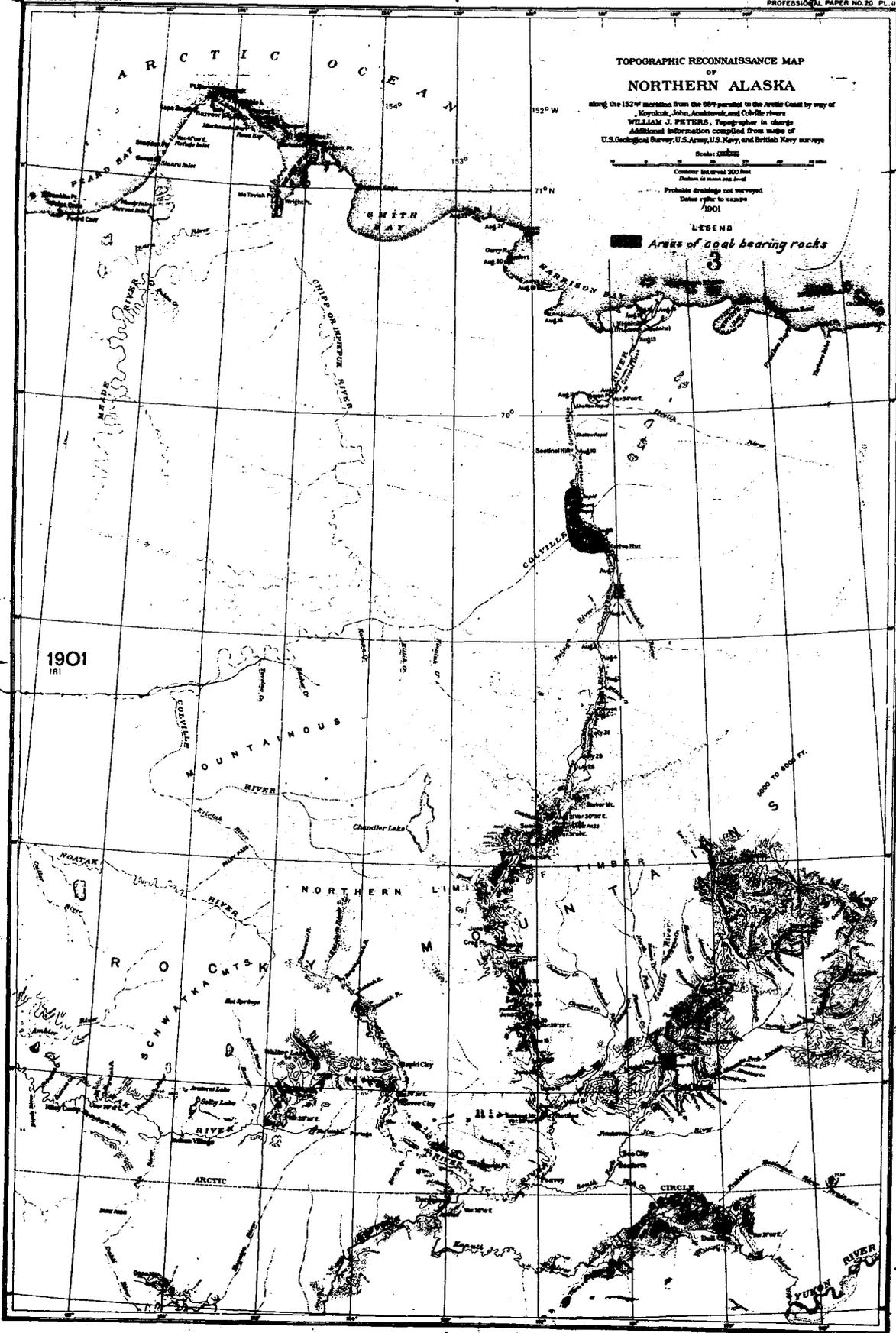
PERMANENT SUMMER HOUSE

An Eskimo sod house, probably photographed in the early 1900's. The settlement in the background is unknown, but it is probably near Barrow.

Prism Wp.

No. not reduced

150 for 00
Marion



SEGMENT TWO

DESCRIPTION

Segment two of the El Paso Prime Route extends from just north of the Franklin Bluffs and generally parallels the Sagavanirktok River to its confluence with Accomplishment Creek, then parallels the Atigun and Dietrich Rivers to the South Fork of the Koyukuk River, then to its intersection with the Anaktuvuk and Itkillik Options just north of the Olsen's Lake area.

ENVIRONMENTAL SETTING

This segment begins at 69°50' North and parallels the TAPS crude oil line south to the vicinity of Bettles via the Sagavanirktok and Atigun River Valleys north of the Brooks Range, and the Dietrich River valley south of the range. The continental divide is crossed through Dietrich Pass and here the segment and the entire pipeline is at its highest elevation, about 5,000 feet above sea level. The Atigun River canyon on the north slope of the divide is especially narrow and steep-walled for considerable distances.

This segment is in two climatic zones: Arctic north of the divide, and Continental south of the divide. Although mean annual precipitation increases southward from about 6 inches to 12 inches, the area south of the divide generally has lower average humidity and less cloudiness than north of the Brooks Range. The mean annual temperature is about 12°F for north slope portions and 16°F for south slope (interior) portions of the segment. The seasonal and daily variations in temperature are much greater in the interior. Areas south of the Brooks Range have both warmer summers and colder winters than on the north slope.

From north to south this segment passes successively through the Arctic Coastal Plain, Arctic Foothills, Brooks Range and Yukon-Tanana Upland physiographic provinces. From north to south surficial geology consists of: 1) Aeolian silt more than 5 feet thick; 2) undifferentiated slope alluvium (in Arctic Foothills); 3) glacial outwash in valleys at foot of mountains; 4) moraines near heads of valleys; 5) alluvium and much exposed bedrock on mountain slopes; and 6) coarse undifferentiated alluvium and exposed bedrock on lower slopes south of the Brooks Range.

Rock land composes 25 per cent or more of this segment especially in the foothills and on mountain slopes. Permafrost is continuous and summer thawing is shallow in most places. All soils have severe limitations for all uses except wildlife production, with neither soils nor climate suitable for settled agriculture. Low areas in the Coastal Plain and foothills contain deep silty soils with a thick organic mat. Soils on hill and mountain slopes consist of a coarse thin mineral layer covered by a thin organic mat.

The North American Continental Divide approximately bisects this segment with portions north of the divide draining to the Arctic Ocean via the Sagavanirktok River (East Arctic Hydrologic Sub-region) and portions south of the divide draining to the Yukon River via the Dietrich and Koyukuk Rivers (Koyukuk Hydrologic Sub-region). Because of freezing, all streams have very high seasonal fluctuations in flow and river ice jams cause much flooding and frequent stream course changes in areas of nearly level terrain.

Because of permafrost there is little ground water storage, though snow pack and lakes provide significant annual water storage. Little data is available for either quantity or quality of water, but suspended sediment in some streams of the Brooks Range has been estimated at more than 500 milligrams per liter.

Portions of the segment north of the Brooks Range have either Moist Tundra or High Brush (bordering major streams) ecosystems; the mountains have Alpine tundra or Barren Ground; and valleys south of the range have Upland Spruce-Hardwood Forest. The high percentage of barren ground is a significant ecological feature of this segment.

Both moose and brown bear occur throughout the segment, but principally along major streams. Black bear are occasionally found as far north as the southern end of the segment but are not abundant at this latitude. Dall sheep range throughout most of the Brooks Range at higher altitudes. Wolves and wolverines are distributed throughout the segment but are not as abundant as red and arctic fox or caribou.

The segment corridor generally divides the range of two of the principal caribou herds of Alaska, the Arctic Herd and the Porcupine Herd with Dietrich Pass being a common migration route for the two herds. The major portions of both herds have summer ranges on the North Slope and wintering grounds south of the Brooks Range.

Waterfowl of many species have important breeding areas on the Arctic Coastal Plain and along the Upper Koyukuk River along this segment.

Several species of freshwater fish are found in streams and lakes along the route and there is limited subsistence and sports fishing at scattered locations.

This entire segment is very sparsely populated, with Wiseman and Bettles being the only significant populated places in or near the corridor; except for construction camps for the TAPS crude oil pipeline now being built. These two villages had a combined population of

about 100 (50 in each place) in 1970.

Segment 2 parallels BLM Corridor Number 26 (Prudhoe-Yukon) through Dietrich Pass to the Arctic Circle. No proposed d-2 lands or Native deficiency lands are crossed. Bettles Field and Wiseman, lands withdrawn for Native Selection, are crossed. The route is in a utility corridor withdrawn by the Secretary of the Interior.

ARCHAEOLOGICAL SUMMARY

This segment is one of the richest on the pipe alignment in terms of known archaeological sites. The 97 archaeological sites discovered and reported thus far have revealed materials with cultural affiliations to Paleoindian, Paleoarctic, Arctic Small Tool and Eskimo Tool Traditions, and date from as early as 12,000 to 10,000BC to the present.

The potentially earliest and most significant Paleoindian site is PSM 027, designated the Putu Site by Alexander (1971, 1972). It contained fluted projectile points of probably Clovis type and associated artifacts buried under a thin soil layer. The Putu Complex most resembles the Driftwood Creek Complex; another series of Northern fluted point sites, discovered on the Utokok River by Humphrey (1966; 1970). Since Clovis cultures in the interior of North America form the earliest consistent series of radiocarbon dates for Early Man in the New World, and since Clovis has never been discovered stratigraphically above any other cultural materials, the site is of immense interest. It seems probably that Putu represents a campsite of some of the earliest immigrants to North America from Eurasia, possibly moving East across the unglaciated Arctic slope and into the MacKenzie Drainage.

The random find of a broken Putu point at PSM 063 suggests further Paleoindian occupation in the region, and great care should be taken in survey work to uncover these potentially extremely valuable sites. PSM 034, the "Campsite site" also revealed early cultural affiliations in the Aleyska excavations. Tools similar to those discovered at the Gallagher Flint Station on the Sagavanirktok River were uncovered here. Similarly, BET 022 "The Island", may contain four campsites of Tuktuk-Campus related material ranging in age between 10,000 and 1,500 years ago. BET 021 similarly contains a mixture of artifacts related to both early Eskimo (Denbigh) and Athabaskan (Tuktuk-Denali). Cultural materials of this type are also critical to our knowledge of the original peopling of

North America and the subsequent cultural affiliations of these early peoples.

Several sites whose artifact complexes reveal ties with the Arctic Small Tool Tradition (PSM 049, The "Mosquito Lake Site", PSM 033, PSM 078, and WIS 006) are also important to our understanding of the earliest Eskimo occupation of the region and of the relationships between early and later Eskimo adaptation.

BET 023, WIS 012, BET 015, BET 019 and BET 040 all indicate ties to the Northern Notched Point Tradition, with possible cultural relationships to the Tuktu and Denali sites. This is another early arctic hunting tradition whose origin and development necessitates further explanation.

One of the most significant sites excavated by the Alyeska survey was "No Name Knoll", which contains a nearly complete sequence of the Eskimo occupation of the region, from Denbigh, through Choris and Norton, to historic Nunamiut. A great deal of information was derived from this segment concerning historic and recent Nunamiut occupation. This kind of data, when combined with extrapolation from contemporary ethnographic accounts of Nunamiut Society, can yield abundant information on changing subsistence economies, settlement patterning and social structure.

ARCHAEOLOGICAL EVALUATION

The existence of at least two Paleoindian localities in this segment suggest that extreme care must be taken in survey work, particularly on ridges which impinge on river basins. Critical information on most of the subsequent cultural groups to inhabit the region of North Alaska was also uncovered in the Aleyska survey, and further reinforces the need for careful study before the pipe alignments are established. This appears to be one of the most significant segments in the alignment in terms of known sites, and it is to be expected that further sites of early date will be located.

HISTORICAL SUMMARY

In the history of the North, many areas have received so much attention that the mere names now recall great eras of the past. As is evident in the preceding archaeological summary, this segment is rich in historical data and lore.

The Alaska Heritage Resource Survey of the Alaska Division of Parks has recorded only two specific areas - the gold mining camps of Coldfoot and Wiseman, WIS 007 and WIS 008. Both of these areas are rich in historical data. The geographical locations in the vicinity of Coldfoot and Wiseman themselves bring to mind eras of our history that are now almost mythical: the Brooks Range, the Endicott and Phillip Smith Mountains, the Continental Divide, the Sagavanirktok and Antigon Rivers, and the Dietrich River Valley and Pass.

Early explorations of these areas were conducted by the Hudson's Bay Company, by whalers from the Beaufort Sea, and by Captain Patrick Henry Ray in the 1800's. One of the most prominent explorations of Prime Route Segment Two was done by Lt. Henry T. Allen in 1885, when his party traversed over 1,500 miles of Alaska. Lt. Allen's path crosses and recrosses this segment many times from the Arctic to Olsen's Lake area.

This region of Alaska has a vast record of history. Coldfoot and Wiseman, for example, are prime examples of gold-mining towns that sprung up during booms. At the time of these first booms, river-steamers brought supplies up the middle fork of the Koyukuk River to the site of old Wright's Roadhouse at the mouth of Wiseman Creek. This site, originally named after B. E. Wright, was later called Nolon and finally Wiseman, after the stream.

The town of Coldfoot began as early as 1899 and, reportedly, was given its name when one of the first stampeders got to there, got cold feet, and went back. When the gold boom era struck in the 1900's at Wiseman, Coldfoot activity declined, but in 1902 it consisted of one gambling place, two roadhouses, two stores, and seven saloons. After that, Wiseman became the hub of gold mining activity within the northern interior of Alaska and the population grew to 300 in 1902. Today, in ironic contrast, Wiseman has a population of less than 100 people.

The rich historical background of Segment Two is well documented in Robert Marshall's 1933 publication of Arctic Villages, which gives a more detailed understanding of the background of this segment.

HISTORICAL EVALUATION

Based upon the limited indexes of the historical sites by the Alaska Heritage Resource Survey with Segment Two of the Prime Route, one must

surmise that within the alignment of the corridor, historical evidence of the gold mining era, trails, camps, and evidence of trading activities will be located and investigated. From the indexes and search of other information there is no indication or mention of sites listed with the National Register of Historic Places. Coldfoot is reported to have been completely overrun by the Alyeska construction camp.

HISTORIC TRAILS

SAGAVANIRKTOK (quad #140). No trails are crossed, but Prime Route Segment Two crosses the Hickel Highway at 69°28'N, 148°34'W.

PHILLIP SMITH MOUNTAINS (quad #135). No trails are crossed.

CHANDALAR & WISEMAN (quads #123 and 124)

Trail 51, The prime route crosses Trail 51 at 67°31', 149°50' and follows the trail westerly along the middle fork of the Koyukuk River to Wiseman

WISEMAN (quad #124)

Trail 56, The prime route parallels Trail 56 from Wiseman, thence in a southerly direction to Coldfoot, 67°17', 150°15'.

Trail 58, The prime route parallels Trail 48 beginning at T28N R12W fm on Slate Creek southerly past head of Rosie Creek Pass to 67°15', 150°13', where it diverges.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #2

SAG 003. ARCHAEOLOGICAL. Situated on a high bluff one quarter mile east of Sagavanirktok and two tenths of one mile south of Sagwan is a feature containing about sixty fragments of worked wood. This is an isolated find in which further tests produced no other cultural material.

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SAG 004. ARCHAEOLOGICAL AND HISTORIC. At the junction of the Sagavanirktok and Ivishak Rivers is a site where stratigraphy is present, indicating multiple occupations. The site also includes pre and post contact material. Excavation is incomplete.

R-3. ARCHAEOLOGICAL. On top of Franklin Bluffs, fifty feet back from the edge is one bi-polar prismatic blade core (not unlike Akmak).

R-4. ARCHAEOLOGICAL. Three tent rings in Franklin Bluffs area. Solecki, Refs., Bert Salwen and Jerome Jacobson. 1973 Archaeological Reconnaissances North of the Brooks Range in Northeastern Alaska, University of Calgary Department of Anthropology, Occasional Papers, No. 1.

HAL #3

SAG 006. ARCHAEOLOGICAL. This is a small surface find near Happy Valley, one half mile north of a G.R.S. camp.

HAL #4

PSM 060. ARCHAEOLOGICAL. Ribdon. This site consists of four localities on the northwest end of M.S. 119A-0 on a terrace on the bank of the Sagavanirktok River, near its confluence with Ribdon River. Chert flakes, large notched points and tool biface fragments have been recovered from this site, dating to 4000 B.C., of possible Tuktuk or Palisades significance.

PSM 027. ARCHAEOLOGICAL. Below the Atigun entrance on the east bank of the Sagavanirktok River are two terraces on a knoll. The higher terrace is fairly early typologically, and the lower has fluted points. This has been designated as the Putu Site (Alexander 1971) and contains a Paleoindian artifact complex closely related to the Driftwood Creek complex on the Utukok River. The site was excavated and the Putu artifacts were found beneath a thin soil layer.

PSM 034. ARCHAEOLOGICAL. Known as "The Campsite Site", this location is four hundred yards west of S-10. This archaeologist's camp (tested only) has yielded technology similar to that of Gallagher Flint Station.

PSM 035. ARCHAEOLOGICAL. This high gravel ridge, about one meter square and extremely shallow, has yielded approximately 700 waste flakes and approximately 125 artifacts through excavation. Age and relationships have not been determined.

PSM 050. ARCHAEOLOGICAL. Located on a knoll of glacial drift approximately seventy-five feet above the surrounding tundra and approximately two hundred yards in diameter, this site near Station 1559 (Sagavanirktok) has been excavated. The oldest material found has been a core and blade, a traditional Arctic small tool. Hearths are present.

PSM 011. ARCHAEOLOGICAL. This Murphy Lake site yielded no artifacts and a few flakes. Its surface collection was tested only.

PSM 012. ARCHAEOLOGICAL. On the west of the Sagavanirktok River is this site of likely recent Eskimo interest. It is comprised of a small cache: a circular depression 10.5 inches in diameter, rocks, cut willow, tin cans and cut antler.

PSM 016. ARCHAEOLOGICAL. This large flaking station, on the highest knoll southeast of the junction of Accomplishment Creek and Sagavanirktok River, is composed of as much as sixty percent lithic debris. At this writing, no statement can be made as to age or cultural affiliation.

MS 108-2. A site located on Deitrich River which yielded chert flakes, artifacts, and hearths, but no cultural affiliation can be made. Artifacts are non-diagnostic. ARCHAEOLOGICAL.

PSM 010. ARCHAEOLOGICAL. This site on the Toolik River consists of cultural material from a twelve square meter area on a small zone of two soil zones. Approximately seven hundred flakes and two hundred artifacts have been recovered in the core and flake tradition. As there are no diagnostic artifacts, it cannot be placed in time or typology.

PSM 056. ARCHAEOLOGICAL. Anaqqak. A campsite-hunting camp, approximately 225 square meters in area and completely excavated by July 3, 1974. The campsite, chert flakes, artifacts, hearths and bone appear to be Inland-Choris, or possibly early Norton.

PSM 057 . ARCHAEOLOGICAL. Ipnaq. This Inland-Choris campsite on the banks of the Sagavanirktok River is approximately 150 square meters in size. Excavation, completed by 7/16/74, yielded chert flades, artifacts, hearths, and bone.

PSM 058. ARCHAEOLOGICAL. No Name Knob. This large knob covers several acres and contains a number of sites. Four excavated sites yielded Denbigh, Choris, Norton, and possibly Nunamiut material. It is located just north of the north boundary of MS119-10.

PSM 059. ARCHAEOLOGICAL. Fourth of July Kame. This Inkand-Choris site, located on MS 110-B, was excavated and completed in 7/7/74. It yielded bouses, flakes, artifacts, and hearths.

PSM 071. ARCHAEOLOGICAL. MS 118-1b. This small excavated site contained flakes, two non-diagnostic tools, and a completely unassociated tent-ring, which is probably Nunamiut. It is a typical site to the area.

PSM 072. ARCHAEOLOGICAL. 1629. This Choris site is located at Station #1629 PL centerline and on several small kames. The site contains chert flakes, artifacts, charcoal, and bone and it is endangered by the centerline pipe.

PSM 078. ARCHAEOLOGICAL. MS 119-2. These several sites are on a small hill near a lake. Tent rings, bone, and chert flakes possibly indicate Nunamiut and Denbigh-Choris-Norton cultures. It would be endangered if this MS is mined.

PSM 025. ARCHAEOLOGICAL. This is the site of two oval tent rings, 4.6 square meters and 10.5 square meters; it is located 100 meters east of the Sagavanirktok River.

PSM 026. ARCHAEOLOGICAL. This fifty square foot excavated area is a look-out and flaking station dated possibly late pre-historic on the basis of bone preservation.

PSM 028. ARCHAEOLOGICAL. This surface site yielded waste flakes and a bi-face.

PSM 062. ARCHAEOLOGICAL. Hussey Pond Site. This campsite-hunting camp, possibly Nunamiut, is located on a gravel terrace at the north end of Hussey Pond. The site consists of four tent-rings, one possible winter house or white-man's tent ring, other stone features, and scattered bone.

PSM 013. HISTORIC AND ARCHAEOLOGICAL. This early site on a tributary of the Sagavanirktok River consists of a tent ring with wooden stakes, a tin can lid, and much lithic debris. It may be a source for materials.

PSM 015. ARCHAEOLOGICAL. These two sites are on the north side of Atigun Canyon. The first, located mid-way through the canyon, consists of a tent ring with three pieces of cut willow. The other site, at the east end of the canyon, is a chipping station approximately one meter square. Test pits at the second site were negative.

PSM 017. ARCHAEOLOGICAL. Materials on the surface and to a depth of about thirteen inches below the surface have been found on the west side of Atigun Canyon in two areas approximately fifty meters apart. The original site assessor was unable to find any indication of age or cultural affiliation.

PSM 01. ARCHAEOLOGICAL. On the northern side of Atigun camps are small surface sites. No cultural affiliation could be made by the appraiser.

PSM 019. ARCHAEOLOGICAL. At the confluence of the Sagavanirktok and Atigun Rivers is a double site of probable late, pre-historic Eskimo. A surface find at the first site consisted of a generalized Kayuk point. Two test pits revealed nothing. The second site is a tent ring eighty feet south of the crest of Tea Lake Knoll.

PSM 021. ARCHAEOLOGICAL. Eight flakes have been taken from the surface of this one meter area located south of Galbraith Lake on the east side of the Atigun River.

PSM 029. ARCHAEOLOGICAL. Surface finds are flakes and a core at this site in the Atigun Canyon on the north side of the Atigun River.

PSM 022. ARCHAEOLOGICAL. Located in the Atigun-Galbraith Lake area are three sites. The first site contains two probable tent rings, one stove and five cut wooden stakes. The second site is a single biface found on the surface and the third has also yielded flakes from the surface.

PSM 023. ARCHAEOLOGICAL. Near the confluence of the Atigun and Sagavanirktok Rivers are located two surface sites. The first small surface site is six flakes. The second yielded more than 120 flakes and one thirty-caliber rifle cartridge which is probably intrusive.

PSM 030. ARCHAEOLOGICAL. At this Galbraith Lake location, five sites have been located. One consisted of some sharpened stakes of a caribou stretching rack, judged to be recent. A second site consisted of surface flakes. Surface flakes and cores, also more diagnostic, comprise another site. The last site is recently cut willow stakes. There is some superficial damage from testing.

PSM 033. ARCHAEOLOGICAL. At Pump Station Number Four in the Galbraith and Tea Lake area of Deitrich Pass, two surface finds were made: one micro-blade suggestive of Denbigh Flint Complex and one flake which was not diagnostic.

PSM 036. ARCHAEOLOGICAL. Anigromigurak. This Nunamiut culture site of the 1800's has yielded three tent rings, five moss houses and one hearth. Detailed analysis of the site should provide information on Nunamiut culture, environmental adaptation and cultural change. Total excavation is intended before pipeline completion at this site on the south bank of the Atigun River, at the west end of a small canyon approximately .25 miles east of the outlet of Gllbraith Lake.

PSM 049. ARCHAEOLOGICAL. The Mosquito Lake site in the Atigun Canyon has been assessed to be a look-out site during the past 4-5,000 years. Date of usage is inferred to be ca. 2000 B.C. from the site's relationship to other Denbigh sites. One component found in this part of the Denbigh flint complex is Arctic Small Tool. The other component is probably Nanamiut, possibly Kavik or Choris and was found on the surface. Only a small portion of this 256,000 square foot site has been excavated.

PSM 065. ARCHAEOLOGICAL. Parc Site. This 200 square meter campsite, possibly Nunamiut, is on a blow-out on a sandy ridge overlooking the Atigun River. Although the site is deflated, animal bone and projectile points were found.

PSM 066. ARCHAEOLOGICAL. Reject Site. This small campsite, possibly Kavik or Nunamiut, is in a blow-out on a sandy ridge. The 150 square meter area yielded caribou bone, chert flakes, and fire-cracked rock.

PSM 069. ARCHAEOLOGICAL. MS 113-12. Possibly a Nunamiut campsite, this site 37 yards west of a state road contains two or three tent rings, surface bone, and charcoal. It is endangered only if MS boundaries expand.

PSM 064. ARCHAEOLOGICAL. Krogh Quarry Site. This large cone-shaped knob, approximately one acre in area, contains jutting blocks of chert and flakes and is significant as an Aboriginal Quarry Site.

PSM 067. ARCHAEOLOGICAL. Q-C Site. This 300 square meter campsite, possibly Nunamiut or Kavik, on the north shore of Mosquito Lake (near check valve #26), contained fire-cracked rock, caribou bones, and chert flakes on the surface.

PSM 070. ARCHAEOLOGICAL. MS 111-2. This site consists of a rectangular tent ring and cut willow approximately forty yards south of south boundary of MS 111-2. This site, possibly a Nunamiut campsite, is endangered only if the MS boundaries expand.

PSM 074. ARCHAEOLOGICAL. Atigun Site I. This site is a part of the general Atigun Site area. Surface indicators of chert flakes, fire-cracked rock, and animal bone fragments appear Kavik. It may be within the construction limits of the pipeline.

PSM 075. ARCHAEOLOGICAL. Atigun Site III. This site is a part of the general Atigun Site area. Probably a Kavik site, it contains burned bone fragments, chert flakes, several tools, and a hearth. It is endangered by erosion on a road cut by Atigun River Bridge.

PSM 076. ARCHAEOLOGICAL. Atigun Site II. Part of the general Atigun Site area, this site is located in a dune area on the north bank of the Atigun River. This site, a blow-out yielding fire-cracked rock and animal bones, is between the road and the pipe.

PSM 014. HISTORIC. At this spot, where Galbraith's major western tributary enters the valley, was found a single tent ring of a nine inch maximum diameter, buried with only the tops showing. The site was assessed to be historic Eskimo.

PSM 031. HISTORIC. This totally excavated camp, across the creek from a construction camp near Galbraith Lake, yielded a moss house and willow sticks of recent Eskimo usage. Excavation produced no artifacts.

PSM 032. HISTORIC. This excavated Narvavak site in the Galbraith Lake area has been of great interpretive value. Ethnographic information from Anaktuvuk peoples indicate that it is a camp used by ten people who came to capture wolf pups in 1957 or 1958. One caribou was used for food for each camp. Excavation has recovered two rectangular tent outlines and associated debris.

PSM 077. ARCHAEOLOGICAL. Atigun Moraine. This look-out and campsite is located on a truncated moraine overlooking Atigun River. No cultural affiliation could be made from the chert flakes and non-diagnostic tools found both on and under the surface.

PSM 055. ARCHAEOLOGICAL. Tea Lake Knoll Site. This look-out campsite is on the crest of a knoll southeast of Tea Lake (location of Pump Station Number Four). This 2,000 year old site yielded caribou bones, chert tools and flakes, and hearths from a hundred square meter area.

PSM 020. ARCHAEOLOGICAL. Diagnosed late-prehistoric, this small surface site has yielded one flake, one point ball, and an apparently Athabaskan implement.

PSM 024. ARCHAEOLOGICAL. This surface site, where the Atigun and Sagavanirktok Rivers join, has yielded two tent rings, one biface fragment and a few flakes.

HAL #7

PSM 051. ARCHAEOLOGICAL. This stone, of unknown significance, was found along the path leading to the mountain pass between the Atigun and Dietrich Rivers. Very visible from the north view, the stone has a central hole and shows oval pecking. It was located by an Alyeska employee.

PSM 063. ARCHAEOLOGICAL. Chandalar. This isolated find of a broken Putu projectile point on the surface of a kame terrace, thirty feet east of State Road, is significant because of the age and location of this artifact.

PSM 061. ARCHAEOLOGICAL. MS 108-2. This site, on the edge of the Dietrich River, has yielded non-diagnostic chert flakes, artifacts and a hearth. Excavation has been completed.

HAL #9

WIS 004. ARCHAEOLOGICAL. Southwest of Cathedral Mountain near the Lake at the head of Chapman Creek is an insignificant site which includes finds and waste flakes.

WIS 013. ARCHAEOLOGICAL. S4-17. This game lookout-campsite of unknown size contained material located in thick soil deposit overlying a large granite outcrop. Further testing is required before its significance can be determined.

WIS 015. ARCHAEOLOGICAL. S4-23. This site is a 25 square meter campsite lookout in which material was found in the top five centimeters of soil. It is located on MS 100-12.

CHN R-1. ARCHAEOLOGICAL. One black obsidian point, 8.6 centimeters long, was taken from this site ten miles northwest of South Fork of the Koyukuk. (Hadleigh 1963: pp. 51-62)

CHN 016. ARCHAEOLOGICAL. This lookout, one-half mile north of Linda Creek, has yielded a few chert flakes below a mossy lichen cover in a six square foot area.

CHN 002. ARCHAEOLOGICAL. Possibly a lookout one-half mile north of Gold Creek, this site yielded several chert flakes recovered from a six square foot area below the lichen cover.

WIS 008. HISTORIC. Wiseman. This was the former center for gold mining operations in the area of the middle fork of the Koyukuk River. Although the town once had a population of about 300, it is barely active today.

CHN 003. HISTORIC. Big Lake. Cultural material was found two to three inches deep in reddish soil and is possibly stratified.

HAL #10

WIS 006. ARCHAEOLOGICAL. Just south of Cathedral Mountain on a kame terrace is a quarry site, possibly with a separate microblade and notched burin component. The site measures 675 square meters and the depth of deposit varies from two to ten centimeters at the eastern end to as deep as twenty-five centimeters at the western end. There are possibly two component in the 600 artifacts recovered.

WIS 001. ARCHAEOLOGICAL. Southwest of Cathedral Mountain around the Lake at the head of Chapman Creek is a site of fifty square yards which includes a hearth, lithic material and some blowout. There is potential danger of destruction of this site if gravel is taken.

WIS 003. ARCHAEOLOGICAL. Southwest of Cathedral Mountain near the lake at the head of Chapman Creek are game lookouts of little significance where a single individual spent a short period of time.

WIS 005. ARCHAEOLOGICAL. South of the lake, at the head of Chapman Creek on a bedrock hill, is a site containing blowout and some sub-surface remains. The area was excavated completely and about eighty artifacts were recovered which are not culturally distinctive but may be related to Tuktu or Denali material.

WIS 002. ARCHAEOLOGICAL. Located southwest of Cathedral Mountain near the lake at the head of Chapman Creek is a probable game look-out site, including a small chipping station, microblades, spalls, waste flakes, and possibly burins.

WIS 011. ARCHAEOLOGICAL. S4-26. Small flakes were taken from this 25 square meter humus zone on top of a kame, which would be a significant flaking station if more core/blade material were present.

WIS 012. ARCHAEOLOGICAL. S4-15. From this 1050 square meter campsite, possibly Denali or Tuktu, flakes were recovered from the surface to a depth of three inches. Buried material was found around but not on the crest of a hill and especially in one depression.

WIS 010. ARCHAEOLOGICAL. S4-25. This is a 400 square meter quarry site containing material from surface to a ten centimeter depth. The artifacts were identical to the material at K-9. It is endangered by erosion and downslope creep.

WIS 016. ARCHAEOLOGICAL. This flaking station of unknown size contained material located on the surface in a large blow-out, but nothing was recovered from tests in areas where there was soil. It is located on MS 96-3.1.

WIS 017. ARCHAEOLOGICAL. S4-30. This is a 225 square meter site in which material is mixed in with angular bedrock rubble and lichen. There is virtually no soil.

WIS 018. ARCHAEOLOGICAL. S4-31. This 225 square meter site is in a saddle just north of the southern promontory of MS 94-1b. Although flakes were recovered from a thick (five-ten centimeters) soil layer, their significance is indeterminable without further testings.

WIS 004. ARCHAEOLOGICAL. This insignificant site southwest of Cathedral Mountain has yielded a few waste flakes.

WIS 022. ARCHAEOLOGICAL. S4-43. This is a small campsite located on the pipeline right-of-way. Flakes were recovered from a five centimeter thick zone of organically stained glacial till.

HAL #11

BET 057. ARCHAEOLOGICAL. This site appears to consist of the single flake recovered from test excavations. Soil deposit in the area does not exceed two centimeters.

BET 023. ARCHAEOLOGICAL. This game lookout and small campsite is of possible Tuktu relationship. Area of the site is 1750 square feet, with the cultural material located in a one-half inch layer of soil overlying a thick deposit of loess.

BET 052. ARCHAEOLOGICAL. The largest of three located at the confluence of the Jim River and Grayling Creek, this site's buried nature will insure relatively spatial-cultural data. Materials in this 60x80 x 40x60 meter site lie in a thick humic soil overlying a medial moraine.

BET 041. ARCHAEOLOGICAL. Material has been recovered from the surface to a depth of forty centimeters from this 560 square meter site. The abundant material from various time-periods, possibly some quite early, indicates a large, buried, campsite-lookout.

BET 042. ARCHAEOLOGICAL. This 300 square meter site is buried and is much disturbed by natural forces, making it likely that significant socio-cultural data from a single component may be recoverable.

BET 040. ARCHAEOLOGICAL. S4-16. This is a 504 square meter site, possibly Campus/Denali, from which material was recovered in a six-inch layer above decomposed granite bedrock. It is located on MS 91-3.1.

BET 054. ARCHAEOLOGICAL. A game lookout and small campsite 100 meters in size, this site has yielded few artifacts. The material was located in a thin (five centimeters maximum) soil layer underlain and intermixed with gravel.

BET 023. ARCHAEOLOGICAL. This game lookout or campsite, possibly Tuktuk or other microblade-related type, is located on a 1750 square foot area on the east side of the Jim River. The material is located in a one-half inch layer of soil overlying a thick deposit of loess, concentrated mostly in depressions and gullies.

BET 052. ARCHAEOLOGICAL. S4-33. This is the largest of three sites at the confluence of the Jim River and Greyling Creek. Its buried nature will insure relatively reliable spatial/cultural data. The 3500 square meter site is over a medial moraine, but the material is in a thick humic soil layer.

BET 041. ARCHAEOLOGICAL. S4-18. ARCHAEOLOGICAL. This 560 square meter site, a buried campsite/lookout, is significant because of abundant material from various time periods, some quite early. It is located on MS 91-3.1.

BET 042. ARCHAEOLOGICAL. S4-28. Significant socio-cultural data from this site may be recoverable since it is buried and protected from natural forces. The site itself is 300 square meters in area and the material has been recovered from a thin humic zone overlying kame gravels. It is located on MS 93-1.

BET 029. ARCHAEOLOGICAL. Artifacts, both on the surface and just under the moss-lichen cover, have been found on a bedrock knob overlooking Bonanza Creek.

BET 028. ARCHAEOLOGICAL. Bonanza Creek is the location of surface finds in two blowout areas.

BET 027. ARCHAEOLOGICAL. Located at the north end of Grayling Lake is a site, given no significance, containing three chert flakes and two phyllite flakes.

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BET 026. ARCHAEOLOGICAL. Located on a ridge at the southwest corner of Grayling Lake is a ridge approximately 100 yards long with only a nine square foot area yielding cultural material (no stratigraphy).

BET 025. ARCHAEOLOGICAL. This surface site, assessed to be a game lookout, is located near the Jim River on the west.

BET 024. ARCHAEOLOGICAL. This high hill southeast of the confluence of Jim River and Douglas Creek is assessed to be too high for a practical campsite, and is therefore probably a game lookout. The artifacts are non-diagnostic.

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BET 022. ARCHAEOLOGICAL. The Island. The Island is a low relief wooded hill, surrounded by tundra. There are four areas of cultural materials in an area of 40,000 square meters, excavated in 1971. Area A is related to Tuktu by notched point. Area B is related to Campus type by microblade. Area C has post ASTt related material. Area is non-diagnostic. This is probably the habitation site related to the numerous game lookouts in the vicinity.

BET 051. ARCHAEOLOGICAL. This campsite/lookout, 800 square meters in area, is one of a number of small discontinuous localities spread over a large area. No features or material have been recovered from a thin, brown humic soil extending from the surface to five centimeters below the surface. The site is in danger from erosion.

BET 017. ARCHAEOLOGICAL. No cultural associations have been made from these surface finds west of the north fork of Bonanza Creek. The site has little vegetative covering, no deposition, and is well drained and has many blowouts.

BET 016. ARCHAEOLOGICAL. These lookouts on small outcrops and in blowouts are located on Bonanza Creek.

BET 015. ARCHAEOLOGICAL. This unexcavated site, covering approximately thirty square yards of hill and steep slope, is north of Bonanza Creek. It is probably a game lookout and typologically belongs to the Denali Complex (ca. 8000-9000 BP).

BET 021. ARCHAEOLOGICAL. This eroded surface site, on the southwest end of a hill, is a small saddle with artifacts in an 900 square foot area. There are cultural affinities with Denbigh, Tuktu and Denali. Cultural boundaries changed between proto-Eskimo and Athabaskan traditions.

BET 020. ARCHAEOLOGICAL. Located on a large hill west of the North Fork of Bonanza Creek are blowouts, small exposures with little significance.

BET 019. ARCHAEOLOGICAL. This surface site of several square yards is at the highest point of a hill and has been dated to 4000 BP. It appears to be Athabaskan tradition, Denali Phase.

BET 018. ARCHAEOLOGICAL. These small dry knobs are game lookouts near the west end north forks of Bonanza Creek.

BET 050. HISTORIC. This nine square meter site consists of axe-logs about four feet long laid side by side against a large spruce tree form a slightly elevated platform four feet by seven feet. The platform was possibly a woodpile, a sleeping platform or a grave covering.

SEGMENT THREE

DESCRIPTION

Prime Route Segment Three extends from 66°30' across the Yukon-Tanana Uplands from the vicinity of Kanuti Flats to the Yukon River at Smooth Face Mountain, 65°52'N, 149°45'W.

ENVIRONMENTAL SETTING

This segment has a Continental Zone climate with mean annual temperature of 23°F and mean annual precipitation of twelve inches. The Yukon Lowlands and other basin areas of the interior suffer both extremes of cold and heat not found elsewhere in the state. The Upper Yukon, in particular, has climatic extremes not previously experienced by early European explorers and missionaries; for example, Monseignor Clut recorded in his diary at Fort Yukon on January 26, 1872:

"Since 28 December we have had a cold so intense that I have never suffered anything like it and for so long. The air is calm and the sky is always clear; but there is constantly above the land surface a cloud of cold, that is to say a thick vapor that the cold forces from the ground but which it prevents from rising. The same occurs with the smoke from our chimineys; it forms a sort of cloud along the surface of the ground." *

It is apparent from this account that the ice fog which frequently occurs in the Fairbanks Basin is not entirely a product of the twentieth century, but has occurred in the past as well.

This segment lies in the Yukon-Tanana Uplands Physiographic Province. Surficial geology consists of undifferentiated alluvium of coarse to fine materials associated with low mountains and hills. Bedrock is exposed only on higher and steeper slopes.

In this zone of discontinuous permafrost some of the soils on more gently sloping terrain have only slight limitations for all uses. On more sloping areas well-drained soils have limitations because of erosion.

Groundwater occurs in relative abundance at lower elevations in both the Koyukuk and Upper Yukon Hydrologic Sub-regions crossed by this segment. Most streams in the area are subject to flooding during the spring snow and break-up. The region has fair to excellent water quality and sufficient supplies for most projected needs. Several potential hydroelectric sites have been identified in the Koyukuk and Yukon River drainages.

*

"Depuis le 28 décembre (1871), nous avons un froid si intense, que je n'en ai jamais éprouvé de semblable et de si longue durée. Le temps est calme, le ciel toujours pur; mais il règne constamment au-dessus de la surface de la terre un nuage de froid, c'est-à-dire une vapeur épaisse que le froid fait sortir de la terre, mais qu'il empêche de monter. Il en est de même de la fumée de nos cheminées; elle forme comme un nuage à la surface de la terre."

Mgr. Clut, MISSIONS DE LA CONGREGATION DES MISSIONNAIRES OBLATS DE MARIE IMMACULEE, Tome 12^{ième} 1874, Paris, Typographie A. Hennuyer, page 287.

Upland Spruce-Hardwood is the predominant vegetation type along this segment. This is an extensive system in Alaska dominated by white and black spruce, birch, aspen and balsam poplar.

This segment is part of the winter range area of the Arctic Herd of caribou. Black bear are relatively abundant; grizzly less so. Moose do range throughout the segment. Dall sheep and mountain goats are not found near this segment.

King and chum salmon are the predominant anadromous fish which spawn in this area. These two species are important for subsistence fishing, while sports anglers concentrate on lake trout, northern pike, sheefish, and grayling. Many species of waterfowl nest or overwinter within a few miles of the northern end of the segment.

The nearest named inhabited place to this segment is Stevens Sillage, about thirty miles up the Yukon River from the south end of the segment. Construction of the TAPS crude oil line is underway in this common corridor but it is not known how this has altered or will permanently alter the economic base in the vicinity.

Stevens Village, a Native community on the right bank of the Yukon River, is located about thirty river miles upstream from the south end of this segment. In terms of Native subsistence for this village and the relative nearness (less than twenty land miles from the pipeline alignment at the nearest point), Stevens Village is a representative Native community for an socio-economic setting for the southern end of this segment.

In 1970 Stevens Village had a Native population of 72 out of a total population of 84, and was declared eligible for village land selection under The Alaska Native Land Claims Settlement Act in 1971.

The people of Stevens Village live primarily by subsistence hunting and fishing. The annual average subsistence harvest for the years 1969-1970 had an estimated gross weight of 88,370 pounds. Fish, principally salmon, grayling, whitefish and pike made up 83.3% of the total; and mammals, principally black and grizzly bear, muskrat, and hares, 13.9%; birds, principally ducks, 1.1%; berries 1.1%; and garden produce 0.6%.

In the 1970 census, nineteen of twenty-four villagers (79%) in the local employment survey were listed as unemployed on a cash-economy basis.

Segment three parallels BLM Corridor Number 26 (Prudhoe-Yukon) from the Arctic Circle to the Yukon River. No proposed d-2 lands or Native deficiency lands or lands withdrawn for Native Settlement are crossed. The route is in the Utility Corridor.

ARCHAEOLOGICAL SUMMARY

The 24 archaeological sites known from this segment are especially interesting as they lay on the changing cultural boundaries between Early Eskimo and Early Athabaskan cultures. Most of the sites appear to have been game lookout or chipping stations, but the cultural affiliations of campsite localities are reasonably well-established in some cases.

BET 009 contained artifacts similar in type to the Early Athabaskan Denali Complex, while BET 008 and BET 004 show later Athabaskan manifestations.

BET 013 and BET 010 may be related to the Tuktuk sites of Anaktuvuk Pass, an example of the Northern Notched Point Tradition, the boundaries of which are still chronologically and spatially unclear. BET 014 also contained microblades of Denbigh or Tuktuk type.

ARCHAEOLOGICAL EVALUATION

The probable discovery of more early campsites on the segment may help clarify the cultural relationships and changing boundaries of Early Eskimo and Athabaskan groups inhabiting the Region. Since this was clearly a major caribou hunting area (as evidenced by the large number of lookout stations) it must have been revisited time and again by prehistoric hunters. Further survey may uncover the campsites associated with these scattered finds and reveal more detailed information on the lifeways of and relationships between prehistoric eskimo and indian cultures.

HISTORICAL SUMMARY

The historical life-lines of the interior of Alaska flow through Segment Three. The Yukon River with its many branched tributaries such as the Koyukuk, Kanuti, and the Tanana, served as the avenue into the interior of Alaska throughout its history.

The first white man to enter the Yukon and behold its immensity was Glazoonov, a Russian post-trader of the old company, who, with a small band of Promishlyniks, managed to overcome the hostility of the natives sufficiently to get up as far as the present site of Nulato in 1833.

As early as 1842 - 1845, the Russians, led by Lt. Zagaskin of the Russian Navy, went up the Yukon as far as Rampart.

With the establishment of the "Redoute Saint Michael", which was founded in 1835, this post became the shipping point for the furs that were gathered by all traders from the Lower and Upper Yukon. Other explorations of the Yukon and its tributaries followed the Russians from 1865-1885. Explorers like Kennicott, Pease, Clut, Adams, Ketchum, Dall, Whympier, Mercier, Raymond Hill, and Shaw have documented the magnitude of the interior. One of the most outstanding explorations that describe in detail the interior of Alaska with this segment were the travels by Lt. H. T. Allen, U.S.A. in his 1885 expedition.

With the Russian Fur Industry plying the Lower Yukon and establishing trading posts throughout the interior, the Russian-American Company was authorized to act as the official Russian representative in the Northwest part of North America. In 1799 The Russian-American Company was chartered for a period of twenty years, with the charter being periodically renewed up to the time of purchase of Alaska by the United States in 1867. After the Russian sale of Alaska, the majority of the company's material holdings were sold to a private group of Americans under the name of the Alaska Commercial Company.

The Yukon River traversing the interior from the east afforded a migration route for the English, American and French fur traders, who established trading posts on the mighty river.

Within Alaska, the competition of fur trading areas along the river between the Russians and the Hudson's Bay Company brought about disagreement concerning whose territory the trading posts were located in. An example of this is Fort Yukon. Even though Fort Yukon is not within this given segment of consideration, it did have its impact throughout the interior, which Segment 003 traverses.

Both English and French missionaries frequented the villages along the Yukon River and their religious cultural effects have continued to this day. Monseigneur Clut and others have left detailed diary observations of life and settlements near the pipeline segment crossing the Yukon.*

Within the proximity of this segment, just above the indicated pipeline crossing on the Yukon, is Fort Hamlin, a trading post that was established by the Alaska Commercial Company. This trading post also acted as a riverboat landing during the era of the Yukon River stern wheelers and streamers which provided the main source of transportation into the gold fields of the interior.

*

"Le 15 Mai Mr. Lecorre, Silvain Witezeh, notre interprète Loucheux et moi repartions dans un tout petit canot d'écorce de moose et nous nous rendîmes au poste Tanana ou NukluKayet où nous demeurâmes 15 jours en attendant la barque du Fort Yukon..."
Letter of Mgr. Clut from Fort Providence, N.W.T., 20 October 1873, describing his mission into Alaska during 1871.
O.M.I. GENERAL ARCHIVES, Rome

In recognition of this vital historic role that the Yukon Streamers have played in the settlement of Alaska, the Yukon Steamer "Nemana", located at Alaskaland in Fairbanks, is in the National Register of Historic Places.

The gold-rush stampede left its legacy in the interior. Gold at Fairbanks in 1903, at Chandalar in 1906, at Livengood in 1914.

The influx of gold miners brought the necessary essentials to maintain the quality of life associated with mining boom towns: gambling houses, saloons, dependencies, post offices, equipment for the mines and gold dredges, trails, sled and haul roads, and the establishment of narrowgauge railroads connecting mining camp to mining camp. In addition to the mining and trading posts along the Yukon River, the U. S. Army Signal Corps established overland telegraph communications systems to many stations throughout this segment.

Russian influence, the Hudson's Bay Company, French missionaries and traders, and the gold stamperders have left behind a rich historical heritage.

HISTORIC EVALUATION

According to data indexed by the Alaska Heritage Resource Survey only one historic site is recorded, excluding the historic trails.

Segment Three is a cross-section of the interior, and presents a profile of the history of Alaska. Within this segment there are presently no known sites yet listed with the National Register.

HISTORIC TRAILS

BETTLES (quad #117). Trail 49 (Unnamed). Main route crosses Trail 49 at 66°31'N, 150°46'W.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #22

BET 008. ARCHAEOLOGICAL. A mini square meter surface site is associated with a large bedrock monument. There are few flakes and artifacts. Distribution of those few artifacts has probably been disturbed through downslope creep. The site is possibly a game look-out. This site is located near the crossing of the Winter Trail and Kanuti River.

BET 046. ARCHAEOLOGICAL. This nine square meter unexcavated site was a test pit from which a number of small flakes were recovered. The flakes suggest retouching activity.

BET 047. ARCHAEOLOGICAL. A surface collection was taken from this 64 square meter site, and there is the possibility of artifacts and flake material in a thick (five--ten cm.) soil deposit on the north side of the knoll. The knoll is located north of the Kanuti River between the Winter Trails and Winter Road.

BET 006. ARCHAEOLOGICAL. This bedrock monument has no features, but the southeast slope has a 100 square meter area of exposed decomposed bedrock. This is a surface site from which flakes were recovered in 1970 and 1974. It is not likely that any diagnostic artifacts will be recovered. Location is west of the Winter Trail approximately mid-way between Fish Creek and Kanuti River.

BET 005. ARCHAEOLOGICAL. This site, north of Caribou Mt., contains two small surface sites. The first is 3,000 square feet in area; the second is 25 square meters in area and is on a knoll of mostly exposed bedrock. Three basalt flakes were recovered from this second site which is probably a game lookout.

BET 002. ARCHAEOLOGICAL. This surface site in the Caribou Mt. North locality is about thirty feet in diameter. It is at the top of the ridge near Fish Creek and Hickel Highway.

BET 011. ARCHAEOLOGICAL. This Caribou Mt. south location is a surface site approximately seventy feet in diameter.

BET 010. ARCHAEOLOGICAL. In Kanuti valley to the south, a Caribou Mt. South location, is this Athabaskan-Tuktu (?) surface site, approximately 1,008 feet in diameter.

BET 012. ARCHAEOLOGICAL. In the Upper Kanuti River locality, these six surface sites yielded from 1 flake to several hundred.

BET 044. ARCHAEOLOGICAL. This 100 square meter area is associated with a small bedrock monument and probably a game look-out. Nivation and consequent erosion are active. Only a surface collection has been taken, and the likelihood of significant artifacts occurring is slight. There are no concentrations of material. Location is near the headwaters of a creek southwest of Caribou Mountain.

BET 043. ARCHAEOLOGICAL. Flakes and three biface fragments of basalt were recovered from the surface of this 900 square meter site associated with a large bedrock monument. The considerable nivation and erosion have probably disturbed the distribution of the few probable artifacts. This could have been a lookout or campsite. Location is north of Kanuti River between the Winter Trails and Road.

BET 013. ARCHAEOLOGICAL. The east site has been partially damaged by a winter haul road (now abandoned) and is possibly Tuktu. It is the largest (4000 square meters) buried site in the Old Man area, and it has the most debitage. Flakes have been recovered from surface to three inches below surface. Excavation may locate a hearth which would provide an approximate date for this and similar sites in the area. Some excavation was done in 1970. The location is north of Kanuti River and between the Winter Trails and Road.

BET 048. ARCHAEOLOGICAL. This is a small look-out station of unknown size and without features. It is the site of a surface collection from which a single flake has been recovered. Location is west of Winter Trails directly south of Olsons Lake.

BET 009. ARCHAEOLOGICAL. Located in the Kanuti Valley near Caribou Mt., this surface site, approximately fifty meters in diameter, produced a tent ring and a hearth. The site is Athabaskan-Denali Phase.

BET 007. ARCHAEOLOGICAL. This site, at the junction of Fish Creek and Hickel Highway, produced a sixteen square foot hearth, and waste flake and bone.

BET 004. ARCHAEOLOGICAL. This small surface site, approximately 100 feet in diameter, in the Kanuti River-Caribou Mountain-Hickel Highway area has one diagnostic point, Athabaskan with Kavik, Klo-Kut and Dithada.

BET 003. ARCHAEOLOGICAL. This small surface site, in a saddle between two large rock "monuments" at the 2400 foot elevation is in the Caribou Mountain North locality.

BET R-12 Olsons Lake Area. ARCHAEOLOGICAL. The koyukuk name for Olsons Lake is Talowa, a word which is said to have no meaning. A Koyukuk settlement here was eradicated by the Kutchin who came ostensibly to visit or trade. The few recoverable details of the raid differ, but apparently several families were killed in a raid on one or more permanent winter camps that took place about the middle of the nineteenth century. At this time the Kutchin had guns but the upper Koyukuk Indians did not. Such fire arms may have reached the Kutchin from 1847 on through Fort Yukon. Among those killed was the father of Alexander (b. ca. 1845). The camp or house reportedly was burned, a traditional raiding practice.

BET 030. ARCHAEOLOGICAL. Ray River Site. North of the Ray River, northwest of Fort Hamlin Hills, this site has yielded one biface and a few waste flakes.

LIV 065. HISTORIC. Two crumbling log structures, a cabin and a ca (ca. 1920-1960) are on this 1000 square meter site from which no artifacts have yet been collected. Location is the north bank of the Yukon River, southeast of Smoothface Mountain.

BET 014. ARCHAEOLOGICAL. In Olson's Lake vicinity, Upper Kanuti River locality, is this surface site where microblades similar to Denbig or Tuktu materials were found. The site is located on station 2492T00 on Haul Road.

SEGMENT FOUR

DESCRIPTION

Segment Four extends from 69°50'N to the Anaktuvuk Pass, thence to Bettles Field where it joins the Prime Route Segment Three.

ENVIRONMENTAL SETTING

This segment is the western alternative of the El Paso routes over the Brooks Range to the Koyukuk River. Both this segment and Segment Five (Itkillik Option) depart from the prime route about 69° 50' north latitude and join again south of the Koyukuk River near Bettles.

The Arctic and Continental Climatic Zones of this segment are divided by the Brooks Range. Mean annual precipitation ranges, north to south, from about 6 to 12 inches. Mean annual temperature in the same direction ranges from 12°F to 16°F. The portion south of the mountains has both colder winters and warmer summers than the North Slope portion.

From north to south five physiographic provinces are crossed by this segment: (1) Arctic Coastal Plain; (2) Arctic Foothills; (3) Brooks Range; (4) Yukon-Tanana Upland; (5) Koyukuk Flats. Surficial geological deposits from north to south are: (1) aeolian silt of more than five feet depth; (2) undifferentiated slope alluvium; (3) glacial moraines; (4) steep slope alluvium and exposed bedrock; (5) coarse alluvium and bedrock; and (6) modern flood plains along streams in the Koyukuk River drainage. Anaktuvuk Pass has an elevation of about 2,200 feet at the Continental Divide.

Soils of the North Slope and within the Brooks Range have continuous permafrost; discontinuous permafrost occurs in the vicinity of the Koyukuk River. Poorly drained deep silty soils on the coastal plain and low areas of the foothills have a thick organic mat. Steep slopes are either barren or have a thin mineral layer covered with a thin organic layer. Soils throughout the segment have severe limitations for all uses because of permafrost, poor drainage, or steep slopes.

Surface water supplies are limited by low average precipitation and high seasonal fluctuations, though areas south of the Brooks Range have somewhat a better supply than the North Slope. The East Arctic, Colville and Koyukuk Hydrologic Sub-regions are crossed by this segment. The Anaktuvuk, north of the range, and the John River, south of the range, are the principal streams draining the corridor. The Anaktuvuk is a tributary to the Colville and the John to the Koyukuk.

Vegetation type ecosystems traversed by the segment are Moist Tundra, High Brush, Alpine Tundra (partially barren ground) and Upland Spruce-Hardwood Forest. Forests extend north only along major stream valleys on the south slopes of the Brooks Range.

Moose and grizzly bear occur throughout the segment, but are concentrated only in major valleys. Dall sheep range throughout the higher altitudes of the mountains. Wolves, wolverine, and foxes are generally distributed but the most important mammals are caribou of the Arctic Herd. The Arctic Herd is the largest herd of caribou in Alaska and Anaktuvuk Pass is a major migration route between wintering grounds south of the Brooks Range and summer ranges on the Arctic Coastal Plain and Arctic Foothills. Waterfowl and other bird nesting areas are important at both ends of the segment. Ducks, geese, and ptarmigan are relatively important subsistence game for the people of Anaktuvuk Pass village, as are caribou, moose, dall sheep, brown bear, and ground squirrel. These people also fish for pike, grayling, herring, ling cod, trout and whitefish.

The only population centers other than North Slope Construction Camps are the villages of Anaktuvuk Pass and Bettles. These villages had a 1970 population of 99 and 77 persons respectively. Both villages are served by air transportation. Both villages are presently heavily dependent upon subsistence hunting and fishing. Anaktuvuk Pass is a native village eligible for land withdrawal under the Alaska Native Land Claims Settlement Act.

Segment Five intersects with BLM Corridor Number Six in the Arctic Slope area, which extends westward to Shaningarok Creek.

The people of Anaktuvuk Pass live primarily by subsistence hunting and fishing. Caribou are the most important, with one family, including dogs, consuming up to 60 caribou per year. In this village, caribou is the economic keystone and focal point of religious and social activities. The 1969-1973 subsistence harvests averaged, by weight: 97.2% mammals, 0.3% other wildlife, and 2.5% fish. The chief source of cash income for the residents of Anaktuvuk Pass is trapping. (See footnote, page xi)

Bettles, though not qualifying as a Native place, also has a high dependence on subsistence harvests. In the 1969-1973 period, Bettles had an annual average subsistence harvest of 30,515 pounds, of which 91.0% was mammals, 0.69% birds, 3.77% fish, 2.79% berries, 1.64% garden produce, and 0.11% wild greens and roots. The Bettles harvest averaged fifty caribou per year in comparison with the 1,000 taken annually by only about 25% more people at Anaktuvuk Pass. On a weight basis, the 25 moose harvested annually at Bettles is the most important mammal for subsistence. Grayling, whitefish, pike, and sucker were the only fish reported harvested at Bettles.

ARCHAEOLOGICAL SUMMARY

The seven prehistoric and thirty-five historic sites known from Anaktuvuk Pass (R-2 through R-7 and R-11) represent one of the most complete cultural sequences known from the American Arctic. Descriptions of the cultural materials discovered here by Campbell include (from the recent to the most ancient): 35 Nunamiut Eskimo sites, including dwelling sites, caches and cairns, shooting pits, burials, caribou hunting stations, etc., which date from approximately 250 years ago to the present (Campbell 1962b, 1962c, 1968b); the Okiotak Site, containing mixed materials in one locality dating from Arctic Small Tool Tradition times (4500 B.C.) to recent Nunamiut, which is unexcavated (1962c); the Kavik Site, which contains early interior Eskimo remains (1968a); an interior manifestation of the Ipiutak complex related to the Ipiutak Site near Point Hope (about 1 A.D.), containing 611 stone, antler, and bone implements recovered from the Kayuk Site (1962b, 1962c); the Natvakarvak Site, an inland manifestation of the Arctic Small Tool Tradition dating approximately 4000-1500 years ago (Campbell 1962b) and containing 200 chert, chalcedony, sandstone, and obsidian artifacts; the Tuktu Site, dating approximately 6500-4000 years ago, containing 1529 artifacts, mostly stone, including stemmed projectile points and notched end blades. A single summer house was excavated (12 feet x 10 feet in diameter with the perimeter marked by stream cobbles and three hearths inside and a large cobble fireplace outside) which is the oldest dwelling yet discovered in Alaska. The five Tuktu artifact areas appear to be part of the Northern Notched Point Tradition, and are related to Palisades II, Lockhart River and Ratekin Sites in Alaska (1961b, 1962b, 1962c); the Kayuk Site, which may date from as much as 5000 to 7000 years ago, contained 2400 artifacts, mostly unretouched or slightly retouched stone flakes and 400 finished artifacts including lanceolate points of chalcedony, chert, and obsidian quarried from widely separated areas which are similar to the Plano Tradition in the interior (1959, 1962b, 1962c); and finally the Kogruk Site, containing large, thin, angular flakes of light gray chert struck from roughly prepared, irregularly shaped cores and possibly related to the British Mountain Complex (MacNeish 1956) and sites of the Siberian Upper Paleolithic dating from before 7000 years ago. (Campbell 1961a, 1962b, 1962c)

ARCHAEOLOGICAL EVALUATION

Although many of the important site areas in Anaktuvuk Pass have been previously excavated and described, the presence of further sites and a contemporary Nunamiut Eskimo village here strongly argues against the use of this alternate. Irreparable damage could result to the subsistence ecosystem of the present inhabitants as well as to the potential archaeological resources of the area.

As recently as 1962, according to Campbell, the Nunamiut Eskimo of this region derived as much as 80-90 per cent of their annual subsistence from caribou meat. Any disturbance of caribou migration patterns would naturally have a profound effect on the food resources of these last interior Eskimos of North Alaska.

Recently, invaluable information regarding the settlement patterns, subsistence economies, hunting techniques, and social structure of late prehistoric Eskimo hunting bands has been reconstructed from ethnographic and archaeological sources which would be greatly endangered by the pipe

HISTORIC SUMMARY

From the earliest explorations of the Arctic Coast, the Brooks Range, the John and Koyukuk Rivers down to the Yukon and Tanana Rivers, the name "Anaktuvuk" has been associated with the history of Segment Four.

Anaktuvuk Pass was named by W. J. Peters of the U.S.G.S. in 1901 during his explorations of the Brooks range. In that same year, W. C. Mendenhall of the U.S.G.S. reported that the name was Eskimo. During the 1850's, Surgeon John Simpson of the Royal Navy reported a stream referred to as "A'nak-toh" - a name familiar to Hudson's Bay Company explorers.

Traditionally, Anaktuvuk Pass has been the common channel for all exploration and travel between the north and south of the Endicott Mountains. As far back as the 1840's, Anaktuvuk Pass was used by traders of the Hudson's Bay Company and by traders from the great whaling fleets in the Beaufort Sea. The reports from the U.S.G.S. exploration of the Brooks Range in the 1890's also refers to the pass as the main corridor for natives, explorers, traders, and miners.

HISTORIC EVALUATION

Although the Alaska Heritage Resource Survey does not list any archaeological or historical sites in Anaktuvuk Pass, it will undoubtedly contain evidence left behind by early explorers, traders, and miners. The geophysical locale has warranted an extensive study of the probability of the presence of historical evidence. The Proposed Gates of the Arctic National Park, as prepared by the National Park Service, calls attention to the great potential of this area to retain historical evidence. That publication calls for the exercise of extreme caution and awareness in evaluating the selected routings within this corridor. At this time, however, until further on-site explorations and detailed field investigations are verified, no sites are on the National Register.

HISTORIC TRAILS

SAGAVANIRKTOK (quad. #140)

(no trails)

UMIAT (quad. #141)

Trail 31, Route crosses trail 31 at 69°37'N, 150°00'W, and again at 69°28'N, 150°10'W.

Trail 289, (Hickel Highway).

System 31A, Route crosses system at approximately 69°17'N, 150°30'W.

Trail 289, (Hickel Highway) Route crosses highway at approximately 69°00'N, 151°10'W.

CHANDLER LAKE (quad. #134)

Trail 289, (Hickel Highway) Route parallels highway from R4E, T.55 to R.1W, T.16S.

WISEMAN (quad. #124)

Trail 289, (Hickel Highway) Route parallels highway from R.20W, T.37N to Nine Mile Hills R.18W, T.26N.

Trail 59, Ninemile Hills to Midas Creek. Route crosses trail 59 at intersection with Hickel Highway, 67°20'N, 152°1'W.

Trail 58, Bettles to Wild Lake. Route crosses trail 58 at Death Valley Creek, 5 miles north of Nine Mile Hills.

Trail 58A, Route crosses trail 58A at Ninemile Cabin, 67°03'N, 151°36'W.

BETTLES (quad. #117)

Trail 58A, (289)

Trail 56, Route crosses 56 at Birch Hill on the Koyukuk, 2 miles north of Bettles Field.

Trail 60, Route crosses trail 60 2 miles east of Birch Hill.

Trail 62, Route parallels trail 62 from Bettles Field to
66°52'N, 151°20'W.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #19

R-2. Kayuk. ARCHAEOLOGICAL. This site, dated 5,000-7,000 B.P., yielded 2,400 artifacts which were similar to the Plano tradition in the interior. Most of these were mostly unretouched or slightly retouched stone flakes. The 400 finished artifacts included lanceolate points of chalcidony, chert, and obsidian-quarried from widely separated areas. (Campbell 1959)

R-1. Kogruk. ARCHAEOLOGICAL. Possibly dating to pre-7,000 B.P., this site yielded large, thin angular flakes of light grey chert struck from roughly prepared, irregularly shaped cores. Its tradition is related to British Mountain and possibly Siberian Upper Paleolithic. (Campbell 1961a)

R-3. Tuktu. ARCHAEOLOGICAL. This important site was dated 6,500 B.P. using C^{14} , and is related to Polisades II, Lockhart River, and Ratekin. 1,529 artifacts were recovered from five separate areas, and included stemmed projectile points and notched and blades. A single summer house, twelve by ten feet in area with the perimeter marked by stream cobbles, was excavated and found to contain three hearths and a large cobble fireplace. (Campbell 1961b)

R-4 through R-7. All sites Campbell 1962a and 1962b.

SEGMENT FIVE

DESCRIPTION

Segment Five, the Itkillik Option, extends from 69°50' North paralleling the Itkillik River to just north of Bettles Field.

ENVIRONMENTAL SETTING

This segment is the central alternative over the Brooks Range to the Koyukuk River. Both this segment and Segment Four (Anaktuvuk Option) depart from the Prime Route at about 69°50' north latitude and join again south of the Brooks Range near Bettles.

The Arctic and Continental Climatic Zones of this segment are divided by the Brooks Range. Mean annual precipitation ranges, north to south, from about six to twelve inches. Mean annual temperature in the same direction ranges from 12°F to 16°F. The segment portion south of the mountains has both colder winters and warmer summers than the North Slope portion.

From north to south, five physiographic provinces are crossed by this segment: (1) Arctic Coastal Plain; (2) Arctic Foothills; (3) Brooks Range; (4) Yukon-Tanana Upland; (5) Koyukuk Flats. Surficial geological deposits from north to south are: (1) Aeolian silt of more than five feet depth; (2) undifferentiated slope alluvium; (3) glacial moraines; (4) steep slope alluvium and exposed bedrock; (5) coarse alluvium and bedrock; and (6) modern flood plains along streams in the Koyukuk River drainage. Itkillik Pass has an elevation of about 3,500 feet at the Continental Divide.

Soils of the North Slope and within the Brooks Range have continuous permafrost with discontinuous permafrost occurring in the vicinity of the Koyukuk River. Poorly drained deep silty soils on the coastal plain and low areas of the foothills have a thick organic material. Steep slopes are either barren or have a thin mineral layer covered with a thin organic layer. Soils throughout the segment have severe limitations for all uses because of permafrost, poor drainage or steep slopes.

Surface water supplies are limited by low average precipitation and high seasonal fluctuations; though areas south of the Brooks Range have a somewhat better supply than the North Slope. The Itkillik, Kuparuk and Toolik Rivers on the North Slope, and the North Fork of the Koyukuk River south of the Brooks Range are the principal streams draining this segment. This segment has swift flowing streams in the mountainous portion and slower moving streams and swampy areas at either end.

Vegetation-type ecosystems traversed by the segment are Moist Tundra, High Brush, Alpine Tundra (Partially barren ground), and Upland Spruce-Hardwood Forest. Forests extend north only along major stream valleys on the south slopes of the Brooks Range.

Moose and grizzly bear occur throughout the segment, but are concentrated only in major valleys. Dall sheep range throughout the higher altitudes of the mountains. Wolves, wolverine, and foxes are generally distributed but most important mammals are caribou of the Arctic Herd. The Arctic Herd is largest herd of caribou in Alaska and Itkillik Pass is a migration route between wintering grounds south of the Brooks Range and the summer range of the Arctic Coastal Plain and Arctic Foothills.

This segment is very lightly settled, with Bettles (1970 population: 7) being the only native village near the south end of the segment.

Segment Number Five crosses BLM Corridor Number Six in the Arctic Slope area.

Bettles, a village located near the junction of pipeline Segments Four, Five and Six, has been described earlier in Segment Four.

ARCHAEOLOGICAL SUMMARY

The majority of the twenty recorded archaeological sites in this segment are of a non-diagnostic type and their cultural affiliations are unknown. The exceptions are WIS 006, WIS 005, and WIS 002, all of which seem to contain microblade components and may be related to early Eskimo occupation of the area. Both Pre and Post contact Eskimo materials are also known from the Region. PSM 042 may contain artifacts similar to those from the Gallagher Flint Station and may be of potential early significance.

ARCHAEOLOGICAL EVALUATION

The number of lookout stations and campsites known indicate that further work may illuminate the settlement patterning of hunters in this Region. The possibly early date of PSM 042 may also bear further investigation.

HISTORIC SUMMARY

Itkillik River Pass, an optional route, has very similar characteristics to Anaktuvuk Pass and Dietrich Pass. Each of the routes pass through the Continental Divide of the Brooks Range, primarily the Endicott Mountains and the Philip Smith Mountain Ranges.

The British Explorer John Simpson wrote in 1885 that the Colville River receives "a large tributary called the Itkaling Kok or Indian River." Simpson stated that Itgilig was an Eskimo name meaning "Indian". A map by a Colville Eskimo shows the name Itkillik.

This region of the Itkillik River Pass area has been documented by the explorers, whalers, fur traders, prospectors, and various U.S. Geological Survey parties in field surveys of the Brooks Range. These natural passes provided a thoroughfare for all travelers and were often mentioned in their field documents.

HISTORIC EVALUATION

The Alaska Historic Resources Index has not yet recorded any historical sites other than the archaeological areas of note within the segment. The National Register does not contain any sites.

Since Itkillik River Pass and its respective watershed systems are within the proposed Gates of the Arctic National Park, areas of this segment must be thoroughly inventoried to detect and uncover historical evidence.

HISTORIC TRAILS

SAGAVANIRKTOK (quad #140).

Trail 289, Hickel Highway. Route crosses Trail 289 at T1N and R12E

WISEMAN (quad #124).

Trail 60, Route parallels Trail 60 from the headwaters of the North Fork of the Koyukuk River to Jack White Creek, 66°58'N 151°22'W.

BETTLES (quad #117).

Trail 56, Route intersects Trail 56 at 67°00'N 151°23'W.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #1

SAG 001. ARCHAEOLOGICAL. Located approximately one mile north of Sagwan on the east bank of the Sagavanirktok River is a double site displaying weathered and frost-cracked rocks which resemble artifacts but probably are not, and a tent ring which was excavated. A possible cache is present but lacks cultural material. Willows are present which may be important for dendrochronological analysis.

SAG 005. ARCHAEOLOGICAL. On a bluff approximately 500 feet above the Toolik River valley and seven miles north of the Sagwan Airstrip a site containing a hearth and artifacts from five to nine inches below the surface. This may have been a caribou hunting site. The excavation of this site is only partially completed.

HAL #12

SAG 002. ARCHAEOLOGICAL. SAGAVANIRKTOK. There is a tent ring north of Sagavan airstrip, dated about 1908. The site consists of two rings which are classic depictions of Eskimo cultural transition during early 1900's, as evidenced by bow fragments and flint knapping used with fire arms. No earlier material was found.

HAL #13

No sites.

HAL #14

PSM 038. ARCHAEOLOGICAL. Four tent rings, destroyed by construction before excavation or mapping, are known to have existed at this Murphy Lake area site, dated pre-contact on the basis of bifaces and lack of contact goods.

PSM 040. ARCHAEOLOGICAL. This Murphy Lake area site is comprised of seven chipping stations and one hearth. Size varies from one flake to 349 flakes. Saw-cut wood dates the site as post-contact.

PSM 042. ARCHAEOLOGICAL. Partially excavated, this site in the Murphy Lake area has yielded stone artifacts somewhat similar to Gallagher Flint Station (5-10). One tent ring was also found. Artifacts were sent for C-14 test.

PSM 044. ARCHAEOLOGICAL. The one tent ring found at this Murphy Lake area site is of indeterminate date.

PSM 048. ARCHAEOLOGICAL. Two tent rings have been found at this Murphy Lake area site of Athabaskan or Eskimo origins.

PSM 037. HISTORIC. At this site in the Murphy Lake area were found three tent rings, a metal file, glass, and other artifacts which are the basis of judgment for a post-contact dating.

PSM 039. ARCHAEOLOGICAL. This site of two tent rings with no cultural remains was assessed to be of very little significance and of an indeterminable period.

PSM 041. HISTORIC. In this excavated Murphy Lake area site, near Nalareret Lake, two tent rings, bone (mainly caribou) and midden deposits have been located. Saw-cut bones found at the site are the basis for postcontact dating.

PSM 043. ARCHAEOLOGICAL. One tent ring has been found in this Murphy Lake area site. Dates are indeterminable, and the site has been assessed to be culturally sterile.

PSM 045. HISTORIC. This excavated post-contact site in the Murphy Lake area yielded one tent ring with stone, bone, wood and a Remington shell casing.

PSM 046. HISTORIC. One tent ring and worked (saw-cut) caribou bone have been found at this post-contact site.

HAL #15

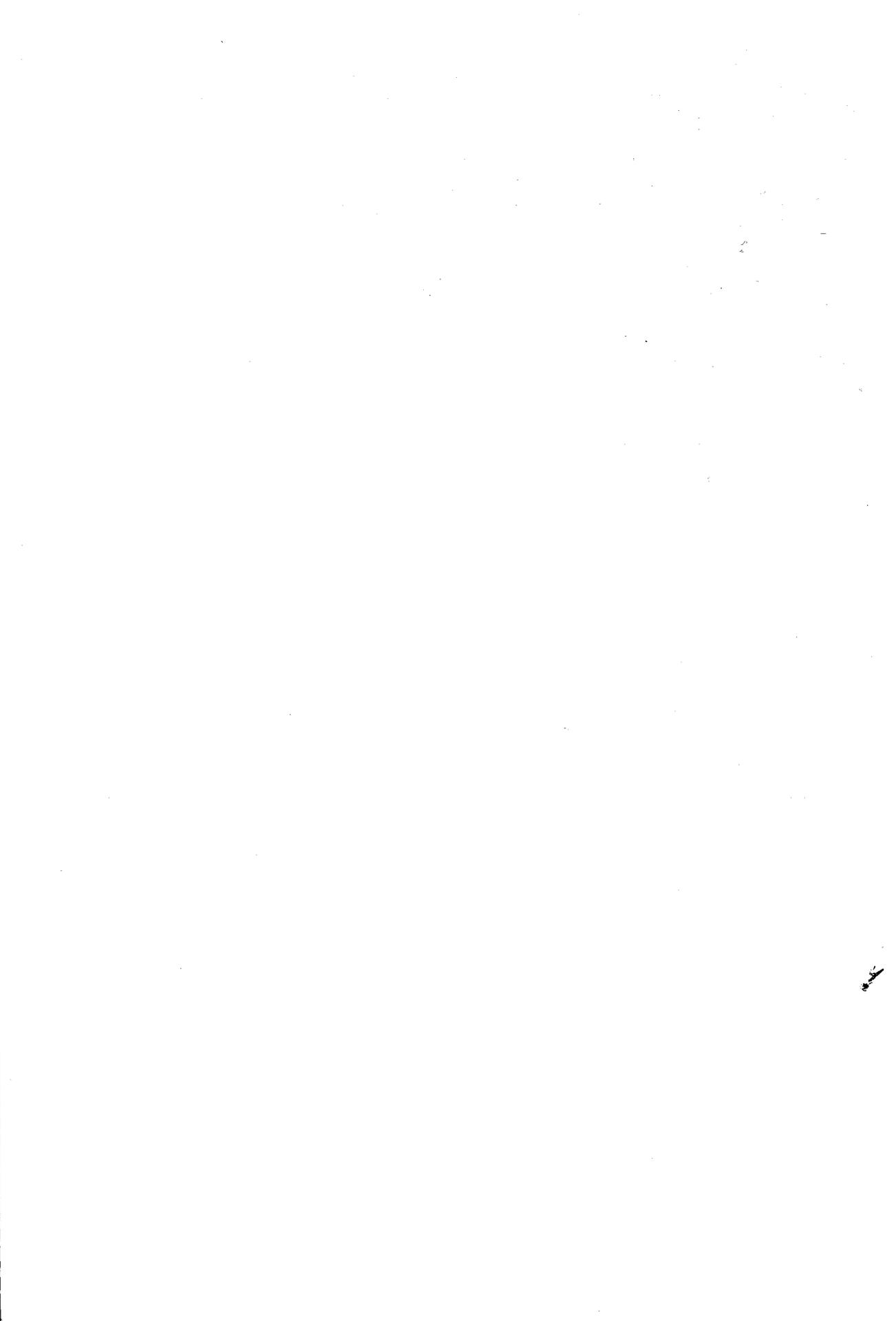
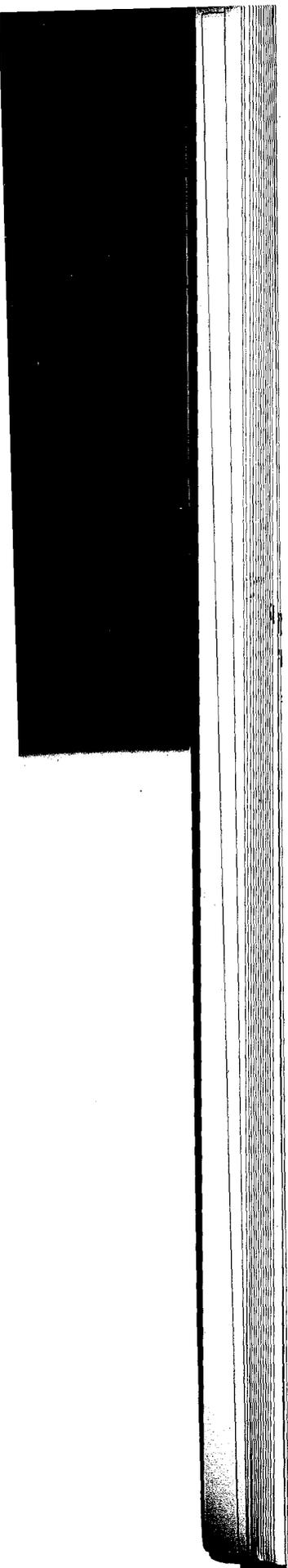
No sites.

HAL #16

No sites.

HAL #17

No sites.



SEGMENT SIX

DESCRIPTION

Segment Six extends from the intersection of the Itkillik and Anaktuvuk Options near Bettles Field to Milepost 290 of the Prime Route north of Caribou Mountain.

ENVIRONMENTAL SETTING

This short segment joins both the Anaktuvuk and Itkillik Options, Segments Four and Five at the west and the Prime Route at the juncture of Segments Two and Three to the east. The route skirts the northeastern part of the Kanuti Flats and crosses a few low hills and several minor streams tributary to the Koyukuk River. Elevations range from 800-1200 feet above sea level.

Mean annual precipitation is about twelve inches and the mean annual temperature about 20°F. This Continental Type Climatic zone is marked by both warm summers and cold winters.

Surficial geology consists of moraines, glacio-fluvial deposits and recent alluvium along streams. The segment skirts the border between the Koyukuk Flats and Yukon-Tanana Upland Physiographic Provinces.

Soils of the flats are poorly drained silt loams with thick organic matter and have severe limitations for all uses. Sandy and loamy soils on river terraces and side-hill slopes have low to moderate limitations for timber production, roads and site development. Permafrost is discontinuous in this region.

Surface drainage ranges from good on side-hills to very poor in the flats adjacent to the segment to the southwest. Where permafrost is not present adjacent to the South Fork of the Koyukuk River, limited supplies of ground water are available. This stream is the major drainage for the segment.

This segment generally follows the border between Lowland Spruce-Hardwood and Upland Spruce-Hardwood ecosystems, with site characteristics and shrub communities being the chief differentiating criteria.

This area is important as the wintering range of the Arctic Herd of caribou. Moose range throughout the area but have no concentration sites near the segment. Brown bear, wolves and wolverine are present in limited numbers. Neither dall sheep or mountain goat range near the segment.

The Kanuti Flats are a very important waterfowl wintering and nesting ground and the Koyukuk River Valley is a major waterfowl migration route.

Bettles, with a population of 77 near the north end of the segment, the only populated place near the segment. This segment is near the existing utility corridor as well as near the crossroads of several existing winter trails. Bettles presently has air service.

Alternate Segment Six intersects BLM Corridor Number Four (Prospect River) in the vicinity of Bettles Field. The lands crossed include Selkirk National Wildlife Refuge, Chukchi Imuruk National Reserve (proposed d-2), Alatna and Bettles Field (lands withdrawn for native selection), state land and Doyon Native Regional Corporation.

ARCHAEOLOGICAL SUMMARY

Only two Archaeological sites of potential prehistoric age are known from the alignment in this segment, (BET 035, and BET 031), and neither contains artifacts diagnostic of any particular cultural affiliation. However, A. Donald Clark (1975 personal comm.) has reported a number of potential important pre and post-contact sites in the vicinity of the pipeline corridor where it approaches the South Fork of the Koyukuk River, so survey operations in this area should be undertaken with extreme care. These sites include R-1 (Nigalakten) a village of three winter houses about four miles below Bettles, abandoned before 1905; R-2 (South Fork Village), a settlement of eleven or twelve cabins in 1910; R-3 a salmon fishing camp situated on the southeast bank of the Koyukuk just below the mouth of the South Fork and occupied c. 1910-15; R-4 (the cabin of Alexander and Big William) dating 1880-85; R-5 and R-6 salmon fishing camps occupied 1910-15; R-7 an old fishing camp at the mouth of the Henshaw River; R-8 (Little Portage); a site containing a salmon fishing camp and winter house; R-9 (Little Beattus' Fathers House) and R-10 (Nohulchinta) a salmon netting camp occupied around the turn of the century.

The Batza Tena obsidian source where nearly 75% of the fluted projectile points yet discovered in Alaska is also in the general vicinity (on the Koyukuk below Hughes) and the presence of these important Paleoindian artifacts in the region should also be carefully considered (Clark 1974).

EVALUATION

Although the known archaeological resources of this area are sparse, the presence of Athabaskan Indian remains and early prehistoric materials near the alignment emphasize the necessity for careful on-the-ground survey in the segment. The discovery of Batza Tena related materials could be particularly important in explicating the original peopling of Alaska and interior North America.

HISTORIC SUMMARY

For such a short segment, merely joining the Anuktuvuk and Itkillik Options with the prime corridor (a distance of about 45 miles), Segment Six traverses an area of great historic interest. In fact, the Alaska Historic Resources Survey Index lists five historic sites in the region of this pipeline segment.

In 1885, Lt. H. T. Allen, U.S.A., made extensive documentation of his explorations of the Koyukuk, its north and south forks, and Kanuti Rivers. Since the Koyukuk River was navigable, many trading posts and mining camps were established along its banks.

Bergman (BET 001), a trading post in 1899, reached its prominence during the height of the Koyukuk gold rush. Peavy (BET 037), a mining camp and trading post, was established in 1889 to supply miners with staples and steamers on the Koyukuk with wood. Union City (BET 038) was established in 1898-99 as a miners' camp on the Koyukuk. Most of the sites appear to have been occupied just before the Koyukuk gold rush and maintained up through 1910-15 and some as late as 1925.

The town of Bettles, founded in 1899 as a trading post, is in close proximity to Segment Six.

HISTORIC EVALUATION

Although there are no sites from Segment Six on the National Register and only a few listed by the Alaska Heritage Resources Survey, it must be noted that due to the mining, fishing, and trading activities of the Koyukuk River area, there is sufficient historic evidence to justify extreme caution if construction is to take place in the area.

HISTORIC TRAILS

BETTLES (Quad #117)

Trail 58
Trail 58AA
Trail 58A
Trail 56

(No co-ordinates can be given because of the lack of alignment precision by El Paso at this time.)

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #21

BET 001. HISTORIC. Bergman. This is the site of a river-boat landing located on the north bank of the Koyukuk River, northeast of its junction with the Kanuti River. The village of Bergman, reported in 1899 and abandoned by 1913, was named by prospectors after the operator of the local trading post. Bergman attained prominence during the height of the Koyukuk gold rush because it was a transfer point for supplies and was situated near the head of navigation for the large river boats.

BET 031. ARCHAEOLOGICAL. Seven Mile Bone Bend. This site, located about seven miles above Allakaket on the Koyukuk. is of unknown utilization and has little potential for archaeological materials. It may be paleontologically significant. There is a deposit of silts, muck, ice wedges and lenses.

BET 032. HISTORIC. Kayak Site. This village site, located on the south side of Alatna River one third of a mile above its confluence with the Koyukuk River, is significant because of its supposed connection with Rabbit Medicine Man, a semi-legendary person in the local mythology. The site contains two rectangular house-pits with entrance tunnels and a mammoth tusk upright at one end of the village. One house-pit has been excavated and contact or trade materials have been recovered, dating the site circa 1890.

BET 033. HISTORIC. Onak Site. This was a two-house settlement, believed to be Athabaskan but possibly Eskimo. The house pits have entrance tunnels. One house, one cache, and part of the second house were excavated and contact goods were recovered, dating the site circa 1873-1889.

BE 034. HISTORIC. Lake Creek Site. This late-nineteenth century autumn fishing camp, near the confluence of the Kanuti and Mentanontli Rivers, consists of two abandoned houses, one of which is excavated. Fish traps and weirs were used until 1950.

BET 035. ARCHAEOLOGICAL. Lake Todatonten. The outlet of lake shows only a trace of occupation. Fire-cracked rocks, waste flakes, burned bone, and pottery were recovered.

BET 036. ARCHAEOLOGICAL AND HISTORIC. This site is reported by the people of Allakaket to be a former three-house settlement set back from Lake Todatonten.

BET 037. HISTORIC. Peavey. This is a former mining camp and trading post established along the Koyukuk River to supply steamers with wood and miners with supplies around the turn-of-the-century.

BET 038. HISTORIC. Union City. This was one of the camps of prospectors caught on the Koyukuk River during the winter of 1898-99. River erosion is the probable cause of destruction.

BET R-1. ARCHAEOLOGICAL. Nigalakten. This village site of three winter houses was abandoned before 1905. It's four miles below Old Bettles.

BET R-2. ARCHAEOLOGICAL. South Fork Village. This was a settlement of a dozen cabins in 1910. Its name reportedly means "place where you go through the island."

BET R-3. ARCHAEOLOGICAL. This site, a salmon fishing camp (c. 1910-15) is situated on the southeast bank of the Koyukuk River just below the mouth of the South Fork.

BET R-4. HISTORIC. This was the site of the cabin of Alexander and Big William (c. 1880-85).

BET R-5. ARCHAEOLOGICAL. This site was a fishing camp c. 1910-15.

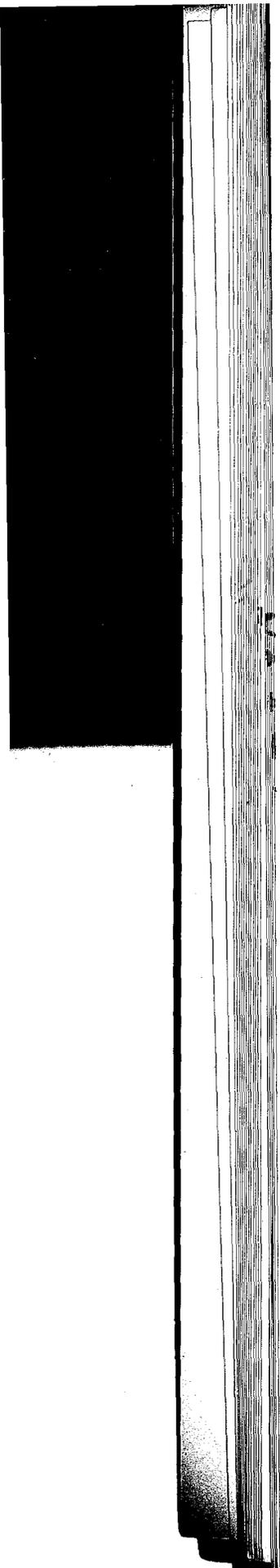
BET R-6. ARCHAEOLOGICAL. This site was a fishing camp c. 1910-15.

BET R-7. ARCHAEOLOGICAL. An old fishing camp was located at this site at the mouth of Henshaw River.

BET R-8. ARCHAEOLOGICAL AND HISTORIC. This site once contained a salmon fishing camp and winter house.

BET R-9. ARCHAEOLOGICAL AND HISTORIC. Little Beattu's Fathers House. This was the site of a semisubterranean house built around 1880.

BET R-10. ARCHAEOLOGICAL AND HISTORIC. Nohulchinta. The site's name reportedly means "they put the trap out in the water." Here was located a salmon netting camp with a wier and fish traps around the turn-of-the-century.



SEGMENT SEVEN

DESCRIPTION

Segment Seven extends from the Yukon River to the old supply staging center, West Fork, 65°27'North, 148°39'West.

ENVIRONMENTAL SETTING

This segment has a Continental Zone climate with a mean annual precipitation of twelve inches. The Yukon Lowlands and other basin areas of the interior suffer from extremes of cold and heat not found elsewhere in the state. The Upper Yukon, in particular, is renowned for climatic extremes not previously experienced by early European explorers and missionaries and which are discussed in greater detail in the description of climate for Segment Three.

This segment lies in the Yukon-Tanana Uplands Physiographic Province. Surficial geology consists of undifferentiated alluvium of coarse to fine materials associated with low mountains and hills. Bedrock is exposed only on higher and steeper slopes.

In this zone of discontinuous permafrost some of the soils on more gently sloping terrain have only slight limitations for all uses. On more sloping areas, well-drained soils have limitations because of erosion.

Groundwater occurs in relative abundance at lower elevations in the Upper Yukon Hydrologic Sub-region crossed by this segment. Most streams in the area are subject to flooding during the spring thaw and break-up. The region has fair to excellent water quality and sufficient supplies for most projected needs. Several potential hydroelectric sites have been identified in the Yukon River drainages, the principal one being the Rampart Dam Site on the Yukon River.

Upland Spruce-Hardwood Forest is the predominant system, although small areas of High Brush grow on flood plains. The Upland Forest is non-commercial but provides construction materials, fuel, and good wildlife habitat.

Caribou are not abundant along this segment though the range of the Fortymile Herd extends westward to near West Fork. Black and grizzly bears, and moose range throughout the segment, but only moose are relatively abundant in the flats and valleys. Waterfowl habitat is only fair in this segment along the Yukon River at the north end of the segment, the river flood plain being much more narrow in this area than farther upstream. King and chum salmon are the predominant anadromous fish which spawn in this area. These two species are most important for subsistence fishing. Sports anglers concentrate on lake trout, northern pike, sheefish and grayling. Dall sheep and mountain goats are not found near this segment.

The largest populated place near this segment is Livengood, with a 1970 population of 29. This non-native village on the headwaters of the Tolovana River is served by a spur road from the Elliot Highway as well as by air transportation.

Segment Seven corresponds to BLM Corridor #27 (Rampart-Canada) from Rampart on the Yukon River to Livengood. Lands crossed between the Yukon and Livengood include no proposed d-2 lands, no Native Deficiency lands and no lands withdrawn for Native Selection. Lands crossed do include the fo Tellin Reserve and State lands. Most of the route is contained in the Ut Corridor withdrawn by the Secretary of the Interior.

Rampart and (New) Minto are two Native villages representative of lifestyle in the setting of this segment, each being about 25 miles south of the proposed pipeline alignment, Rampart on the left bank of the Yukon River and (New) Minto on the right bank of the Toloyana River. Both these villages were eligible for land selections under The Alaska Native Land Claims Settlement Act and are dependent upon subsistence hunting and fish.

During the period 1969-1973 average annual subsistence harvests for the two villages were distributed as follows:

	<u>Percent Each Category</u>					<u>Total Annual Pounds</u>
	<u>Mammals</u>	<u>Fish</u>	<u>Birds</u>	<u>Berries</u>	<u>Garden Produce</u>	
Minto	31.6	66.0	1.0	0.7	0.7	107,500
Rampart	36.2	62.7	1.1	--	--	46,115

Although percentages are nearly the same for these two villages the per capita harvest of Rampart (2,195 pounds per person) was about twice that of (New) Minto (1,020 pounds per person).

Neither village reported taking caribou. Some species differences are significant between the two villages, with (New) Minto harvesting fifty moose annually and Rampart sixteen. Salmon were the most important fish taken at Rampart while (New) Minto reported none; with both taking grayling pike, whitefish, and sheefish and only (New) Minto reported taking trout.

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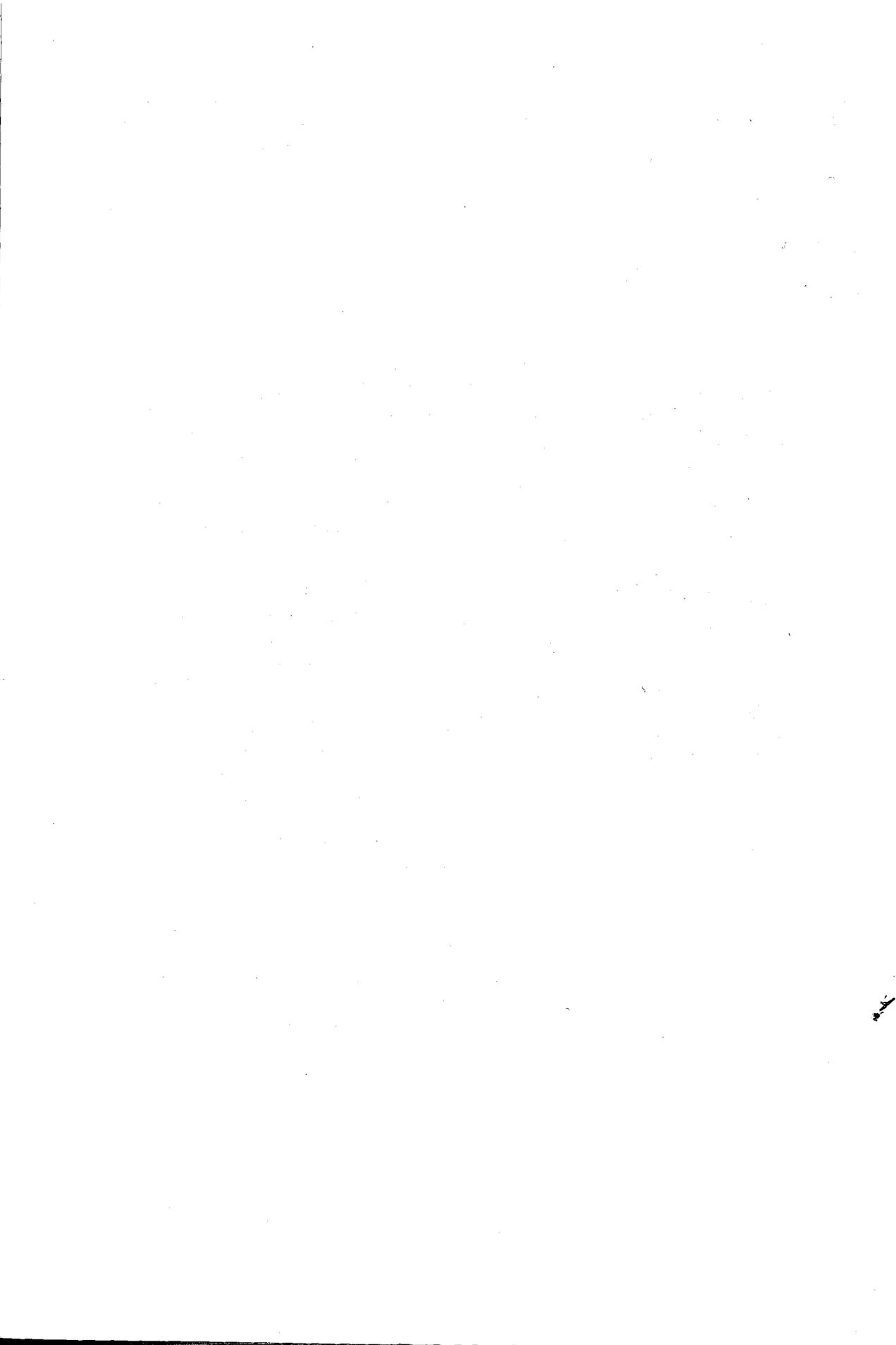
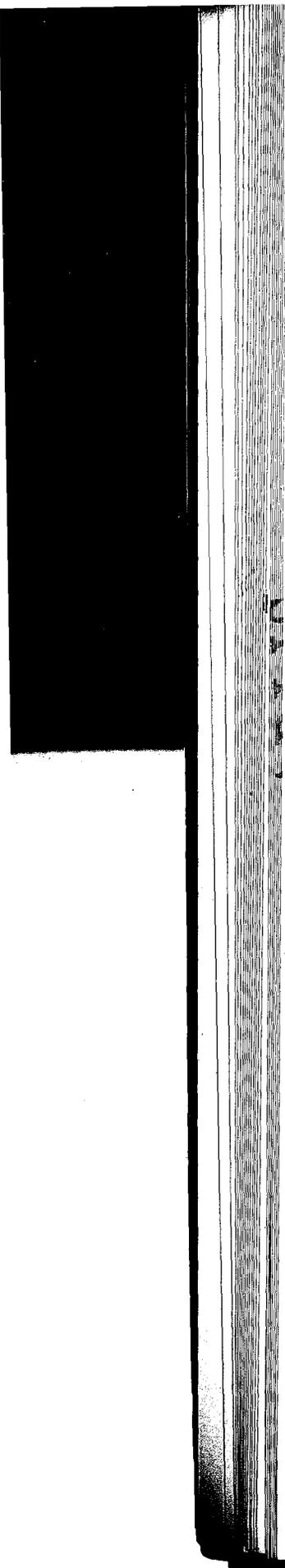
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WOODSMEN VISITING A CAMP

A summer Indian camp on the Yukon River near the former site of Fort Hamlin is visited by woodsmen on a fishing break. A wash board, wooden tub and barrel are in this post-Gold Rush photograph.



ARCHAEOLOGICAL SUMMARY

Twelve prehistoric archaeological sites are known from this segment, most of which appear to have early Athabasican affiliations. LIV 001 contained artifacts of the Denali Complex and later Athabaskan materials dating down to about 2000 B.P. LIV 004, LIV 007 and LIV 012 all contained Tuktu-related artifacts and form a part of the Northern Notched Point Tradition.

EVALUATION

Further survey in the area may reveal information on early prehistoric Athabasican-speaking peoples.

HISTORIC SUMMARY

The Alaska Historical Resources Survey lists only two historic sites within the area of Segment Seven. They are the towns of Rampart (TAN 008) and Livengood (LIV 026).

Rampart, located on the south bank of the Yukon River below Minook Island, was the supply point for the gold miners around Minook Creek during the gold rush years of 1898-99. During the gold boom years in Livengood, Rampart served the trading boats on the Yukon River.

Livengood was founded on July 24, 1914 by H. R. Hudson and Jay Livengood near their gold mining claim. During the ensuing gold boom of 1914 and 1915, Livengood soared to a population of several hundred. At the height of mining activity, Livengood was a well-placed and substantially built town with a post office, a wireless station, and a local telephone system connecting it to the mining activities on Livengood Creek.

Livengood was reached by two routes--overland by trail from Olnes, a town on the Tanana Valley Railroad, or by boat via the Tolovana River. However, since the Tolovana fluctuated in depth, making navigation difficult, a winter trail known as the Happy Trail was built in 1915-1916 to facilitate the transportation of goods. The Happy Trail extends east of Tolovana Flats to West Fork and terminates at the Fairbanks and Hot Springs Trails at the south.

Although the Alaska Historical Survey does not list the settlement of West Fork, it is a small settlement that was an essential supply point for Livengood, being at the head of navigation for small boats on the Tolovana River. It contained a sawmill, a roadhouse, and warehouses.

HISTORIC EVALUATION

In order to properly evaluate Segment Seven, it must be remembered that the early explorations of Allen, Kennicott, Pease, and the Yukon fur traders all took place in this area between 1865 and the 1890's. The numerous gold mines, placers, and camps in this region, documented by A. H. Brooks in The Mineral Resources of Alaska (1918), possibly contain historic values that could be considered for inclusion in the National Register. Similar sites in the Tolovana Mining District, documented by J. B. Mertie, Jr. in a chapter of The Mineral Resources of Alaska (1918), also warrant consideration of their respective historic values.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #24

LIV 001. ARCHAEOLOGICAL. Hess Creek Y-1. An excavated site which overlooks Hess Creek and a part of the Denali Complex, this subsurface workshop and game lookout dates to the early Athabaskan phase (lasting from approximately 10,000 to 2,000 B.P.).

LIV 002. ARCHAEOLOGICAL. Y-46. One flake blade was recovered two inches below surface from this low gravel knoll near Hess Creek.

TAN 008. HISTORIC. Rampart is now a Native village of approximately 49 that was once a community of approximately 1500 population. It was (1898-99) the supply point for gold miners in Minook Creek area. Author Rex Beach lived here briefly. Rampart is on the Yukon River's left bank below Minook Island.

HAL #25

LIV 007. ARCHAEOLOGICAL. A large surface site (to one inch below surface) in the Lookout Ridge locality, possibly Tuktuk, this site is 100 feet in diameter and contained approximately 550 items.

LIV 008. ARCHAEOLOGICAL. This surface site, approximately 100 feet diameter, contained waste and retouched flakes.

LIV 009. ARCHAEOLOGICAL. These are small surface sites in the Lookout Ridge locality.

LIV 010. ARCHAEOLOGICAL. This is a surface site (to two inches below surface) in the Lookout Ridge locality.

LIV 011. ARCHAEOLOGICAL. These are surface sites in the Lookout Ridge locality.

LIV 012. ARCHAEOLOGICAL. Possibly Tuktu, this site is in the Lookout Ridge locality and has yielded 2,500 waste flakes, source artifacts, and two diagnostic points.

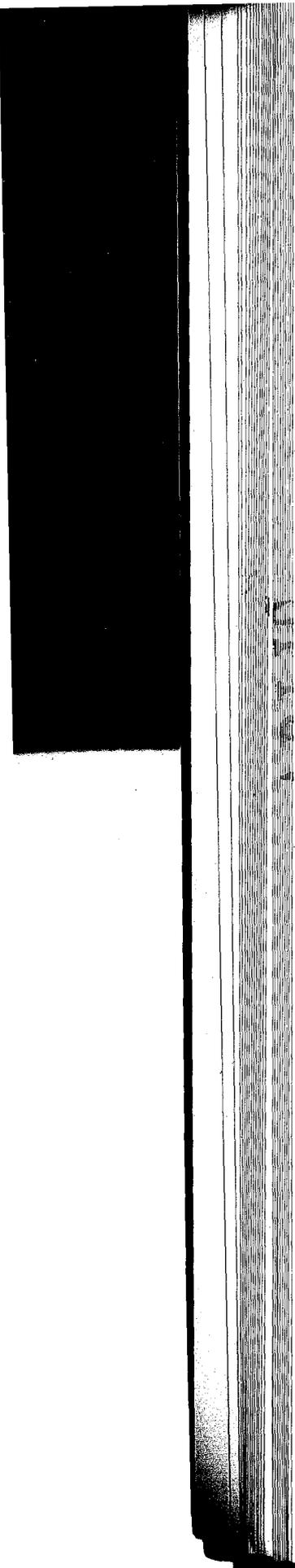
LIV 003. ARCHAEOLOGICAL. Rosebud Knob #1 and 2. These surface sites, near Livengood, produced only meager finds.

LIV 004. ARCHAEOLOGICAL. This large 2,500 square foot surface site in the Ready Ridge locality produced approximately 5,000 waste flakes and 500 rock fragments or flake cores. Possibly Tuktu, this site is endangered by construction.

LIV 005. ARCHAEOLOGICAL. These are three small surface sites in Ready Ridge locality.

LIV 006. ARCHAEOLOGICAL. These are three small surface sites in the Ready Bench Mark locality.

LIV 026. HISTORIC. Livengood. Gold was discovered on July 24, 1914 on Livengood Creek, fifty miles northwest of Fairbanks, by N. R. Hudson and Jay Livengood. This village was founded near their claim as a mining camp during the winter of 1914-15 when hundreds of people came into the district.



SEGMENT EIGHT

DESCRIPTION

Segment Eight extends from the old supply center of West Fork, 65°27'N, 148°39'W, across the western edge of the White Mountains to Fairbanks, thence paralleling the Tanana River to Delta Junction, 64°02'N, 145°44'W.

ENVIRONMENTAL SETTING

This long segment includes Fairbanks, Alaska's second largest city, and numerous other inhabited places along the Richardson Highway which the segment generally parallels and crosses several times. At the south end, this segment junctures with Segments Nine and Twenty-Two near Delta Junction, the latter segment being the first leg of an optional route to Haines on Lynn Canal in Southeast Alaska.

This segment is wholly within the Continental Climatic Zone, with the climate being noted for both colder winters and warmer summers than is average for the state. Fairbanks, about midway on the segment, has recorded a record low of -61°F and a record high of 96°F. Fairbanks is in a basin surrounded by mountains and, during anti-cyclonic conditions during winter, ice fog and smoke conditions often affect the area for up to two weeks at a time. During these times aircraft operations are sometimes suspended.

Mean annual temperature for the segment ranges from 22°F to 27°F and the mean annual precipitation is about twelve inches.

Except for one or two stream valleys with aeolian deposits, surficial geology north of Fairbanks consists of undifferentiated alluvium of coarse and fine sediments on moderate to steep-sloped mountains and hills. South of Fairbanks the segment contains only fluvial and modern flood plain deposits bordering the Tanana River.

This segment is in the Yukon-Tanana Upland north of Fairbanks, and Tanana-Kuskokwim Lowland Physiographic Province south of Fairbanks.

North of Fairbanks soils have discontinuous permafrost. South of Fairbanks along the Tanana only isolated masses of permafrost occur. Except for areas of permafrost, soils are better drained on the upland area north of Fairbanks, but many areas here have high potential for erosion on steep slopes.

South of Fairbanks the pipeline segment would cross mostly poorly-drained flood plain soils and well-drained soils on older and higher terraces. The terrace soils have moderate limitations and the flood plain soils have severe limitations for roads and site development.

From West Fork to Fairbanks the segment traverses about 75 percent Upland-Spruce-Hardwood Forest with three areas of High Brush making up the remaining quarter of this portion of the segment. South of Fairbanks a narrow strip of Bottomland Spruce-Poplar Forest occurs is in turn bordered by a wider strip of Lowland Spruce-Hardwood Forest. The Bottomland and Lowland Forest contain commercial timber stands in places and are excellent habitat for several species of wildlife.

Waterfowl are relatively abundant along the Tanana River and this corridor is a major migration route. This segment is not an important habitat for caribou, although the range of the Delta Herd is just to the southwest. This area is now in a controversy over possible moose over and a proposal to place bounty-incentives on reducing the number of w to maintain balance between the two species. The controversy is in litigation over the aerial bounty proposal in the district south of Fa:

The social and economic focal point of this segment is Fairbanks, which is the commercial and transportation center of North and Central Alaska. The Fairbanks Census District had a 1970 resident population of 48, 171. Activities associated with petroleum production and exploration have added considerably to this number during the last five years. Fairbanks has manufacturing as well as retail trade outlets for all kinds of consumer goods and services. The main campus of the University of Alaska is located at College in the city's suburbs.

Segment Eight corresponds to BLM Corridor Number 27 (Rampart-Ca via Livengood, Fairbanks, Delta Junction and the Alaskan Highway) from Livengood to Delta Junction. The corridor will cross no proposed d-2 lands or Native deficiency lands. It will cross the former Tetlin Res State Lands, and Healy Lake (withdrawn for Native Selection).

ARCHAEOLOGICAL SUMMARY

Of the nine archaeological sites reported from this segment, only one has been accorded any potential importance. XBD 026 contained chert and obsidian flakes of unknown cultural affiliation, but it was the opinion of the excavators that follow-ups might reveal further materials.

EVALUATION

The scanty recorded data on these nine sites makes any cultural evaluation of the materials impossible. Perhaps further survey would illuminate the affiliations of these sites.

HISTORIC SUMMARY

The Alaska Historical Record Survey lists 25 historic sites within the corridor of Segment Eight, several of which are listed in the Fairbanks locality in the National Register. All the major influences that have affected the interior of Alaska - gold, trade, the Yukon River, and early explorations - are manifested in various sites along this route.

Because this segment begins at the old trade center of West Fork mentioned earlier a complex and rich tradition of mining and river-boat sites exists. The Tolovana River, with its famous log jam area just west of the alignment, was the site of a large tramway built in 1916 to haul freight from the small scows and steamboats on the river. With the onslaught from the gold era in this region, telegraph and telephone lines were built, trails were transformed into haul roads, and railroads were cut through the newly settled lands. In 1905 the Tanana Valley Rail Road was built northward to the Livengood region, with the village of Olness being the connecting point.

On July 22, 1902, a man named Felix Pedro discovered gold on what is now known as Pedro and Cleary Creeks in Fairbanks. This was the true birthdate of this historic city, even though E.T. Barnette had constructed a log cabin cache for trade goods in August of 1901 at the Bates Rapids on the Tanana and Chena Rivers. Pedro's discovery began the gold rush stampede, putting the names Fairbanks and Alaska in the history books. By 1906, Fairbanks had a population of 8000 and the mining district had produced nine million dollars in gold in just a few years. Some of the settlements established during this boom still survive. Others do not.

The mighty Yukon also played a major role in the history of this era. Riverboats carried the stamperers up the Yukon and into the interior via the Koyukuk, Tanana, Tolovana, and Chena Rivers. These were also routes for transporting the trade goods and equipment necessary to establish the many mining camps of the Gold Boom in the Fairbanks region.

Because Fairbanks was located on the confluence of the Chena and Tanana Rivers, it became the hub of all activity in this region. In 1905 a telegraph line was extended southward over the Thompson Pass to Valdez, giving Fairbanks a connection by wire to the outside world. Regular stage service between Fairbanks and Valdez via the Richardson Trail was established. The telegraph stations, trading posts, mining camps, and roadhouses from West Fork to Delta Junction became stop-overs and hotels for the miners, gamblers, hustlers, and tradesmen.

One of the first railroads to be built in Alaska was the Tanana Valley Rail Road. In 1905 through the efforts of Falcon Joshin, a Fairbanks attorney, 45 miles of narrow gauge track were built to transport freight and passengers to the smaller mining camps of the region. The first office of the Tanana Valley Rail Road was at Chena, but then it was moved to Garden Island in Fairbanks. All the equipment for this railroad came by riverboat to Fairbanks via the Yukon and Tanana Rivers. The line became part of the Alarka Railroad, however, at the completion of its construction out of Anchorage to Fairbanks.

... the communities west of Fairbanks - Cosna, Tolovana, Minto, Nenana, and Tanana on the confluence of the Yukon and Tanana Rivers - had an historic impact on the origins and growth of Fairbanks. All the communities south of Fairbanks down to Delta Junction (formerly Buffalo Center) had their impact on the interior of Alaska - precisely the region crossed by Segment Eight of the Prime Pipeline Route.

The National Register of Historic Places lists two places within this corridor: the George C. Thomas Memorial Library in Fairbanks, and the riverboat steamer "Nemana" at Alaskaland.

HISTORIC EVALUATION

The region through which Segment Eight runs is rich in tangible evidence of the gold boom era - mining camps, railroads, placers, and steamboat landings.

Fairbanks is again the frontier staying area for the North Slope and for the crude oil pipeline construction. The area is now in the trauma of intense pressure on the local social and commercial infrastructure making historic preservation difficult to monitor within its zone of influence.

HISTORIC TRAILS

LIVENGOOD (quad #105)

Trail 267, Wickersham Dome-Tolovana River, prime route crosses an appendage of Trail 267 at Globe Creek 65°17'N, 148°14'W.

Trail 73, Aggie Creek Trail, prime route crosses Trail 73 four miles south of Wickersham Dome, 65°10'N, 148°11'W.

System 73D, Olnes-Dome Mining Area, Gilmore-Fox Mining Area, prime route runs along the edge of System 73D at 65°3'N, 147°4'W.

FAIRBANKS (quad #100)

System 73D, Olnes-Dome Mining Area, Gilmore-Fox Mining Area, prime route crosses 73D five miles north of Fairbanks.

Trail 193, FBX-Chena Hot Springs Trail 64 Miles, prime route crosses Trail 193 at Slate Creek five miles northeast of Fairbanks at 64°54'N, 147°30'W.

Trail 241, prime route crosses Trail 241 at Chena River, 64°50'N, 147°27'W.

System 73A, North Pole and Eilson Air Force Base, prime route crosses System 73A near Slough Creek and Moose Creek Bluff.

BIG DELTA (quad #101)

Trail 185, Richardson Highway at Birch Lake, prime route parallels Trail 185 from just east of Redmond Creek and crosses Trail 185 at the headwaters of Rosa Creek.

Trail 184, Solcha-Caribou Sled Road, prime route parallels Trail 184 from just east of Redmond Creek and crosses Trail 184 at the headwaters of Rosa Creek.

Trail 184C, a short independent trail, prime route crosses Trail 184C at Shaw Creek Lodge, 64°15'N, 146°10'W.

Trail 52, from the north bank of Forty Mile to Big Delta, prime route crosses Trail 53 just east of Big Delta.

System 52B, prime route parallels System 52B to Delta Junction.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #25

LIV 017. HISTORIC. Globe Roadhouse was constructed (c. 1910) at the junction of Globe Creek and Livengood-Fairbanks Trail, now known as the Elliott Highway, twenty miles southeast of Livengood.

LIV 003. HISTORIC. Livengood, the principal settlement in the Tolovana District, is reached by two general routes, overland by trail from Olnes on the Tanana Valley Rail Road, or by water by way of Tolovana River.

A tramway was built in 1916 at the log-jam area of the Tolovana River to haul freight from the small scows and small steamboats around the log-jam. Navigation is difficult because the Tolovana fluctuates in depth. The winter trail known as the Happy Trail was built in 1915-1916 up the east side of Tolovana Flats to West Fork, connecting at its lower end to Fairbanks and Hot Springs Trail. (Brooks: 1918, pp.257)

HAL #26

FAI 007. HISTORIC. Engineer is an abandoned mining camp located on Engineer Creek, nine miles northeast of Fairbanks. A post-office was established in 1909-1911.

FAI 021. HISTORIC. The city of Fairbanks originated as a trading post built on the Chena River in 1901. E.T. Barnette is credited as the builder of the post. The town grew as it served as a supply town for mining to the north.

FAI 017. HISTORIC. Fox. This settlement is on the site of a former mining camp established prior to 1905. The roadhouse itself was constructed circa 1905 and altered in 1962 and 1969. This site is located on the right bank of Fox Creek as it enters Goldstream Creek Valley, ten miles northeast of Fairbanks.

FAI 025. HISTORIC. Little Chena Roadhouse. This roadhouse was located on the Little Chena River fourteen miles east of Fairbanks. It was recorded in the 1915 edition of Polk's Gazetteer.

FAI 003. HISTORIC. Fairbanks Gold Dredge Number Eight. Now operated as an historical museum (as of 1971), the dredge is located on Mile Nine of Steese Highway, the three-storey self-propelled dredge is in fair condition. It was built in 1928 by Bethlehem Steel and shipped to Alaska in parts. It was assembled at Fairbanks and remained in operation until 1958.

FAI 004. HISTORIC. George C. Thomas Memorial Library. This library in Fairbanks was the first library in interior Alaska. It was built in 1909 and was the site of Tanana Chief's meeting with Wickersham.

FAI 005. HISTORIC. Nemana. This sternwheeler, measuring 227 feet in length and 42 feet in width, is the best surviving example of inland river transportation by steamboat. It dates to 1933.

FAI 002. HISTORIC. Constitution Hall. This University of Alaska building was the drafting location for the Alaska Constitution in 1958.

HAL #26

LIV 018. HISTORIC. Dome Camp. This former mining camp was settled about 1905 and is located on the left bank of Dome Creek, fourteen miles north of Fairbanks. (See next page for copy of original trader ledger sheet)

FAI 019. HISTORIC. Located on Glenn Creek eight miles northeast of Fairbanks, this is the site of a mining settlement which operated in the early nineteen hundreds.

FAI 018. HISTORIC. Graehl. This settlement is located on the north bank of the Chena River. It was listed as a townsite in Polk's Gazetteer of 1916. It has since been annexed by the city of Fairbanks.

FAI 020. HISTORIC. Gilmore. This mining camp, now abandoned, was located on the right bank of Pedro Creek, eleven miles northeast of Fairbanks.

Roy Fairbanks

Roy W. W. W.

In Account With

Thomas & Taylor,

...General Merchandise and Dealers In Lumber...

Sept 11	No 8 1/2 # Bacon	2 55
	" 1 Can Corn	50
	" 1 " Beans	50
	" 1 # Coffee	75
	" 10 # 1/4 Hoop	8 50
	" 2 cans Strawberries	1 00
	" 2 " Peaches	1 00
	" 1 " Butter	1 25
	" 1 Bot Pickles	75
	" 2 clamps	50
8	" 6 # Spuds	1 00
	" Onions	50
	" 2 doz Eggs	1 25
	" 1 Can Bak Powder	50
10	" 10 # Soap	5 00
	" 1 # Coffee	75
	" 4 Cans Cream	1 00
	" 2 doz Candles	1 50
	" 2 Cans Fruit	1 00
13	" 12 # Spuds	2 50
16	" 1 Can Butter	1 25
	" 2 " Peaches	1 00
	" 1 Shovel	1 50
	" 1 1/2 in Tee	25
	" 1 - Bling	25
	" 12 # Beef	2 50

FAI 032. HISTORIC. Fairbanks Masonic Lodge. This structure, located at the corner of Wickersham and First Streets, dates from 1906 and is recognized for its architecturally interesting facade. Resting on a concrete foundation, the large structure has a shingled exterior and a sheet metal roof.

FAI 030. HISTORIC. Immaculate Conception Church. This Fairbanks church was originally situated at Dunkel and First Avenues in 1904. In 1911 the church was moved across the Chena River to its present location at 115 North Cushman. The church is unique to Fairbanks in being the only church structure still in use that dates back to the early part of the twentieth century. This Fairbanks landmark is of wood construction with an interior of pressed metal and remains in sturdy condition.

FAI 026. HISTORIC. Alaskaland. This site is a collection of old buildings refurbished and relocated to a park setting in Fairbanks to serve the public as an interpretation of Fairbank's early life. The buildings date from 1901.

LIV R-1. ARCHAEOLOGICAL. Gray chert and a shouldered point 8.1 centimeters long (possibly a knife) were found on Fairbanks Creek between ten and fifteen miles north of Fairbanks. (West: 1963, pp.51-62)

LIV R-2. ARCHAEOLOGICAL. Fish Creek. One plano-convex side scraper was found at this site 25 miles north of Fairbanks. (Rainey: 1940)

FAI R-3, R-5. ARCHAEOLOGICAL. Sites discovered in placer mining operations along stream valleys tributary to the Tanana River near Fairbanks: Numerous tools were found in association with late Pleistocene fossil bearing deposits (including mammoth, mastodon, bison and horse). Nineteen artifacts were found including: [in R-3] two Yuma type points on Ester Creek (in association with young mastodon maxilla) and [in R-5] one Yuma type point at Goldstream and long, polished bone points from Goldstream. Other artifacts include: stemmed arrow or lance points of flint, retouched stone scrapers and end scrapers, a crude bore, pick-like object and two polished slate blades with bone and ivory handles, the Eskimo ulu and man's knife having walrus ivory handle. One group of burned stones and a large collection of young mammoth teeth suggest human habitation, but no campsite was found. No stratigraphy but mixed cultural debris suggests a long, sporadic occupation, possibly from Palaeoindian times to the present. (Rainey; 1940)

FAI R-1. ARCHAEOLOGICAL. One "Yuma" type point was discovered in Gidding's garden one-half mile west of the University of Alaska's administration building. Another point was found on the road. One blade fragment was taken from the foundation of the Eielson Building. (West: 1963, pp. 51-62)

XBD 008. HISTORIC. The demolished Birch Lake Roadhouse, twelve miles north of Richardson, consisted of a proprietor's cabin, bunkhouse, Clung Hill cabin, and kitchen. A stage station was also located on the site. There are visible tracings of other outlying buildings. Only the floor of the main roadhouse remains.

XBD 011. ARCHAEOLOGICAL. Reported site.

XBD 012. ARCHAEOLOGICAL. Reported site: south of the head of Buckeye Creek.

XBD 014. ARCHAEOLOGICAL. Reported site: at the mouth of Shaw Creek.

XBD 013. ARCHAEOLOGICAL. Reported site: at the head of Rosa Creek.

XBD 015. ARCHAEOLOGICAL. Reported site: east of the mouth of Shaw Creek.

XBD 016. ARCHAEOLOGICAL. Reported site.

XBD 027. ARCHAEOLOGICAL. Salchaket Winter Cemetary is the reported site of tree burials practiced by Solchaket peoples. The cemetary is located on a bluff behind the present Solchaket School.

XBD R-2. ARCHAEOLOGICAL. Birch Lake Sites. There are two main sites around the gravel pits opened by the Alaska Road Commission in 1947, but nearly every road cut and gravel pit opened contained flint flakes six to eighteen inches below the surface. Artifacts include: seven side scrapers, three lamellar flakes, three microcores, two endscrapers, two semilunar blades, two knife blades, one point fragment, and a microblade of the Palaeoarctic type. The sites near Richardson Highway, sixty miles southeast of Fairbanks. (Skarland & Giddings 1948:116-120)

HAL #29

XBD 017. ARCHAEOLOGICAL. Reported site: on west bank of the Tanana River, south of Richardson.

XBD 018. ARCHAEOLOGICAL. Reported site: near Quartz Lake.

XBD 026. ARCHAEOLOGICAL. From this site were taken chert and obsidian surface flakes. Six test pits yielded more flakes from an orange clay layer below humus. The site, located on the south bank of Clearwater River about eight miles from Delta Junction, is potentially important.

XBD R-3. ARCHAEOLOGICAL. At Jarvis Creek near Big Delta was discovered one endscraper. (Skarland & Giddings 1948)

FAI R-2. ARCHAEOLOGICAL. One broken blade and one flake were recovered from the Ballaine Farm one mile north of the University of Alaska. The flake is similar in form to Folsom. (West 1963, pp. 51-62)

FAI R-4. ARCHAEOLOGICAL. A fragment of gray chert was recovered from this Ester Creek site west of Fairbanks. (West 1963, pp.51-62)

FAI R-7. ARCHAEOLOGICAL. Gray chert, an oblong point 6.7 centimeters long, was taken from Last Chance Creek twelve miles north of Fairbanks. (West 1963, pp.51-62)

FAI R-6. ARCHAEOLOGICAL. Campus Site. This site is on the former University of Alaska Campus. It contained wedge-shaped cores, end scrapers, semi-polyhedral cores, and microblades similar to types from Siberia, Japan, and the Gobi Desert. (Nelson 1935, pp. 267-272)

HAL # 27

FAI 006. HISTORIC. Johnson's Roadhouse, also referred to as Sixteen Mile Roadhouse and Kennedy Stage Station, was located on the right bank of the Tanana River, sixteen miles southeast of Fairbanks. Its dates of operation were around the early twentieth century.

FAI 012. HISTORIC. Byler's Roadhouse, also known as Bergman's Roadhouse, Eighteen Mile Roadhouse (one of a series), and Orr Stage Station, consists of two attached log buildings, one for men and the other for women. It is located on the right bank of the Tanana River, eighteen miles southeast of Fairbanks.

HAL #28

XBD 001. HISTORIC. Aurora Lodge, also known by the names Salchaket Roadhouse, Gunnison's Roadhouse, and Munson's Roadhouse, was rebuilt and located on Mile 269 of the old Valdez-Fairbanks Trail (Richardson Highway, Salcha River). Salch Telegraph Station was established nearby in 1902, as well as a nearby store and post-office. The lodge was complete with a sitting room, dining room, hot and cold running water on the second floor, heated barns, and a good bar.

XBD 004. HISTORIC. Campbell Cabin is located at the head of Keystone Creek, seventeen miles northwest of Big Delta.

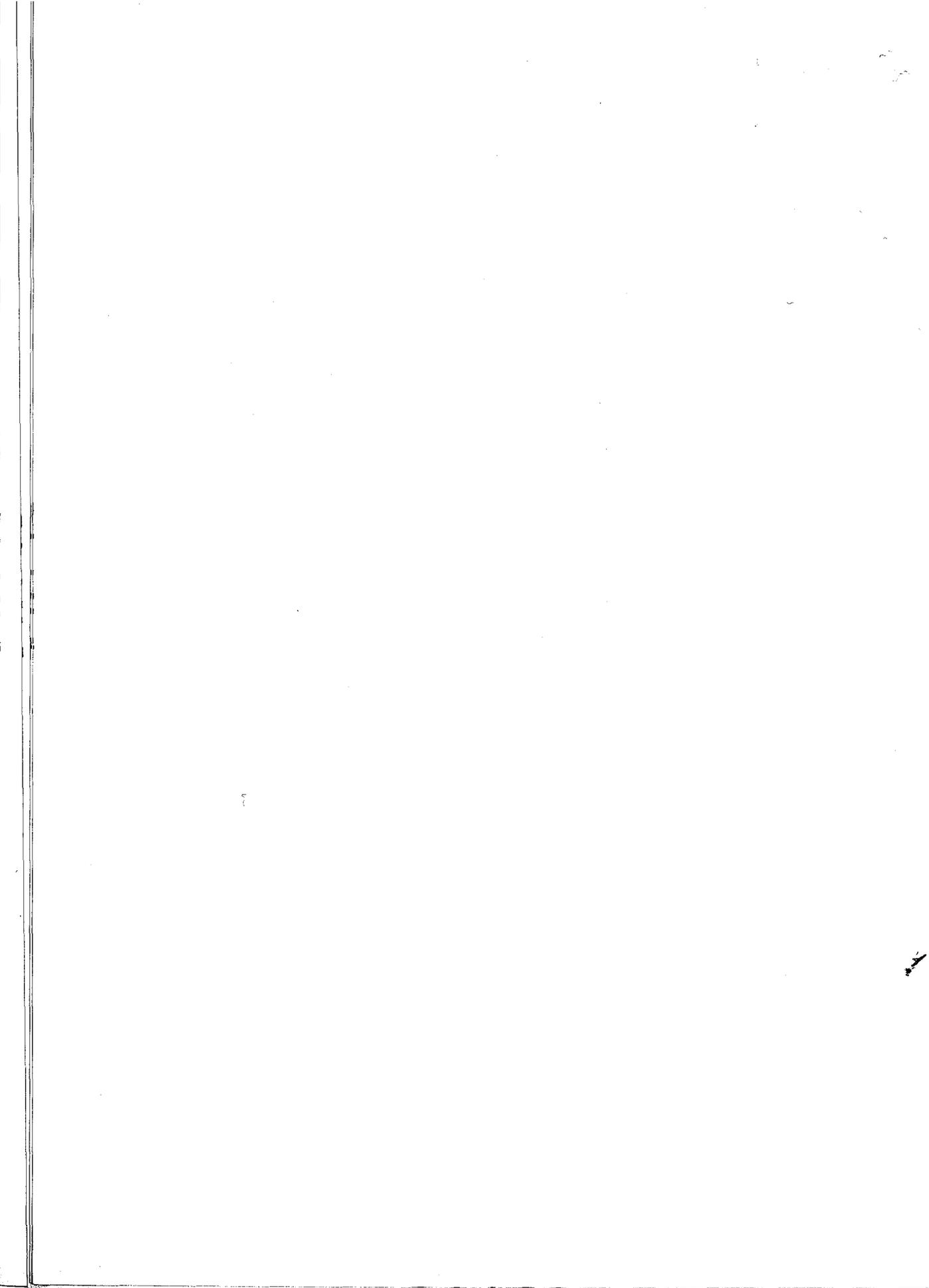
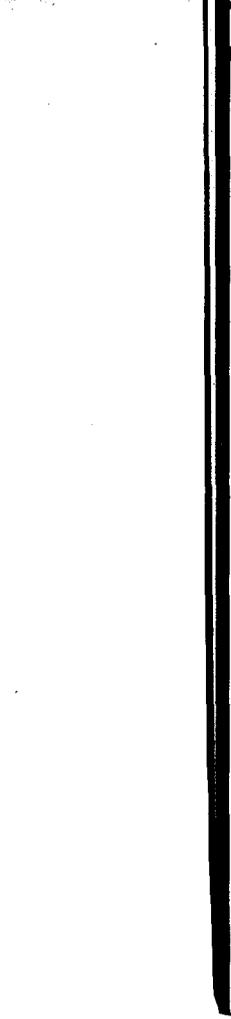
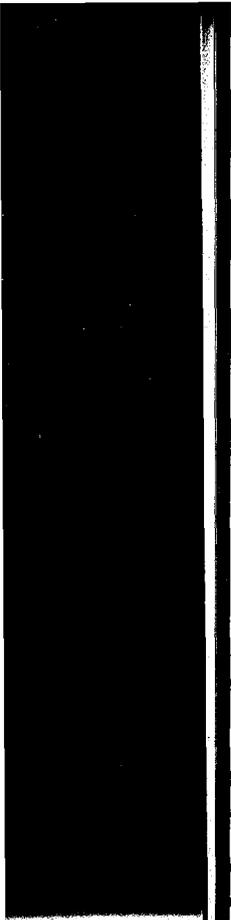
XBD 006. HISTORIC. The site of Delta Telegraph Station (c.1907) is located one half mile south of Washburn, on the right bank of Tanana River at Little Delta River.

XBD R-4. ARCHAEOLOGICAL. This site on the Alaska Highway in the Tanana River Valley east of Big Delta between Mileposts 383 and 1359 yielded surface finds similar to the fourteen stone tools and hearth found on Kluane Lake. (Johnson 1946)

HAL #63

LIV 025. HISTORIC. The former Log Jam Roadhouse (c.1915) is located on the left bank of the Tolouana River, twenty-two miles south of Livengood.

FAI 024. HISTORIC. Minto is a native village located on the east bank of the Tanana River, forty-four miles west of Fairbanks. In 1909 Minto was known as Minto Telegraph Station and had a reported population of 161 persons, and was reported in 1911 by the U.S.G.S.



SEGMENT NINE

DESCRIPTION

Segment Nine extends from Delta Junction, 64°02'N, 145°44'W, to Copper Center, 61°57'N, 145°21'W.

ENVIRONMENTAL SETTING

This segment parallels the Richardson Highway and crosses it at several places in the more confined spaces of mountain passes. From the interior lowlands at Delta Junction the segment follows the Delta River over The Alaska Range, descends over low mountains to The Copper River Lowland and junctures with Segments Ten and Twenty-five at Copper Center. Topography, geology and climate vary considerably; the route includes forested lowlands, bare mountain sides, and many glaciers nearby in The Alaska Range.

This segment begins in the Continental Zone and ends at the south end in the Transitional Climatic Zone. Mean annual temperatures range from about 25 to 27°F, north to south. Mean annual precipitation is near ten inches.

Geologically, it starts in the Tanana-Kuskowim Lowland, crosses The Alaska Range and ends in the Copper River Lowland Physiographic Province. Topography and surficial geology varies greatly.

From north to south surficial geologic deposits are successively: (1) alluvial and fluvial deposits of the Tanana Lowland; (2) moraines and other glacial deposits on foothills (3) coarse rubbly glacial deposits and exposed bedrock in The Alaska Range; (4) glacial moraines in low mountains and foothills; and (5) glacial lake deposits in Copper River Lowland.

A major fault system, The Denali, approximately bisects the segment in The Alaska Range.

Soils of the lower terraces of Tanana, Delta and other major streams are poorly-drained deep silt loams with thick organic mat and isolated masses of ice-rich permafrost. Soils on steep slopes, lower south-facing slopes, hills and higher terraces are well-drained gravelley loams and silt loams. The lower lying soils have severe drainage limitations; and except for loess deposits on terraces, which have only slight limitations, soils on steep slopes and hills are severely to moderately susceptible to erosion.

Some localized areas of the Lowlands have combinations of soils and other factors making them physically suitable for settlement and site development.

In this segment, The Alaska Range divides the Tanana and Gulf of Alaska Hydrologic Subregions. To the north the segment is drained by The Delta River and south of the Range by The Copper River and its tributaries. Water supply is adequate and of good quality along most of the segment. Although seasonal stream flow is great, the snow pack of The Alaska Range assures perennial stream flow in this region of relatively low precipitation.

From north to south the segment passes successively through: (1) Bottomland Spruce - Poplar Forest; (2) Upland Spruce-Hardwood Forest; (3) Moist Tundra (atop The Alaska Range); (4) Upland Spruce-Hardwood Forest; and (5) Lowland-Spruce-Hardwood Forest in The Copper River Lowland. The first and last of these areas contain timber stands.

Both the northern and southern ends of this segment are in lowland river basin areas and contain moose, brown or grizzly, and black bear, and important waterfowl habitat. Both the Tanana and Copper River Valleys are major migrations routes for waterfowl and other birds.

Both the Delta and Nelchina Caribou herds range in or near this segment. Dall sheep and mountain goats are found near the segment in The Alaska Range.

At the south end of the segment The Gulkana River has many species of freshwater fish and is an important salmon spawning stream. The Tanana and Delta Rivers at the north end have similar freshwater fish but are less important for salmon spawning.

Delta Junction, Gakona, Gulkana, Glenallen, Tazlina, and Copper Center are populated places along this segment, with Gakona, Gulkana, Tazlina and Copper Center subject to land withdrawals under the Alaska Native Land Claims Settlement Act. All of these settlements are on or near the highways in the corridor. Many residents of these places supplement incomes with subsistence hunting and fishing and many find part-time employment in services to travelers.

Segment Nine generally follows the BLM Corridor Number 33 (Big Delta-Valdez, from Fort Greely through the Alaska Range via Isabel Pass to Paxson, thence down the Gulkana River to its junction with the Copper River at Gulkana, southward through Glenallen to near Copper Center). The corridor crosses no proposed d-2 lands withdrawn for Native selection: Gakona, Gulkana, Tazlina, Copper Center, and State Lands. Some portions of the route are in the utility corridor.

During 1972 the people of the following five communities along this segment reported the following subsistence harvests.

Community	Population	Mammals		Fish		Fowl		Totals
		lbs.	%	lbs.	%	lbs.	%	
Copper Center	188	76,390	67.3	36,900	32.5	300	0.2	113,590
Gakona	37	18,050	65.8	9,200	33.6	170	0.6	27,420
Glenallen	70	27,700	60.5	17,310	37.8	775	1.7	45,785
Gulkana	74	53,216	77.8	15,000	21.9	220	0.3	68,436
Tazlina	42	30,775	46.0	35,650	53.2	530	0.8	66,955
Totals	411	206,131		114,060		1,995		322,186

In some cases, villages reported gathering wild berries and greens and that some villagers have small vegetable gardens, but the food sources in the table represent the bulk of the diet for most villagers.

Employment in the cash economy is mostly seasonal, with Gakona for example reporting seasonal employment as forest fire fighters. Only two people in this village had regular jobs, these being with the highway department.

Some villages were apparently more dependent than others on subsistence; the per capita weight of harvests varying from 753 pounds in Gakona to 1,622 in Tazlina.

ARCHAEOLOGICAL SUMMARY

The 21 sites on the proposed pipeline alignment in this segment represent some of the richest and most archaeologically important in Alaska. XMH 004, 005 and 007 all yielded nearly 500 artifacts each when excavated. XMH 007, the Donnelly Ridge site shows cultural activities with other early complexes both in Alaska and Eurasia, and a summary of Hadleigh Wests' 1967 excavations follows:

XMH007 R-2. Donnelly Ridge, on Mt. Hayes Quad 25 miles south of Delta Junction 63° 46'N, 145° 48'W.

There are nine categories of artefacts found at the Donnelly Ridge site. They are as follows:

Bifacial Biconvex Knives

4 specimens 1 complete

End Scrapers

5 specimens

Large Blades & Blade-like Flakes

6 specimens 2 with retouch

Prepared Cores which are Diagnostic

10 microblade cores

The platform preparation technique used on these core is similar and probably closely related to the Yubetsu technique of Shirataki cores burins of northern Japan.

Core Tablets

12 definite specimens

Microblades

323 blade fragments. Only 3 unbroken. Max length of longest intact specimen is 33mm average with 4.8mm; Range from 2mm-9mm

Burins

Eight specimens; edges were beveled by fine marginal retouch, a feature diagnostic of Donnelly burins

Burin Spalls

56 burin spalls

Worked flakes & Unidentifiable Frags.

109 flakes & frags. show evidence of use & deliberate retouch.

Core blade and related burin technology dominate Donnelly Ridge assemblage. The site functioned as game lookout. The sites' role as one of habitation remains in question. The tools suggest butchering and skinning operations. The large number of sites present suggests a long standing popularity as a hunting area.

The Donnelly Ridge site exhibits clear affinities with other sites in central Alaska (Hadleigh-West 1967a: 370). These sites are the Teklanika River sites (Hadleigh-West 1967 370-371) in Mt. McKinley National Park and the Campus site on the campus of the University of Alaska at College.

These affinities justify to some that these sites should be considered as representatives of a complex i.e., the Denali Complex (Hadleigh-West 1967a: 370). One possible candidate in central Alaska for inclusion in the Denali Complex is the older component of the Dixthada site located on Mansfield Creek near present Mansfield Village. MacNeish would include the Denali Complex as exhibited by the Campus site in his Northwest Micro-blade Tradition (MacNeish 1964: 346). There are also probable connections with several sites in the Yukon territory (MacNiesh 1964: 264).

Hadleigh-West suggests possible relationships for the Denali Complex with a number of sites in Siberia. These are the Afontava Gora II on the Yenisei River, Ver Kholenskaia Gora, near Irkutsk, the Krasnyi IAR site 200km north of Irkutsk and the Ushki site in central Kamchatka (Hadleigh-West 1967: 375-376). Still further relationships are seen to exist with The Shirataki and Tachikawa site of northern Japan.

Despite the dating difficulties which have beset the above noted sites, they have all been assigned to the late Pleistocene or early Holocene with suggested dates ranging from 13,000 B.C. to 8,000 B.C. It is felt by Hadleigh-West that the 5,000 year intervening period "probably pertains to the Denali Complex and in viewing the similarities to the far west there appears no compelling reason to suppose that the Denali Complex is any more recent than the Ushkisite 8,725 B.C. + 1,360." (Mo-345, Chard and Workman 1965: 150) (Hadleigh-West 1967: 378.)

It should also be noted that the extremely important Tangle Lakes Archaeological District is located between the prime pipeline route and the Alaska Railroad corridor alternate route. The Tangle Lakes Archaeological District is located at 63°15' 41"/146° 36' 28" --62°51' 25" C. 145°38'. Its boundaries are: west, the McLaren River and Matanusko - Susitna Borough border; north, from Cottonwood Creek along Eureka Creek across Richardson Highway to McCallum Creek; east, between Fielding Lake and Summit Lake thru Paxson Mt. The 440,000 acres contain the highest concentration of sites in the state, including archaeological remains pertinent to 6-7,000 B.C. Within the three mile radius of the inter-section of Round Tangle Lake, Upper Tangle Lake and Denali Highway (17 miles E of the proposed alignment), there is the most densely concentrated archaeological area of sites in Alaska, containing various materials and artifacts of the Denali Complex. The complex includes XMHO29 thru XMHL19, and XMHL36,146&149. Among the 86 known sites in this region are the important Ratekin site and Hosley Ridge site (Skarland and Keim 1958), discovered in construction of the Denali Highway.

ARCHAEOLOGICAL EVALUATION

The extremely large number of sites between the prime and alternate pipeline corridors and the abundance of artifacts therein strongly suggest that a similar situation will pertain on either side. This segment may contain sites which are critical to the important question of Athabaskan Indian origins and extreme care should be utilized in the initial survey along both the prime route and the alternate.

HISTORIC SUMMARY

Segment Nine contains an historical cross-section of Alaskan history that runs from the early explorations, through the beginning of the gold rush era, to the stabilization of a settled frontier along the Fairbanks-Valdez Trail (now the Richardson Highway).

The Delta, Gulkana, and Copper Rivers provided a direct route to the interior gold fields at Fairbanks and northward to the Brooks Range. During the era of exploration, the region drained by these rivers had been explored and documented by Captain William R. Abercrombie, U.S.A. in 1884, by Lt. H. T. Allen, U.S.A. in 1885, by Captain E. F. Glenn in 1898, and by Hayes, Schrader, and Mendenhall. Documentation of these men's travels forms another era of Alaska's history. The setting of that history is within the corridor of Segment Nine.

The period from 1900 to the 1920's in this region can be called a period of settlement. It was the Frontier Era, with all the boom and bust usually associated with it. Everything was just built, or being built. With the completion of the Fairbanks-Valdez telegraph line in 1905, the region boomed: roadhouses, hotels, trading posts, fishing and mining camps, U. S. Army Signal Corps Stations, stagecoach stations, road-camps, sled and haul roads and new settlements.

In sites like Donnelly (1904), Paxson's Roadhouse (1907), Gulkana (1903), Miers' Roadhouse (1906), and Sourdough (1903), all listed in the Alaska Heritage Resource Survey, the history of the interior is evident. The National Register of Historic Places lists the following areas: Paxson vicinity, Tangle Lakes Archaeological District, and the Denali Highway.

HISTORICAL EVALUATION

Because of the close proximity of the alignment to the historic Fairbanks-Valdez Trail and the early settlements of the 1900's, and because the segment corridor contains many archaeological and historical sites, extreme caution must be exercised in any construction in these areas, especially in the Paxson Vicinity.

HISTORIC TRAILS

BIG DELA, (quad. #101)

Historic locale 29:

Trail System 52B

Main route crosses trail system 52B at...

MOUNT HAYES, (quad. #86)

Historic locale 29:

Trail 52E, Delta Junction to Narvi Creek

Main route crosses trail 52E just E of Allen Airfield.

Historic locale 30:

Trail 26, unnamed, Old Hwy. (?)

Main route parallels trail 26 from its intersection with the Richardson Hwy. to $63^{\circ}50'$, $145^{\circ}51'$ past Donnelly Dome to the trail's southernly intersection with the Richardson Hwy.

Historic locale 31:

Trail 17, unnamed

Main route crosses trail 17 at $63^{\circ}43'$, $145^{\circ}51'$.

Trail 18, unnamed

Main route crosses trail 18 just W. of Ober Creek, 2 miles N of Donnelly.

Historic locale 33:

Trail 12, unnamed

Main route crosses trail 12 at the intersection of Richardson Hwy. and Phelan Creek.

Historic locale 34:

Trail 30, Chisana-Paxsons Trail

Main route crosses trail 30 at Paxson, $63^{\circ}02'$, $145^{\circ}30'$.

Trail 34, unnamed

Main route crosses trail 34 just E. of Paxson, $63^{\circ}02'$, $145^{\circ}30'$.

GULKANA, (quad. #83)

Historic locale 34:

Trail 22, unnamed

Main route crosses trail 22 at 63°00', 145°25'.

Trail 21, unnamed

Main route crosses trail 21 at Huffmans, Ak.

Historic locale 36:

Trail 20, Tractor trail on Gulkana D-3

Main route crosses trail 20 at Meier Lodge.

Trail 30, Old Richardson Hwy.

Main route crosses trail 30 at W 1/2 Sec 5, TION, R 1W.

Historic locale 37:

Trail 18, unnamed

Main route crosses trail 18 North of Haggard Road Camp.

Trail 10, unnamed

Historic locale 38:

Trail 7, Ewan Lake Trail (North Fork)

Main route crosses trail 7 at 62°20', 145°30'.

Trail 8, Ewan Lake Trail (South Fork)

Main route crosses trail 8 at 62°19', 145°30'.

Trail 4, Main Route parallels Trail 4 from Ewan Lake to Gulkana Airstrip.

Trail 2, Main Route intersects Trail 2 at Mile 122 of the Richardson

Trail 1, Main Route intersects Trail 1 at Gulkana Airstrip.

Trail 3, Main Route intersects Trail 3 at 62°5', 145°30'.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #29

XBD 005. Delta Junction. HISTORIC. This is the site of a road construction camp established about 1919 as "Buffalo Center."

HAL #30

No sites.

HAL #31

XMH 004. ARCHAEOLOGICAL. West of Richardson Highway, at 2,620 foot elevation, on a high moraine ridge overlooking Delta River Valley, were found 513 artifacts.

XMH 005. ARCHAEOLOGICAL. West of Richardson Highway, at an elevation of 2,675 feet overlooking Delta River Valley, a blowout, 464 artifacts, and 1,235 flakes were found.

XMH 006. ARCHAEOLOGICAL. At this site west of Richardson Highway, at an elevation of 2,670 feet overlooking the Delta River Valley, were found sixteen artifacts and 108 flakes.

XMH 007. ARCHAEOLOGICAL. On this ridge (elevation 2,675 feet) overlooking the Delta River Valley and west of Richardson Highway were discovered 376 stone and bone artifacts.

XMH 008. ARCHAEOLOGICAL. From this site, at elevation 2,690 feet on a ridge overlooking Ridge Highway to the west was recovered one end scraper.

XMH 009. ARCHAEOLOGICAL. From this small Knoll at elevation 2,750 feet overlooking Richardson Highway to the west were recovered two artifacts.

XMH 010. ARCHAEOLOGICAL. West of Richardson Highway at an elevation of 2,750 feet overlooking several small lakes is this site from which five artifacts, 336 flakes and one bone were recovered.

XMH 011. ARCHAEOLOGICAL. Two artifacts and 38 flakes were recovered from this site at an approximate elevation 2,844 feet overlooking from the west the roadstead of Old Richardson Highway.

XMH 012. ARCHAEOLOGICAL. This site, west of the Old Richardson Highway, is located on a small ridge in broken moraine terrain at an elevation of 2,125 feet. Seven artifacts and 31 flakes were recovered.

XMH 013. ARCHAEOLOGICAL. Five artifacts and 73 flakes were recovered from this site.

XMH 014. ARCHAEOLOGICAL. East of Richardson Highway overlooking Jarvis Creek, on a small Knoll at an elevation of 2,200 feet, one artifact was recovered.

XMH 015. ARCHAEOLOGICAL. East of Richardson Highway, at an elevation of 2,265 feet overlooking Ober Creek, is a small ridge from which two artifacts were recovered.

XMH 016. ARCHAEOLOGICAL. On a small knoll between the old and new Richardson Highways, at an elevation of 2,260 feet, was recovered one artifact.

XMH 017. ARCHAEOLOGICAL. Overlooking Ober and Jarvis Creeks on a North-facing slope, at an elevation of approximately 2,605 feet, this surface blow-out site has yielded one artifact.

XMH 018. ARCHAEOLOGICAL. Overlooking Ober and Jarvis Creeks on the North slope of a hill at an approximate elevation of 2,375 feet is this surface blowout site which has yielded one artifact.

XMH 019. ARCHAEOLOGICAL. West of Richardson Highway on an east-facing hill at an approximate elevation of 2,675 feet is this surface blowout site which has yielded one artifact.

XMH 020. ARCHAEOLOGICAL. West of Richardson Highway at elevation 2,675 on a hill facing east, is this surface blow-out site from which three flakes have been taken.

XMH 021. ARCHAEOLOGICAL. West of Richardson Highway on a small Knoll overlooking Donnelly Flats and at an elevation of approximately 1,850 feet was discovered this surface blowout site from which three artifacts and thirteen flakes have been recovered.

XMH 022. ARCHAEOLOGICAL. West of Richardson Highway at an approximate elevation of 1,760 feet, this surface blowout site has yielded three flakes.

XMH 023. ARCHAEOLOGICAL. Immediately east of old Richardson Highway at an elevation of approximately 2,810 feet, is a surface blowout site from which one artifact (Angostura/Agate basin - like?) was taken.

XMH 067. ARCHAEOLOGICAL. On the west shore of Long Tangle Lake, on a low ridge extending into the lake at an elevation of 2,910 feet, is a blowout from which twenty artifacts and 370 flakes have been recovered.

XMH 202. HISTORIC. Donnelly. The telegraph station at Donnelly was established about 1904 by the United States Army Signal Corps and was a stage station on the Fairbanks-Chitina Trail.

HAL #32

No sites.

HAL #33

No sites.

HAL #34

XMH 218. HISTORIC. Paxson's Roadhouse was constructed by Alvin Paxson in 1907. It was a two-storey structure near post-office and telegraph station.

HAL #35

XMH 201. ARCHAEOLOGICAL. Tangle Lakes Archaeological District. The Tangle Lakes Archaeological District is located at 63°15' 41"/146° 36' 28" -- 62° 51' 25:/C. 145° 38'. Its boundaries are: west, the Mcharen River and Matanusko - Susitna Borough border; north, from Cottonwood Creek along Eureka Creek across Richardson Highway to McCallum Creek; east, between Fielding Lake and Summit Lake through Paxson Mountain. The 440,000 acres contain the highest concentration of sites in the state, including archaeological remains pertinent to 6-7,000 B.C. Within the three-mile radius of the intersection of Round Tangle Lake, Upper Tangle Lake and Denali Highway (17 miles E of the proposed alignment), there is the most densely concentrated archaeological area of sites in Alaska, containing various materials and artifacts of the Denali Complex. The complex includes XMH 029 thru XMH 119, and XMH 136, 146 + 149, 075, 076.

XMH 067. ARCHAEOLOGICAL. This blowout on a low ridge extending into Long Tangle Lake (west shore) has yielded twenty artifacts and 370 flakes.

Ratekin Site. ARCHAEOLOGICAL. This site in the Tangle Lakes area has yielded 79 scrapers, 65 blades, knives, and points, one arrow shaft shaper, and large amounts of core and refuse material. (Skarland: 1958, pp.79-81)

Hosley Ridge. ARCHAEOLOGICAL. The 22 worked specimens taken from this site are similar to Tangle Lakes material. No burins or microblades have been recovered. (Skarland: 1958, pp.79-81)

HAL #36

GUL 045. ARCHAEOLOGICAL. Meier's Roadhouse. This roadhouse was built in 1906 by Charles Meier, once a cook for Alvin Paxson. Destroyed by fire in August, 1925. Rooms, accomodating thirty people, were all on the ground floor.

GUL 030. ARCHAEOLOGICAL. Xeitcaibene. This is a reported site just W of Hogan Hill at the NE end of Hogan Hill Lake. Members of the Dixagi stayed here.

HAL #37

GUL 056. Sourdough Roadhouse. Still functioning, this roadhouse on the Richardson Highway dates back to the 1880's.

HAL #38

GUL 043. HISTORIC. Gakona Lodge. This trading post and post office was established in 1905.

GUL 012. HISTORIC AND ARCHAEOLOGICAL. Gakona. This single excavated housepit at the mouth of the Gakona River yielded a knife with a steel blade. The site was a former fish camp in 1899.

GUL 062. HISTORIC. St. Nicholas Chapel. This is a former Russian Orthodox Church site.

GUL 032. HISTORIC. Tatgana. This reported site is at the outlet of Ewan Lake where people came to fish.

GUL 042. HISTORIC. Gulkana Roadhouse. This old roadhouse is at juncture of Valdez and Eagle Trails. It was established in the early 1900's. It is a two-storey log building with a log lean-to.

GUL 010. HISTORIC. Djanyirelinde. This is a settlement at the junction of Bear Creek and Gulkana River.

GUL 009. HISTORIC. Tatcen. The name of this settlement below the confluence of Copper River and Gulkana River was derived from the rusty water of Bear Creek.

GUL 011. HISTORIC. Gulkena. Excavation of this village site at the Gulkana Bridge produced a barbed bone arrowhead and a cobbel flaked scraper.

GUL 008. HISTORIC. Lotsibisidere. This settlement, located at the present site of Dry Creek Campground, was abandoned in 1939 but graves still remain.

GUL 054. HISTORIC. Dry Creek Roadhouse. This was a roadhouse in the 1900's-1910's on the Richardson Highway, popular because the proprietors offered milk, butter, eggs, and chicken to travelers for one dollar per meal.

GUL 057. HISTORIC. Dry Creek Wayside. This Ahtna village is on an old (pre-1900) hunting trail between Crosswinds Lake and a village on Copper River. The U. S. Army removed the villagers in 1943.

GUL 007. HISTORIC. Lotsihisikere. This settlement, comprised of two or three winter houses, is located just S of the convergence of Dry Creek and Copper River.

GUL 002. HISTORIC AND ARCHAEOLOGICAL. Nagedlistiniadin. The name of this fish camp means, "They hear each other's song." Another settlement was on the opposite bank of the Copper River. 19th and 20th centuries.

GUL 003. This settlement was across the Copper River from GUL 002.

GUL 004. Tezkinkere. This old village is now covered by the grounds of Copper River School. It had six old houses and a bath house large enough for 25 men. In 1898 Abercrombie found eight or ten prospectors' cabins at this site.

GUL 005. ARCHAEOLOGICAL. Bazdlirde. This settlement is on the west bank of the Copper River, one mile north of its confluence with the Tazlina River. A rock was found at low water with a moon and a fish and the letters A and C carved into it, possibly a calendar describing when fish would be present in the stream.

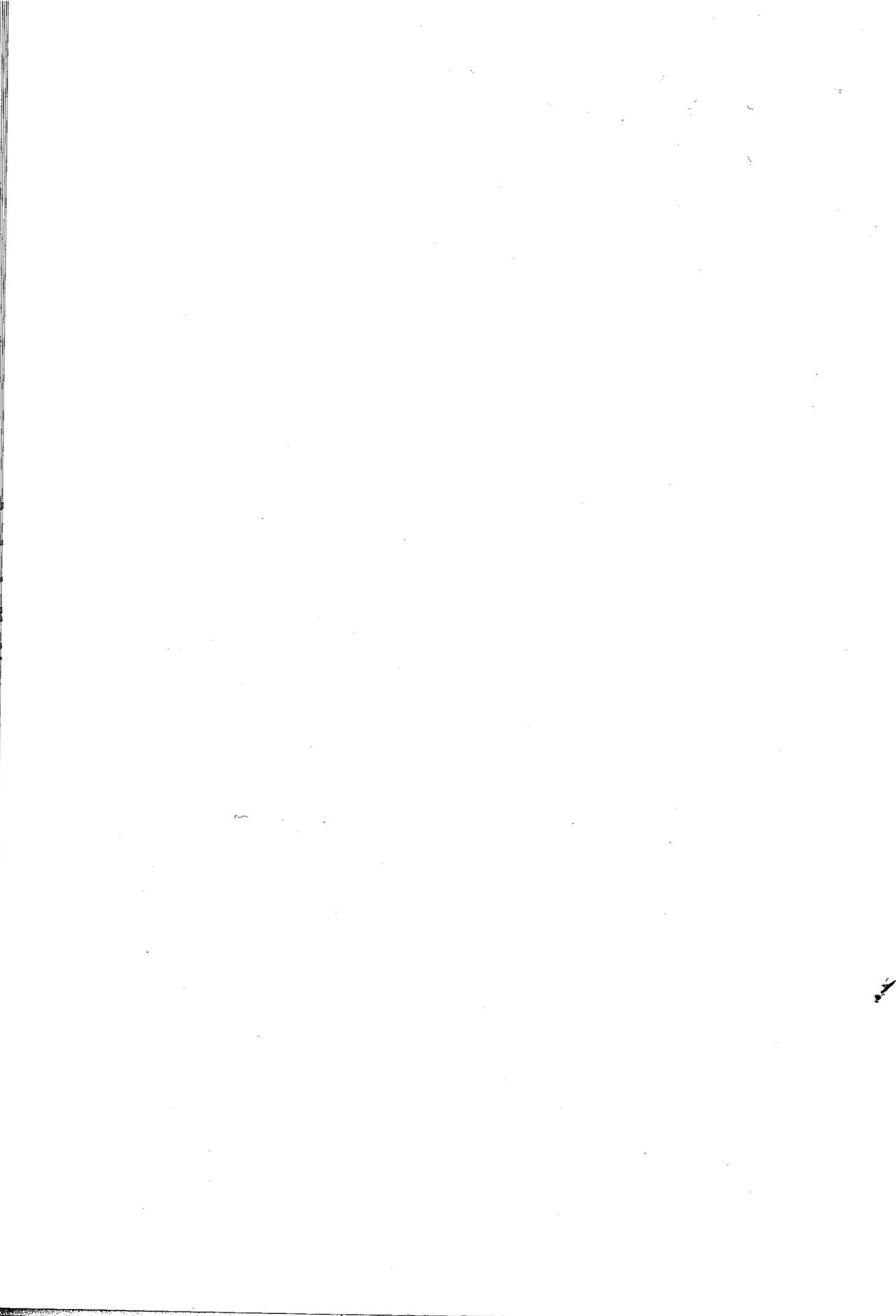
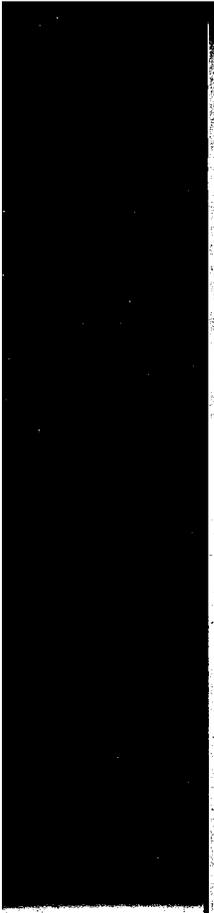
GUL 006. This was a winter house belonging to a Nultsina man and large blue beads were reported found in the midden.

Notice of Location of Places Claimed

Notice is hereby given that we the undersigned citizens of the United States, do claim one hundred and sixty acres for placer mining purposes, situated on Lost Horse creek a tributary of Washington creek in the Fairbanks Recording District, Territory of Alaska, described as follows: Commencing ~~from~~ ^{at} a post situated about two hundred and fifty feet from said Lost Horse creek on the right bank thereof, which post is ~~about~~ $\frac{3}{4}$ of a mile from the confluence of said creeks, ~~then~~ 5280 feet up stream; thence ~~to 5280 feet Northward~~; ~~thence 52~~ 1320 feet ~~Northward~~, thence 5280 feet Southward; thence 1320 ft. to point of beginning. This claim shall be known ~~to be~~ as the Ohio Association. Located this 5th day of January 1910.

J. M. Piper Mrs. E. Ellsworth
J. W. Owens Geo. Thomas
Dora Jansy J. Helling
S. M. Heath J. M. Hicks

By William Piper
att. in fact.



SEGMENT TEN

DESCRIPTION

Segment Ten extends from Copper Center, 61°57'N, 145°21'W to the Tielkel River.

ENVIRONMENTAL SETTING

From Copper Center in The Copper River Lowlands this segment extends southward to The Tielkel River in The Chugach Mountains. Topography and climate are quite variable with glaciers and barren rock bordering much of the segment in the mountains.

This segment ascends the north slopes of The Chugach Mountains in the Transitional Climatic Zone. From north to south, precipitation and average temperatures increase because of proximity to the sea. Mean annual precipitation ranges from ten inches to about twenty inches and temperatures range from 28° to 35°F. Annual snowfall ranges from fifty inches to 100 inches (or more in The Chugach Mountains).

Geologically, this segment begins in The Copper River Lowland and ends in The Kenai-Chugach Mountains Physiographic Province. Alluvium and glacial lake deposits cover the northern half of the segment; the Tonsina and Tielkel River Valleys have moraine deposits of various depths and occasionally exposed bedrock on or near the pipeline alignment.

At the northern end of the segment, clayey soils with a thick organic mat and permafrost occupy the Gulkana Basin, surrounded by wet silty to loamy soils on valley side slopes and low moraines. Well drained, shallow, acid gravelly to loamy soils with permafrost occupy high moraines in the uplands and mountains. All these soils have severe limitations for all uses.

This segment in The Gulf of Alaska Hydrologic Subregion begins on The Copper River, the major stream of the region, and follows The Tonsina River upstream and then The Tielkel River downstream to its junction with the Tsina River. These glacier-fed streams have narrow valleys in the upper reaches in The Chugach Mountains with The Tonsina flowing north into The Copper River Lowland and The Tielkel entering The Copper River in the central portion of the mountains.

The northern lowland portion has some significant groundwater storage but mountainous portions have only surface storage in the form of snowpack.

This segment begins in Bottomland Spruce-Poplar Forest and passes successively through Lowland Spruce-Hardwood Forest (in the Gakona Basin) and Upland Spruce-Hardwood Forest in The Chugach Mountains.

The riverine and lake habitat around Copper Center and The Copper and Tonsina Rivers is a very important waterfowl habitat. Black and grizzly bear are usually concentrated along streams around Copper Center. Caribou have a winter range here and a small herd of transplanted bison range just north of The Copper River near the northern end of the segment. Moose range along the segment and are concentrated in major valleys and The Copper River Lowland. Mountain goat and dall sheep inhabit nearby mountain areas. The Copper River drainage contains many species of freshwater fish and is an important salmon spawning area.

Copper Center and Tonsina are the populated centers on this segment. Copper Center is subject to land withdrawal under the Land Claims Settlement Act. Major employment is in government, transportation, and services. The 1970 population was 206.

Segment Ten of the Prime Route corresponds to BLM Corridor Number (Big Delta - Valdez) from Copper Center to Tielke. The corridor crosses no proposed d-2 lands or Native deficiency lands or lands withdrawn for Native selection (Copper Center is listed in Segment Nine). It does cross State lands and d-1 lands. Portions of the route are contained in the utility corridor.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

No known prehistoric sites have been reported from this segment.

HISTORIC SUMMARY

Although the Alaska Heritage Resource Survey lists only nine historic sites within the corridor of Segment Ten, that number is conservative. The area is much richer in history and did play a notable role in the history of Alaska.

As early as 1896, the town of Copper Center was established as a trading post and "wintering-over" stop for the hundreds of gold miners that traversed the famed Valdez Glacier Route on their way to the gold fields. Blix Roadhouse, now known as the Copper Center Lodge, was built during the 1897-1898 gold rush and has the distinction of being selected by the Centennial Commission as one of thirty sites of historic importance in Alaska. In 1899, Captain W. R. Abercrombie reported on agricultural possibilities of the Copper Center Region.

The effects of the Klondike gold rush can also be seen in this area: the Valdez-Eagle telegraph line, wagon roads which followed the old Fairbanks-Valdez trail, roadhouses, and telegraph stations.

HISTORIC EVALUATION

The history of this region has been well documented from the Fairbanks-Valdez Trail to Copper Center to Tonsina. However, the Prime Route Corridor crosses the Klutina River and Klutina Lake Trail, which was the main route for thousands of prospectors travelling between Valdez Glacier and Copper Center. Care should be taken to locate and document all historic evidence that is along this trail.

HISTORIC TRAILS

VALDEZ (quad. #68)

Trail 12, Main Route intersects Trail 12 four miles East of Copper Center on the Klutina River.

Trail 7, Main Route intersects Trail 7 at $61^{\circ}46'$, $145^{\circ}21'$.

Trail 13, Main Route intersects Trail 13 two miles West of Tonsina.

Trail 80, Main Route intersects Trail 80 at $61^{\circ}35'$, $145^{\circ}15'$.

Trail 6, Main Route intersects Trail 6 at $61^{\circ}34'$, $145^{\circ}15'$.

Trail 15, Main Route intersects Trail 15 at $61^{\circ}34'$, $145^{\circ}09'$.

Trail 25, Main Route intersects Trail 25 at $61^{\circ}27'$, $145^{\circ}09'$.

Trail 26, Hurtle Creek Trail, Main Route intersects Trail 26 at $61^{\circ}22'$, $145^{\circ}20'$ near Tiekel Cache.

Trail 27, (Unnamed) Main Route intersects Trail 27 at $61^{\circ}18'$, $145^{\circ}18'$.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #39

VAL 025. HISTORIC. The settlement of Tonsina (or Upper Tonsina) was established about 1889 when the roadhouse was built. It was first constructed in Valdez, then dissembled and carried over the pass to its present location.

VAL 050. HISTORIC. Tonsina Roadhouse, located on Mile 81 of the Richardson Highway (Mile 77, Old Trail) was originally built in 1903 and burned in 1928. The present structure was moved to the site piece by piece from Dayville. At the time of the move in 1929 there were sixteen rooms for accommodations; eight bedrooms have been added. It is a frame, three-story structure.

VAL 051. HISTORIC. Tiekhel Roadhouse, located at Mile 52 on the Richardson Highway (Mile 48 on the Old Trail), was first established in 1904 by Frederick B. Vaughn. Under the ownership of Charles Romer in 1925, it was considered "one of the most popular" roadhouses. The structure was destroyed in 1972 by highway realignment. The present structure is the second or third on a different site and is composed of old logs.

VAL 052. HISTORIC. "The Barns - the loveliest spot on the lake", is the local reference to "Telegraph Station Number Four", located on old Richardson Highway (formerly the Valdez Trail), near the present location of Tickel Cache, 1.7 miles northeast of the mouth of Squaw Creek and forty miles northeast of Valdez. The name was published in the 1903 "Alaska Prospector".

VAL 057. Ernestine House, located at Mile Sixty on the Richardson Highway (Mile 58 on the old trail), is near a former mining camp. The roadhouse could accommodate twenty-six people, but supposedly put up seventy-five people one night. It was reported in 1906 by travelers.

VAL 058. HISTORIC. Tacoma House was located at or near Kendall Cache Roadhouse at Mile 58 on the Richardson Highway (Mile 55 on the Old Trail). The former roadhouse was first reported in 1908 and abandoned before 1929.

VAL 059. HISTORIC. Teikhel Station, at Mile 57 of the Richardson Highway, was one of the early links in the telgraph line to Eagle that was completed in August, 1902.

VAL 054. HISTORIC. Midas Camp, a mining camp, was located one-half miles south of Solomon Gulch, seven miles south of Valdez. The camp was reported in 1911 by U.S.G.S.

VAL 036. HISTORIC. The reported location of Tanana Jack's village, this site is about five miles below Copper Center on the left bank of the Copper River.

VAL 037. HISTORIC. Reportedly the site where Chief Stickwan died in 1907, this site is located some two and one-half miles below Copper Center on the right bank of the Copper River.

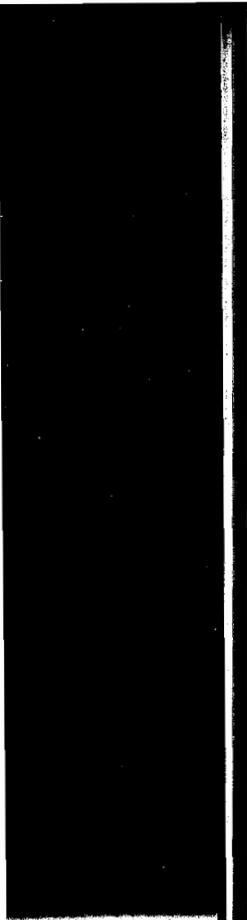
VAL 038. This is the reported site of the settlement, on the left bank of the Copper River about one-half mile below Klutink River, where Chief Andrew lived.

VAL 056. Copper Center Lodge. Perhaps the most popular on the Valdez Trail, the roadhouse Copper Center Lodge was probably built in the late 1890's by Reginald Blix, one of the original settlers of Copper Center. Although the roadhouse was destroyed in 1932, the present Copper Center Lodge is on the site.

VAL 043. Comfort Roadhouse. The former Comfort Roadhouse was located on the Valdez-Fairbanks Trail and was first reported by USGS in 1908. Located nine miles southeast of Valdez on Mile 10 of the old trail, it contained at least two two-storey log buildings with shingle roofs.

VAL 044. Ernestine. Ernestine, a former mining camp reported in 1909 by Moffit and Maddren, USGS. Located on the Richardson Highway, eight-tenths of one mile north of the Junction of Mosquito Creek and Ernestine Creek, 44 miles northeast of Valdez.

VAL 073. These two grave sites, unmarked, five and one-half feet long and two feet wide, are on the point of Tonsina River.



SEGMENT ELEVEN

DESCRIPTION

Segment Eleven is part of the Prime Route and extends from the Tiekel River to Keystone Canyon on the Lowe River.

ENVIRONMENTAL SETTING

This short segment begins in the central portion of The Chugach Mountains and successively ascends the Tsina River, passes through Thompson Pass and then descends to The Lowe River east of Port Valdez. Elevations range from about 3,000 feet to near sea level.

At the south end the segment junctures with Segment Twelve (route to Gravina Point) and Segment 28 (route to Jack Bay) which lead to alternative terminals in the eastern portion of Prince William Sound.

This segment is in the Maritime Climatic Zone. Annual mean temperature ranges from 35°F at the north end to 40°F at the south end near sea level. Mean annual precipitation, north to south is twenty inches to eighty inches.

This short segment in The Kenai-Chugach Mountains Physiographic Province has either a narrow strip of moraine deposits on either side of the stream valley or exposed bedrock (at Thompson Pass and Keystone Canyon). Past glaciation has been extensive and, nearby, existing glaciers and ice fields are numerous.

This area has extensive exposures of bedrock and gravelly to loamy soils occupy the narrow stream valleys. Areas with significant soil cover are mostly low-lying and are either subject to erosion or affected by permafrost.

The hydrology in this segment consists of short, relatively swift-flowing streams in narrow valleys. Precipitation is relatively high with winter snow pack being the most important surface water storage source.

This short segment, because of its different altitudes, includes several vegetation-type ecosystems: Alpine Tundra, Upland Spruce-Hardwood Forest, and Coastal Hemlock-Spruce Forest.

This segment includes important terrestrial and aquatic habitats. At higher elevations, mountain goats are the most important mammal. The ranges of moose, black and grizzly bear overlap from sea level to middle elevations in mountain valleys. All three of these species seasonally concentrate on streams, the bears for fishing and moose for foraging on aquatic vegetation.

All of the nearby coastal zone in Prince William Sound and The Gulf of Alaska and Copper River is an important waterfowl habitat, with the Copper River Valley being a major migration route. Many streams are very important salmon spawning areas and habitat for freshwater fish. Prince William Sound and vicinity is a very important fishery for both fin-fish and shell-fish.

A socio-economic description is inapplicable to this segment which is entirely in The Chugach Mountains.

Segment Eleven generally follows BLM Corridor Number 33 (Big Delta Valdez) from Tiekel thru the Chugach Range via Thompson Pass, and continues down the Lowe River to Valdez. The Corridor crosses no proposed-2 lands and no Native deficiency lands, but it does cross Tatitlek and Eyak lands withdrawn for Native selection. It also crosses the Chugach National Forest, State lands and d-1 lands. Part of the northern portion of the route is contained in the utility corridor.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

No known prehistoric sites have been reported from this region.

HISTORIC SUMMARY

The Alaska Heritage Resources Survey Index lists only seven historical sites within the corridor of this segment, but it is in a region where some of the earliest historical events pertaining to Alaska occurred.

The first of these was Captain James Cook's exploration of the Prince William Sound in 1778. Although the Spanish had been exploring this area starting in 1775, it was not until June of 1790 when the Spanish Explorer Don Valvador Fildago named Port Valdez after the famed Spanish naval officer Artonio Valdez y Basan. The Russians, under Ingenstrem, explored and surveyed the Prince William Sound from 1829 to 1832.

Ironically, it was copper instead of gold that started the tent town of Valdez, but from 1897 to 1899, during the Klondike Gold Rush, Valdez became a major stop-over for stampeders headed for the interior. In the winter of 1897, an estimated 10,000 miners wintered in Valdez before making their way northward over the Valdez Glacier to Copper Center. The Valdez-Fairbanks Trail again was the major route for these prospectors. Such places as Ptarmigan Drop Roadhouse, Wortmann's Roadhouse, and Wortmann's Camp became very popular, with Wortmann's Roadhouse boasting accommodations for one-hundred men.

One of the most famous historic activities during the latter decade was the development of the Copper River and Northwestern Railway in 1905. It was built to accommodate the famous copper mine which was later called the Kennicott Mine. The famous Keystone Canyon Railroad Tunnel in the Lowe River area is one result of this mining and railroad activity. After a major dispute between Valdez and Cordova concerning a terminal location, a terminal was built at Cordova which connected the lines to the copper mines at Chitina and McCarthy.

HISTORIC EVALUATION

In order to preserve all recorded and unrecorded historical sites in this corridor, extensive field surveys must be conducted prior to and during all phases of development in this segment.

HISTORIC TRAILS

VALDEZ (quad. #68)

Trail 17, Stuart Creek Trail(?)

Main Route intersects Trail 17 at 61°16'N, 145°19'W.

Trail 10, Tsina River Trail

Main Route intersects Trail 10 at Teina River 61°11'N, 145°38'W.

Trail 19, Wortmann's Old Road

Main Route intersects Trail 19, Wortmann's Old Road, at 60°06'N, 145°50'W.

Trail 22, (Unnammed)

Main Route intersects Trail 22 just South of Keystone Canyon, 61°04'N, 145°50'W.

HISTORIC AND ARCHAEOLOGICAL LOCALES

VAL 060. HISTORIC. Ptarmigan Drop Roadhouse, located at Mile 33 on the Richardson Highway (Mile 31 on the old trail) was first reported by a traveller in 1906 and verified by U.S.G.S. in 1909. This roadhouse is halfway between Summit and Beaver Dam Roadhouses.

VAL 064. HISTORIC. The Russian Orthodox Church, St. Nicholas Church, which was on this site, was destroyed by the Good Friday earthquake in 1964.

VAL 049. HISTORIC. Wortmann's Camp was established in 1898 at what is now Mile 25 of Richardson Highway. It was a way station on the old Valdez Trail and is reputed to be the site of a former mining camp.

VAL 061. HISTORIC. Wortmann's Roadhouse was first reported in 1906 as being located at Mile 20 on the old Valdez-Fairbanks Trail, presently Mile 19 on the Richardson Highway. The roadhouse was part of a small community including a telegraph station, post office, bar, general store and jewelry store. It was known for its spring beds and accommodations for 100 men and 100 horses.

VAL 045. HISTORIC. Eureka Roadhouse. This roadhouse is on mile thirty of the old trail; it was first reported in 1909 by U.S.G.S.

VAL 048. HISTORIC. Keystone Canyon Railroad Tunnel. This is a twentieth-century structure.

SEGMENT TWELVE

DESCRIPTION

Segment Twelve extends from Keystone Canyon near the Lowe River to Gravina Point Terminal.

ENVIRONMENTAL SETTING

This short segment follows a tortuous route over a narrow arm of The Chugach Mountains, then crosses the Gravina Point Peninsula and terminates on the south shore of the peninsula on Orca Bay.

This segment in the vicinity of Prince William Sound and adjacent to The Gulf of Alaska has a Maritime Zone Climate typical of coastal mountain areas of northern latitudes. Mean annual precipitation is about 160 inches and mean annual temperature ranges from 35° to 40°F, depending on local elevations.

The Kenai-Chugach Mountains physiographic province in this area has been extensively glaciated and numerous ice fields still exist near the segment. Surficial geologic deposits are either moraines or exposed bedrock in the mountains, or beach deposits around Prince William Sound.

This region is affected by occasional damaging earthquakes and frequent tremors.

This segment has gravelly to loamy soils along beaches and in major stream valleys which are the result of recent glacial activity in the nearby mountains. Steeper slopes on hills and mountains around the eastern portion of Prince William Sound have either thin coarse soil cover with a thin organic mat or exposed bedrock.

The hydrology in this segment consists of short relatively swift-flowing streams in narrow valleys. Precipitation is relatively high with winter snow pack being the most important surface water storage source.

This segment is in Coastal Hemlock-Spruce Forest but passes near areas of Alpine Tundra on nearby mountain slopes.

The area contains important terrestrial and aquatic habitats. At higher elevations, mountain goat is the most important mammal. Moose, black and brown bear ranges overlap from sea level to mid elevations in mountain valleys. All three of these species seasonally concentrate on streams, the bears for fishing and moose for foraging on aquatic vegetation. Several coastal bays and major deltas have high concentrations of harbor seal and sea otter. Deer range in mountains up to the terminal point of glaciers. No Dall sheep or caribou are found here.

The nearby coastal zone in Prince William Sound and The Gulf of Alaska and Copper River is important waterfowl habitat, with The Copper River Valley being a major migration route. Many streams are very important salmon spawning areas and habitat for freshwater fish. Prince William Sound and vicinity is a very important fishery for both fin-fish and shell-fish.

This segment has no apparent measurable population.

Segment Twelve generally corresponds to a spur off BLM Corridor Number 33 (Big Delta--Valdez). The spur leaves the Lowe River area and proceeds southeast to Port Gravina. It crosses no proposed d-2 lands on Native deficiency lands. It crosses Eyak, withdrawn for Native selection, and the Chugach National Forest, State lands and d-1 lands. No portion of the route is contained in the utility corridor.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

No sites positively identified as pre-historic have been reported from this area, but Cugatch folklore, random surface finds, and the presence of recent Chugach villages in the region strongly suggest that evidence of an earlier occupation may exist.

HISTORIC SUMMARY

The history of Segment Twelve is varied - from the explorations of Vitus Bering and the members of the Imperial Russian Expeditions in 1741 to the influx of many ethnic groups who came to Alaska via the port of Valdez to join the gold stampede of the 1890's and 1900's.

The Russians, British, Spanish, and French all made explorations of the Gulf of Alaska, each documenting specific landmarks such as Prince William Sound, Valdez Arm, Port Fidalgo, Port Gravina, Orca Bay, and Hawkin Island. Survey was incidental because they were either in search of furs, the Great Inland Passage, lands to claim for their mother country, or trade posts.

Most of the historic sites east of the Spanish-named ports of Valdez and Gravina are mining sites. Within the southern portion of the segment, Indian villages, mining camps, and burial grounds are the main points of consideration.

HISTORIC EVALUATION

Historic influences of this area stem from gold rush activities centered in Valdez and the Lowe River Canyon. Although the National Register of Historic Places does not list any sites for nomination or consideration, Segment Twelve does cross areas settled by the Chugach Natives and Eyak Indians.

HISTORIC TRAILS

No trails are crossed by Segment Twelve.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #44

COR 060. ARCHAEOLOGICAL. Uyumeqtuli. This site, on the beach northeast of the point opposite Anderson Island, is reported to be site of a village in Chugach mythology. Loggers in 1930 reported they also had been told this was an old site. De Laguna failed to discover any traces of former occupation here.

COR 061. ARCHAEOLOGICAL. Atiat. Meaning "Underneath", this site is located on a small lagoon on the west side of the mouth of Olsen Bay. It is reported to be the main village of the Port Gravina people. De Laguna visited here but found only a few fire-cracked rocks under the turf.

COR 058. ARCHAEOLOGICAL. Uocilco. This is a reported village opposite Anderson Island on the northwest shore of Ohe Bay. De Laguna was unable to find the village, and it may have been washed away. She did find two splitting adzes and a green chert chisel on the gravel bar in front of the site.

COR 059. ARCHAEOLOGICAL. At this site J. B. Harris of the U. S. Bureau of Fisheries is reported to have found a stone dish or lamp. De Laguna searched and found nothing.

COR 063. ARCHAEOLOGICAL. Kayaklik. "Kayak Place", east of the mouth of Olsen Bay, on a six foot gravel bank above a 1/4 mile long beach, is a midden site two feet deep, not much decomposed, with rich black soil heavily overgrown with bushes. Some artifacts were found at this site, assessed to be not very old.

COR 062. ARCHAEOLOGICAL. A reported mummy burial, this site is on the west side of the small island called Nua in Olsons Bay. De Laguna visited this spot with an informant and did not find anything. It was suggested that perhaps the Zaticlek natives had taken the body to their village for Christian burial, as they had been urged to do.

HAL #44

COR 066. ARCHAEOLOGICAL AND HISTORIC. Tatitlek. This native village north of Port Fidalgo for which the Tatitlek people are named, was established in 1933, is one of the few native settlements left in the Sound. An informant reported that it was formerly called "Mam-Toq" or "Smokehouse".

COR 097. ARCHAEOLOGICAL AND HISTORIC. Tititlek. This Indian village was first noted by Petrov in 1880 Census. Once reported to have been located at the head of Gladhaugh Bay, Tititlek was shown as an eight block abandoned area by the 1933 U.S.G.S. map.

COR 090. ARCHAEOLOGICAL AND HISTORIC. Parshas. This is a small Indian settlement on the North Shore of Port Gravina, first reported by the U.S.G.S. in 1908.

DESCRIPTION

Segment Thirteen, an alternate route, extends from West Fork (65°26'N, 148°45'W) to Hurricane (62°58'40"N, 149°38'20"), an abandoned community which is Mile Post 280 of the Alaska Railroad.

ENVIRONMENTAL SETTING

This segment leaves the Prime Route near the former staging center of West Fork north of Fairbanks and goes southwest of Fairbanks where the segment enters the Alaska Railroad corridor and continues in the corridor to a juncture with Segments Fourteen and Seventeen near Hurricane. This segment is the first portion of alternate routes leading to the Cook Inlet Region.

This segment has a predominantly Continental climate with temperature increasing southward from 25° to 30°F and precipitation from sixteen to twenty-five inches. Snowfall is much higher in surrounding mountains than in The Nenana River Valley followed by this segment.

This segment crosses successively the Yukon-Tanana Upland, Tanana-Yukon Lowland, Alaska Range and Talkeetna Mountains physiographic provinces. This segment has some moraine and glacial lake deposits at the north end but has predominantly alluvial deposits because it follows the terraces and flood plains of the Nenana River. A few miles north of Cantwell in the Alaska Range this segment crosses the Denali Fault.

The Nenana River, which flows north from the Alaska Range to the Tanana, is the major hydrologic feature of this segment. The major portion of the segment is in the Tanana Hydrologic Subregion. From Summit southward, the drainage is to The Susitna River in the Cook Inlet Hydrologic Subregion. Drainage is well developed in the more mountainous areas but is poor adjacent to the Tazlina River at the north end in the vicinity of West Fork. The lowlands at the north end have isolated masses of permafrost and the area of the Upper Nenana River has discontinuous permafrost.

Surface waters are generally potable throughout and a few places with ground water supplies are found in the lowlands having thicker unconsolidated sediment deposits.

Soils are of finer texture and are more poorly drained in the lowlands, with thick organic mat and isolated masses of ice-rich permafrost. Valleys at higher elevations southward have gravelly to loamy soils developed in mixed alluvium and glacial outwash. A significant percentage of soils along this segment is suitable for site development and have only moderate limitations for most uses.

In this segment from north to south the approximate vegetation types and boundaries are: (1) High Brush from West Fork to Berg; (2) Bottomland Spruce-Poplar Forest from Berg to Ferry; (3) Upland Spruce-Hardwood Forest from Ferry to Hurricane. In the mountains the nearby steep slopes have Alpine Tundra.

The area around Nenana has high-density waterfowl habitat and the corridor of this segment is a major migration route over the Alaska Range from Cook Inlet to interior and north Alaska.

The Tanana and Nenana Rivers north of the Alaska Range at lower altitudes are important salmon spawning areas. An abundance of several species of freshwater fish and nearness to population centers make this corridor a popular sports fishing and recreational area.

Grizzly and black bear and moose are found throughout the corridor with the former two animals concentrated along streams.

A large proportion of this segment follows the major transportation corridor serving interior Alaska. The principal populated places along the segment are the communities of: Nenana, Healy, Cantwell, and Summit. The two communities of: Nenana, 1970 population 362, and Cantwell, 1970 population 62, are subject to land withdrawals under The Alaska Native Land Claims Settlement Act.

People in all these places live to some degree by subsistence but not to the extent as in more remote places which lack the transportation facilities this corridor has. Tourism and travelers' services are available.

Segment Thirteen generally follows BLM Corridor No. 29 (Railbelt and Power Grid) on the southern half of its route from Fairbanks to Willow and the Upper Susitna River along the existing Alaska Railroad. No pre-d-2 lands or Native deficiency lands are crossed. Lands crossed include Cantwell and Nenana (lands withdrawn for Native Selection), state lands and d-1 lands.

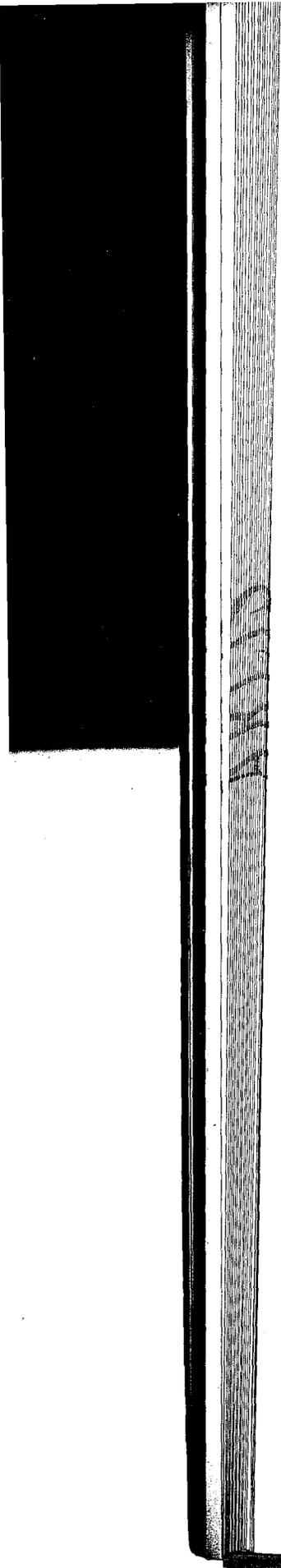
ARCHAEOLOGICAL SUMMARY AND EVALUATION

Although the number of prehistoric sites in this area is reported small (nine), the discovery of microblades, (HEA 008 and 005), large wood blades and lanceolate points (NEA 118, 006, 007) indicates that survey along the pipe alignment should be thorough. Artifacts of this description are typical of other early archaeological sites in Alaska, including the nearby Healy Lake site which produced a radiocarbon date of 11,072 ± 17 (McGhee 1971)



NENANA

On July 15, 1923, President Warren Harding drove the golden spike at the north end of the 700 foot steel bridge over the Tanana River, marking the completion of the Alaska Railroad here. Eighteen days later the president died at San Francisco. The Nenana Ice Classic, a lottery begun in 1917, is the most popular in Alaska. The winner guessing the nearest day, hour and minute of the "breakup" can win as much as \$125,000. Photo is mid-1920's.



HISTORIC SUMMARY

The northern portion of this segment was for many years a staging point for freight and people engaged in the gold rush activities of the early twentieth century. The entire corridor is dominated by the Alaska Railroad corridor between Fairbanks and Anchorage along which homesteaders established themselves and where small communities grew. The major land link between the two largest Alaskan communities is reflected in the demography and land use of the segment. The Dry Creek Archaeological Site at Lignite is on the National Register of Historic Places. Lignite is located along the railroad just north of Mount McKinley National Park.

HISTORIC EVALUATION

The segment is dominated by the presence of Mount McKinley National Park and by traditional recreational land uses along the railroad and along the highway. Although only one site is on the National Register, many are included in the Alaska Heritage Resource Survey and many additional sites could be eligible for inclusion in preservation lists. It is possible that the new State Capital, recently approved by voters of Alaska, could be located along this segment. A State Commission had been established to recommend sites between Fairbanks and Anchorage.

HISTORIC TRAILS

No trails are crossed by Segment Thirteen.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #64

FAI 008. HISTORIC. Dunbar. This is a railroad station located on mile 431.6 of the Alaska Railroad, 33 miles southwest of Fairbanks. Originally called "Goldstream", it was listed in the 1922 timetable as "Dunbar".

FAI 013. HISTORIC. California. This is a station on the Alaska Railroad, located five miles west of Standard and thirty miles west of Fairbanks.

FAI 016. HISTORIC. Berg. Shown on a 1922 Alaska Railroad timetable as a station, the name has been subsequently reapplied to a town six miles to the southwest.

FAI 010. HISTORIC. Clear. Located on mile 392.9 on the Alaska Railroad, Clear was established in 1918 as a railroad station.

FAI 031. HISTORIC. Saint Mark's Mission. This is an early Episcopal mission to the Alaska natives founded by Rev. Charles Betticher in 1907. This one-storey chinked log church was built on log sills and is approximately 616 square feet, with pews, an altar, and wrought iron candle chandelier. The mission and boarding school served as a nucleus around which the town of Nenana grew. The boarding school closed in 1955 when the mission was moved one mile downriver.

HAL #66

HEA 006. ARCHAEOLOGICAL. Otto Lake Number Six. This site, on a gravel road one-half mile west of Otto Lake on the southern end of the moraine, is a surface cluster of artifacts in a one hundred square foot area. Two types of projectile points (large worked blades) were recovered.

HEA 008. ARCHAEOLOGICAL. Healy Number Eight. This dry creek bed one and one-half miles west of the highway on the north side of a gravel road. There is a disturbed surface of a small hill with a few flakes. Microblades and large biface tools are present in this area, untested at the time of report. There is danger to the site due to its closeness to a road hill used for gravel.

HEA 010. ARCHAEOLOGICAL. Healy Number Ten. This site is six-tenths of a mile southeast of Otto Lake west of the highway. There is a small surface concentration of numerous scrapers and retouched flakes on the end of the moraine. The prehistoric site is assessed to be of little importance; probably most, if not all, of the materials there have been collected.

HEA 011. ARCHAEOLOGICAL. Camp David. This prehistoric site has yielded surface material, including lameolate point, chips, and retouched flakes.

HEA 005. ARCHAEOLOGICAL. Dry Creek Terrace. This site, two-tenths of a mile west of the highway on the North side of Dry Creek, shows microblade technology. It's a stratified site with at least two cultural horizons, one deep enough, 130 centimeters, to possibly be very early. The site is exposed on the face of a high river terrace, with an unknown extent (thought to be large). The site is vulnerable to highway travelers, and the terrace is eroding.

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HEA 007. ARCHAEOLOGICAL. Healy Number Seven. This dry creek bed, one-tenth of a mile west of the highway, is a surface collection site from a partially disturbed surface on the north end of a ridge. One large bi-pointed knife or projectile was found. Close proximity to the highway endangers the site.

HEA 009. ARCHAEOLOGICAL. Healy Number Nine. This dry creek bed, two miles west of the highway on the north side of a gravel road, is a surface disturbed by the hill being used for gravel for road maintenance. One end scraper was found in this insignificant site already disturbed.

HEAR2. ARCHAEOLOGICAL. Nenana Coal Fields. One plano convex scraper was found on the ridge between Lignitz and Marguerite Creeks. (Skarland 1948)

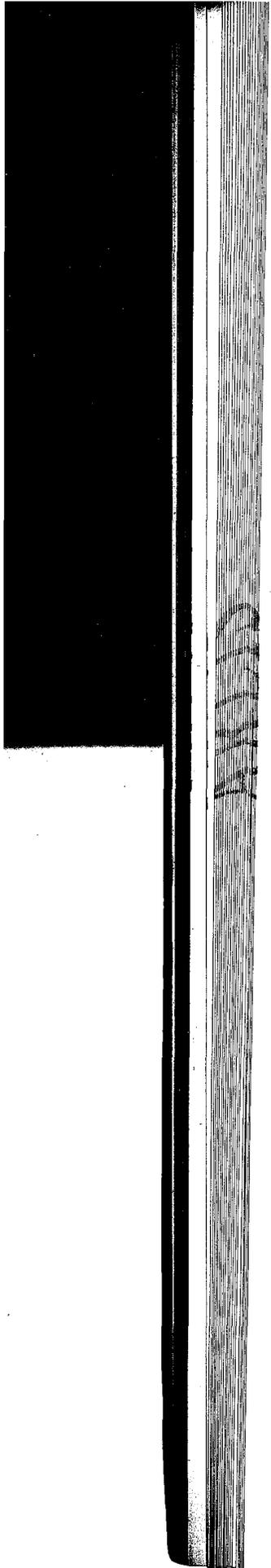
HEAR3. ARCHAEOLOGICAL. Nenana Coal Fields. One semilunar blade and flakes were found in a lake west of Healy Lake. (Skarland 1948)

HAL #67

HEA 004. HISTORICAL. Mount McKinley National Park. This 1,939,493 acre national park was established as a result of effort by Charles Sheldon and other members of the Boone and Crockett Club from 1906-1917. The park includes Mt. McKinley, the highest peak on the North American continent.

HEA 001. HISTORICAL. U. S. Bureau of Mines Safety Car Number Five. One of eleven special cars made for the U.S. Bureau of Mines in the 1920's and later shipped to Alaska from Kentucky, this car was used to disseminate safety information and aid at mine disasters in coal mining areas of Jonesville, Eska, and Suntrana. It became obsolete as open pits replaced tunnels. It is now maintained in Suntrana.

HEA 002. HISTORICAL. Cantwell. The village of Cantwell, located on mile 319.5 of the Alaska Railroad began as a flagstop on that railroad as reported on its 1922 timetable. It was named for the Cantwell River, the former name of the Nenana River.



SEGMENT FOURTEEN

DESCRIPTION

Segment Fourteen, an alternate route, extends from Hurricane (62°58'40"N, 149°38'20"W) which is Mile Post 280 on the Alaska Railroad to the Beluga River (61°12'N, 150°56'W).

ENVIRONMENTAL SETTING

This segment begins at Hurricane on the Alaska Railroad north of Chulitna and from here generally parallels the Anchorage-Fairbanks Highway and Chulitna River to the juncture of the Chulitna and Susitna Rivers, crossing from the left to right bank of the Chulitna near Blair Lake. From a point about five miles west of Talkeetna, the route parallels the west bank of the Susitna River to South of Mount Susitna and progresses southwestwardly to a juncture with segments Fifteen and Sixteen at the Beluga River north of Tyonek.

Talkeetna and Tyonek are the major population centers near this segment.

Elevations along the segment range from about 1,100 feet at Hurricane to 300 feet above sea level at Beluga River, and the terrain ranges from fairly steep to gently sloping.

Talkeetna, east of the midway point of this segment, has an average annual precipitation of twenty-eight inches. Precipitation decreases southward and increases northward from Talkeetna. Average annual temperature for the segment is about 30°F.

This segment is confined to the Cook Inlet - Susitna Lowlands physiographic province. Surficial geological deposits are either alluvial or of glacial origin. Glacial materials consist of moraines, drift, and glacial lake deposits. A major geological fault crosses the corridor just south of Mount Susitna. Both earthquakes and volcanic activity are associated with this fault system.

The Chulitna, Susitna and Yentna Rivers are major streams, draining this region from the Alaska Range and Talkeetna Mountains to Cook Inlet. Streams are generally swift at headwaters and braided and more sluggish as they approach the coast. Surface and sub-surface water supplies are abundant and of good quality. This segment is in the Cook Inlet Hydrolog Sub-region.

From north to south this segment crosses successively three vegetation-type ecosystems: (1) Upland Spruce-Hardwood Forest (2) Bottom Spruce-Poplar Forest, and (3) Coastal Western Hemlock-Spruce Forest.

Black bear, brown bear and moose inhabit the entire length of the segment with black bears having areas of most intensive concentration along the lower Susitna River. Dall sheep and mountain goats occur at high elevations bordering the segment in its northern half, but they are not significantly close to the pipeline alignment.

The Susitna and Yentna River drainages are important salmon spawning areas, as are many smaller streams draining directly into Cook Inlet. Many streams in this region are also important for fresh water sport fishing. The lower Susitna River valley is a high-density waterfowl habitat and the valley is an important route for waterfowl migrating over the Alaska range.

Talkeetna, with a 1970 population of 182, is the most densely populated place near the segment. Smaller populated places are to the east along the highway or the Alaska Railroad.

Alternate Segment Fourteen follows BLM Corridor Number Thirty (Upper Cook Inlet) from east of Susitna to the Beluga River. The corridor crosses state lands and Alexander, withdrawn for Native Selection. No proposed d-2 or Native deficiency lands are crossed.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

There are no reported prehistoric archaeological sites in this segment. TYO 011 and TYO 012 appear to be Tanana Indian fish camps of undetermined age, but the presence of organic remains suggest the camps are recent. The possibility of further discoveries of this type seems likely. Careful survey is advised because historic Tanana sites are of potential value in ethnohistorical and ethnoarchaeological studies of the region.

HOUSING ALONG THE SUSITNA RIVER



LOG CABIN

Talkeetna Indian Chief Nikoli and his family pose with their pets on unfinished sod roof of a new log cabin in early 1900's.



HOMESTEAD

This 1916 photograph of the Ellexson homestead (Susitna) has the gothic cleanliness that could easily be found in many other American areas.

AK119

HISTORIC SUMMARY

The factors of primary influence contained in Segment Fourteen are the settlements associated with the Alaska Railroad and its various wayside stations. Other factors having a lasting effect are those Native villages which have had contact with the Russian Orthodox culture.

HISTORIC EVALUATION

The Russian influence, particularly that of the Russian Orthodox Church, was so strong among the Natives of the Cook Inlet area that there is a strong likelihood that some religious sites along Segment Fourteen from Susitna to Hurricane could be of historic value.

HISTORIC TRAILS

No historic trails are crossed by Segment Fourteen.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #75

TYO 010. HISTORIC. At the mouth of Eight Mile Creek are what appear to be housepits which were disturbed by construction and largely destroyed in the 1940's. This was probably a Tanana settlement dating back to the proto-historic/historic era. Small pits are also reported for the Ikwentna area.

TYO 008. HISTORIC. Located at Susitna, on the left bank of and twenty miles from the mouth of the Susitna River, is the site of a former Russian Orthodox Church.

TYO 012. ARCHAEOLOGICAL. Located on the east bank and approximately six and one-half miles above the mouth of Kroto Creek are about two-hundred pits along one-half mile of ridge, most measuring three to six meters square in size. Some are larger, measuring twelve meters in size and one and one-half meters in depth. These were probably Tanaina Indian fish caches.

TYO 011. ARCHAEOLOGICAL. There are, one and one-half miles from the mouth and on the east bank of Fish Lake Creek, ten to fifteen pits situated on a low terrace ridge. They range in size from one to four meters square and one meter in depth. Cracked rock, bone and bark were recovered. This was probably a Tanaina Indian salmon fishing camp. If a proposed cabin is built, it will be in the center of the site.

TYO 009. HISTORIC. Located on and about 3.5 miles above the mouth of Kroto Creek, is a site with three house pits, varying in condition from distinct to indistinct. These are rectangular in shape with small rooms attached, measuring approximately 42 meters square. They are up to one meter deep. They are probably post-contact Tanaina. A tradesman was recovered from the housepit in the best condition. There is danger of stream erosion.

TYO 001. HISTORIC. Kroto. The village of Kroto is the site of former Tanaina Indian village reported by the U.S.G.S. in 1900. Located along a bluff at the mouth of Kroto Creek where it empties into the Susitna River, the site has several cache pits and large amounts of fire-cracked rock eroding from the bank. Further upstream are the remains of three old cabins with pits nearby. The site shows some disturbance from construction and erosion.

HAL #76

TYO 013. HISTORIC. The site of Alexander is at the mouth of Alexander Creek, on both sides of the stream. On the left bank there are pits and a house depression with bone, glass, nails, and trade beads. There is also a graveyard, where one wooden cross of the Russian Orthodox type remains. Several artifacts are reported from this Tanaina Indian site which dates back to late-contact period. There is some erosion due to the river and private buildings.

SEGMENT FIFTEEN

DESCRIPTION

Segment Fifteen begins at the Beluga River on the west shore of Cook Inlet and extends to Drift River, and could go on to Snug Harbor.

ENVIRONMENTAL SETTING

This segment begins at Beluga River and ends in the vicinity of Drift River, but could go to the area of Snug Harbor. Except for the village of Tyonek, the segment corridor is very lightly populated. Elevations along this mostly gently sloping area vary from sea level to about 600 feet. The alignment would generally parallel the shore of Cook Inlet.

Average annual temperature ranges from 32°F at Tyonek to 30°F at Snug Harbor. Annual precipitation progresses from 22 to 40 inches respectively from Tyonek to Snug Harbor. Snug Harbor has greater maritime climatic zone influences.

Except for areas of bedrock of the Alaska Range near the coast between Kalgin Island and Tuxedni Bay, surficial geology consists of coastal deposits and various deposits of glacial origin, including pro-glacial lake deposits, moraines, drift, and recent alluvium derived from glacial materials. Little bedrock is exposed in this segment. Earth tremors are fairly frequent and a few epicenters of earthquakes of magnitude as high as 8.0 on the Richter Scale have been recorded in and around Cook Inlet.

Areas of well-drained acid silt loams occur from Beluga River to near Kalgin Island. Some soils in this area may be suitable for agriculture. Southwest of Kalgin Island, sandy and silty soils containing volcanic ash occur mixed with areas of peat. These soils are less suitable for agriculture.

This segment would cross many small and medium sized streams draining the Alaska Range direct to Cook Inlet. The entire segment is in the Cook Inlet Hydrologic Sub-region. Surface and ground water supplies are abundant and of good quality.

Vegetation types in the segment are Coastal Hemlock-Spruce Forest, High Brush and Wet Tundra. In addition to these terrestrial ecosystems, the tide-mixed ecosystem of Cook Inlet is a dominant feature of the region.

Streams along this corridor are the habitat for several species of fresh water fish and the spawning grounds of anadromous species. Streams and Cook Inlet are sources of commercial catches as well as sport and subsistence fishing. Sea mammals present are whales and harbor seals, the latter occurring in high concentrations in Tuxedni Bay. Brown and black bear and moose range over the whole length of the segment with brown bear being concentrated in the Beluga River drainage area. Several species of waterfowl are abundant and nest in lowland areas along the corridor.

Tyonek, with a 1970 population of 232 (95% of which was Native) is the only significant population center along this segment. The economic base of Tyonek is principally fishing and petroleum products with significant employment also in government services. Tyonek is eligible for village land withdrawal under the Alaska Native Land Claims Settlement Act. Land selection litigation between the Native and the Department of the Interior exists.

This segment generally follows BLM Corridor Number 30, and would connect with the proposed corridor across Cook Inlet where an existing underwater gas and oil pipeline extends from the Tyonek area across Cook Inlet to the Nikiski dock area near Kenai. The segment could go further south to other potential anchorage coastal areas.

There are oil and gas pipelines already along this proposed segment. The segment could extend into d-2 withdrawal areas or into the proposed d-2 Lake Clark area of Ecological Concern, identified by the Alaska Planning Group of the Department of the Interior and by the National Park Service. This area also could be a Native regional withdrawal area since the route crosses lands identified for withdrawal near the villages of Knik, Alexander, Tyonek, Kenai, Kasilof, Ninilchik and Salamatof.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

There are no prehistoric sites reported for this segment, but presence of historic Tanana Indian campsites such as KEN 034 indicate earlier materials may be uncovered during the course of a survey.

HISTORIC SUMMARY

This area has traditionally been used by Natives who still live in the area. Few post-1741 sites have been recorded here other than of continual Native land use.

HISTORIC EVALUATION

Despite its proximity to the central population center of Alaska, this area will probably contain far more Indian historical sites than post-1741 white man evidence, with some exceptions for coastal areas. Traditional and historic land uses on both sides of Cook Inlet are the subject of litigation between Natives and the Department of the Interior and the issue currently seems headed for the Circuit Court of Appeals.

HISTORIC TRAILS

No historic trails are crossed by Segment Fifteen.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #82

KEN 034. HISTORIC. Kustatan. This Tanana Indian summer village or camp was located on southwest coast of West Foreland, twenty miles north west of Kenai. Recorded in 1880 census by Petroff.

ALLO

SEGMENT SIXTEEN

DESCRIPTION

Segment Sixteen extends from an undefined point on the west side of Cook Inlet, possibly Kustatan, across Cook Inlet to the east side of Cook Inlet, and to near Anchor Point on the Kenai Peninsula. This option was poorly defined by El Paso and could have several alternate alignments.

ENVIRONMENTAL SETTING

This segment is an option of the West Susitna River Alternate with a terminus at or near Anchor Point on the Kenai Peninsula. From the Beluga River the segment would approach and cross Cook Inlet southeastwardly to a landfall near East Foreland on the northwest side of Kenai Peninsula. Alignments on Kenai might be partially common to those of Segment Eighteen (Kachemak Bay Alternate). The principal environmental parameters are marine/aquatic.

In this Transitional Climatic Zone, mean annual precipitation ranges from about twenty inches at Tyonek to thirty inches at Anchor Point. The mean annual temperature is about 30°F at Tyonek and 35°F at Anchor Point. The upper portions of Cook Inlet are not completely ice-free.

Surficial geologic deposits consist of coastal deposits (beaches, bars and spits) and glacial deposits north of Cook Inlet and glacial and fluvial deposits on the Kenai Peninsula. Exposed bedrock is rare in this segment. Earth tremors are frequent and some earthquakes with magnitude up to 8.0 on the Richter scale have been recorded in this area.

At least fifty percent of upland soils on the east side of Cook Inlet is now suitable for farming and also near Tyonek on the mainland. Soils in this segment are generally free of permafrost.

This segment contains many small and medium sized streams draining on both sides of Cook Inlet from the Alaska range and the Kenai Mountains. Surface and sub-surface water supplies are abundant and of good quality. Many streams provide excellent habitat for several species of freshwater fish and spawning areas for anadromous fish.

Except for a few areas of Low Brush and Barren Coastal Sand Areas, the segment is forested with Coastal Western Hemlock-Spruce north of Cook Inlet and Lowland Spruce-Hardwood Forest on Kenai Peninsula. The dominant aquatic system is the Tide-Mixed Estuary System of Cook Inlet.

Salmon spawn in numerous streams on both sides of Cook Inlet and these streams are also habitat for many species of freshwater fish. Many species of waterfowl, seabirds and raptors live or nest in and around Cook Inlet. Cook Inlet itself is a major migration route for waterfowl. Harbor seals are relatively abundant at several points on the shores of Cook Inlet. Brown and black bear and moose are relatively abundant on both sides of Cook Inlet and seasonally have overlapping concentrations on fishing streams.

Major inhabited places along this segment are Tyonek, Kenai, Ninilchik, Seldovia, Kalifornsky and Anchor Point. Kenai is the largest city with a 1970 population of 3,533 and a considerable business and industrial base and federal government installations. Most major populated places on the peninsula are served by the Sterling Highway and all are accessible by air and water. Tyonek has only local oil company roads and aviation facilities. Major employment on both sides of Cook Inlet is in fishing, petroleum, transportation and government services. Tyonek, Seldovia, Kasilof and Ninilchik are native places subject to land withdrawals under the Alaska Natives Land Claims Settlement Act.

Alternate Segment Sixteen extends along the southern part of the BLM Corridor Number Twelve (Homer Power Grid) from the Soldatna area south along the Sterling area to Homer. The corridor crosses no known or officially designated Native deficiency lands but there is currently litigation over land selection. Cities crossed include: Kenai, Kasilof, and Ninilchik (lands withdrawn for Native selection.) Lands traversed include the Chugach National Forest, the Kenai National Moose Range, and State lands.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

The six known prehistoric sites in this segment are all reported to be of unknown cultural affiliation, but it seems likely that they related to the more recent Eskimo and Indian population of the area. It is expected that ground survey work will help to explicate the chronological and cultural position of these materials.

HISTORIC SUMMARY

The entire area is rich in Russian heritage where Orthodox churches and former military structures were located. Early exploration into the area has left significant examples of eighteenth century culture. The Church of the Assumption of the Virgin Mary at Kenai is on the National Register of Historic Places.

HISTORIC EVALUATION

There are several sites and areas along the entire route on the east side of Cook Inlet which could qualify for inclusion on the National Register of Historic Places. Both Native and European sites have been documented to be several centuries old and local historical interest is shown by area residents.

HISTORIC TRAILS

KENAI (quad. #62)

Trail 5, unnamed trail.

Trail 16, unnamed trail, just east of mouth of Kasilof River.

Trail 17, unnamed trail, from Kalifonsky Beach, ends in swamp.

Trail 12, unnamed trail, begins south of military reservation and runs southeast along Beaver Loope Road for a short distance.

Trail 10, #2 A.R.C. Trail, begins south of Kenai spur, T.6N, R.11W., and runs in an easterly direction parallel with Kenai spur road and ends in T.5N, R.10W.

Trail 14, unnamed, runs along Salamotof Beach.

Trail 13, unnamed, from Nikishka No. 1 to Bernice Lake and returns.

Trail 1, unnamed trail, begins east of Sterling Highway southeast of town of Ninilchik and runs in a southeasterly direction following the south bank of the Ninilchik River for about 2.5 miles and ends just beyond a bend in the river. Possible intersection in and southwest of Ninilchik.

Trail 3, unnamed trail, begins south of a junction of Coho Road and Webb Road and connects both roads together. Possible intersection.

Trail 4, unnamed trail, begins at unimproved dirt road east of Sterling Highway and runs southeast, passing east of Johnson Lake and ending south of Silver Salmon Rapids. Possible intersection between Silver Salmon Rapids.

SELDOVIA (quad. #50)

Trail 18, unnamed trail; lies southeast of Happy Valley in the marsh just north of Staviski Creek. Possible intersection east of Happy Valley, east shore of Cook Inlet.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #76

TYO 005. HISTORIC. Tyonek. Although Tyonek is the site of a modern Indian village, it is also the site of an historic fur-purchasing post and Indian village. Location is on the northwest shore of Cook Inlet.

TYO 007. HISTORIC. St. Nicholas Church. This site is a Russian Orthodox Church building founded in 1891 at Tyonek.

TYO 002. HISTORIC. Ladd. A former trading post and fishing station on the northwest shore of Cook Inlet at the mouth of the Chuitna River, this native settlement is on or near the site of an Indian village called Chuitna. It has been called Ladd since 1895, after the operator of the trading post.

HAL #78

TYO 015. HISTORIC. A site representing a small native village is located on the west side of Point Possession on the Kenai Peninsula. A U.S.G.S. 1958 map indicated several buildings and in 1964 the U.S.C. and G.S. reported this village to be occupied during the summer only. The Russians also noted the settlement in a 1852 map.

HAL #82

KEN 007. ARCHAEOLOGICAL. Kenai #7. An excavated site on the property of a Mr. Coyle, located just off Beaver Loop Road, approximately seven miles east of Kenai. Site consists of three house depressions in a field and two more in the woods. House Number 1, excavated because it showed the least damage, yielded artifacts that ranged in age from late pre-historic to early historic.

KEN 030. ARCHAEOLOGICAL. Kasilof Aboriginal Village. Presently an agricultural settlement of Kenai Indians located on the eastern shore of Cook Inlet. Originally, the Russian Kolomin of the Lebedef-Lastochka Company built two log houses surrounded by a stockade, around which an Indian village grew. Its population in 1881 was 31. In 1937 a village thought to be Eskimo, was unearthed.

KEN 033. HISTORIC. Kenai. Kenai was originally a fortified Russian post called "Fort St. Nicholas," built in 1791, and is located at the mouth of the Kenai River on the east shore of Cook Inlet. Later, in 1869, a U.S. military post was established here and it was renamed "Kenai" after the local Indians.

KEN 038. HISTORIC. Victor Holm Cabin. This 201.5 square foot hewed log cabin with dovetailed corners was built circa 1890. This cabin is significant because it demonstrates the method of construction of cabins in this area before the Alaska Gold Rush. Its contents show how local materials were used for clothing, tools and furniture. The cabin is in good condition and still habitable, even though it is the oldest cabin on the west side of Kasilof River. It contains numerous handmade tools and articles of furniture but is in danger of demolition from future real estate development or road right of way.

KEN 039. HISTORIC. Saint George. This site is at the mouth of Kasilof River, Kenai Peninsula. It contains house pits, two apparent remnants of muskets, heavy pottery and "peculiar pieces of iron" and was found when the field was worked. It is probably fur purchasing post dating to 1787.

KEN 025. According to local sources in Kanai there is a site called "Custom House" which as yet has not been located, but is supposedly somewhere on the Kenai River.

KEN 029. HISTORIC. Kenay. This reconstruction of fort barracks building and six deteriorated log cabins was built in 1868, abandoned in 1870, and reconstructed in 1967. It is a significant example of U.S. Army government of South Central Alaska.

KEN 014. ARCHAEOLOGICAL. Kenai #14. The village of "Kalifonski" has been abandoned since 1927 although it is still listed on maps. Five house pits were found and one test trench was made which yielded small bits of iron and bone.

KEN 027. ARCHAEOLOGICAL. According to local sources in the Kenai area, material, possibly cultural in nature, has been collected at "Boulder Point", a site located north of Kenai.

KEN 040. HISTORIC. Redoubt St. Nicholas. This fur purchasing post and Russian Orthodox mission at the mouth of Kenai River, eastern shore of Cook Inlet dates to 1791.

KEN 028. Mr. Daniels, a resident of Kenai, is reported to have possession of some copper artifacts he recovered while working his field next to Daniels Lake.

KEN 036. HISTORIC. Holy Assumption Russian Orthodox Church. Built in 1896, this church is the finest and best preserved 19th century Russian Orthodox Church. Originally erected as a log chapel by the Russians in 1841, it was expanded to a log church in 1849 and then re-built in stone in 1896. It is located in Kenai.

KEN 035. Chinila. A native site located on the east side of Cook Inlet, near the mouth of the Kenai River. Listed as an Indian village with a population of fifteen in the 1880 census by Ivan Petroff.

KEN 016. HISTORIC. A site, six and one-half miles southwest of Soldotna near the Sterling Highway, contains four villages and is situated on the high ground of a group of low, heavily wooded hills. These were probably winter villages for salmon fisherman.

KEN 018. HISTORIC. Approximately eight miles southwest of Soldotna is a site containing six house depressions. The site is apparently very old and may prove to be significant in the archaeological record.

KEN 020. HISTORIC. There is a collection of copper artifacts in the possession of Mr. Jordan, a resident of Kenai. The artifacts were found at a site (unexcavated) one-half mile east of Kenai.

KEN 022. HISTORIC. Mr. Mullins, a resident of Soldotna, reported an old campsite, called "Big Eddy", two miles northwest of Soldotna on the Kenai River with a small creek and a spring on it.

KEN 024. HISTORIC. There are reports of an old graveyard on the north bank of Slikok Creek, approximately three and one-half miles southwest of Soldotna.

KEN 015. HISTORIC. There is a house pit in the backyard of a homestead on Daniels Creek, midway between Daniels Lake and Bishop Creek. This site remains unexcavated.

KEN 017. HISTORIC. This site is approximately seven and one-half miles southwest of Soldotna. It contains thirteen house depressions, however, it remains unexcavated.

KEN 019. HISTORIC. This is a site approximately seven miles southwest of Soldotna with two well preserved house depressions, measuring about 660 square feet with an extra room measuring eighty square feet. Also unexcavated.

KEN 021. HISTORIC. This site includes two house depressions, unexcavated, and damaged by bulldozer activity. It is situated behind the Bureau of Public Roads Station at Soldotna.

KEN 023. HISTORIC. A site called "Old Camp", located approximately three miles northwest of Soldotna on the Kenai River. According to local sources, the camp was used by hunters from Tyonek.

HAL #83

KEN 045. ARCHAEOLOGICAL. The Clam Gulch Wayside Site is approximately one mile northwest of Clam Gulch on Cook Inlet. The site is a grassy meadow with mounds and four test pits measuring four square inches each and approximately fifty feet apart. Midden was recovered to frozen ground, approximately one foot below the surface. This site may have cultural significance, should be excavated, and is slated for State Park development.

KEN 026. ARCHAEOLOGICAL. According to local residents of Nikishka, artifacts have been taken from a small knoll on the South Bank of the Kenai River at the point where it drains from Skilak Lake.

HAL #84

KEN 032. HISTORIC. Old Ninilchik. Reportedly a Russian pensioners' colony, this site was essentially a fishing, agricultural and fur farming village. Dated 1845. Few surface remains are left.

KEN 031. HISTORIC. Old Russian Schoolhouse. This small log structure was one of first territorial school sites. Although the structure has been considerably altered by a plywood addition at the south end, it was used during the Russian era. It's located in Ninilchik.

KEN 044. HISTORIC. The Deep Creek Wayside site is located at the mouth of Deep Creek, south of Ninilchik and includes one standing wood frame building and the remains of three log structures. This site was established about 1900; and is presently slated for State Park development. Historical documents and local residents should be consulted. The site is unexcavated.

KEN 046. HISTORIC. Transfiguration of Our Lord Chapel. This site in Ninilchik is a Russian Orthodox Church Building.

SEL 002. ARCHAEOLOGICAL. McNeil Creek. This is a multi-component site located on the north shore of Kachemak Bay, near McNeil Creek. Excavations in the 1930's revealed materials of the Yukon Island periods III and IV.

SEL 004. HISTORIC. Kasnatchin. This was a 19th Century Tanaina Indian camp or settlement located at Anchor Point on the west coast of the Kenai Peninsula. It is listed in the 1880 census as "Laida".

SEL 019. HISTORIC. Homer. This historic and modern settlement was established in November 1895 and named for Homer Pencoek, a prospector who worked in the Cook Inlet area. Now the major settlement on Kachemak Bay, Homer is known for its fishing industries and as a tourist attraction.

SEL 022. HISTORIC. Kachemak. This was the site of a fur-purchasing post on the Kenai Peninsula, near Homer.

SEL 060. ARCHAEOLOGICAL. This site, located 0.75 miles from Main Street, Homer, consists of clam and mussel shell midden at the top of the gravel bluff along the beach north of Homer. The midden is six inches thick and is exposed for a distance of approximately ten feet.

SEL 077. ARCHAEOLOGICAL. This site, located on the northeast shore of Homer Spit, consists of shell midden scattered over an area of 800 square feet. The midden, six inches thick in places, has been badly washed by tides and disturbed by construction activities during the rebuilding of the Homer small boat harbor.

SEL 078. ARCHAEOLOGICAL. This site, located on the northwest shore of Homer Spit, consists of a thin mussel shell midden found in a grove of dead spruce trees known locally as "Green Trees". There are two localities each measuring four square feet and about one inch deep.

SEGMENT SEVENTEEN

DESCRIPTION

Segment Seventeen, an alternate route, extends from Hurricane (62°58'N, 149°38'W), which is Mile Post 280 on the Alaska Railroad, to Potter (61°02'N, 149°47'W).

ENVIRONMENTAL SETTING

Segment Seventeen begins at Hurricane on the Alaska Railroad and generally follows the railroad corridor south to Potter, which is on the Alaska Railroad on the north shore of Turnagain Arm, south of the city of Anchorage. The setting includes remote rural areas and the suburbs of Alaska's most populous city.

Annual precipitation is about twenty inches for Segment Seventeen, but average annual temperatures range from about 25°F at Hurricane to 35°F at Anchorage. Northern stations along the segment have over one hundred inches of snow annually compared with fifty inches at Anchorage. Portions of this segment are underlain by either isolated masses of permafrost or have discontinuous permafrost at higher elevations at the northern end.

Segment Seventeen is in the Cook Inlet-Susitna Lowlands Physiographic Province, and surficial geology consists of glacial deposits and recent alluvium. Glacial lake and moraine deposits predominate. Distinct terminal moraines are near Fish Lake, Willow and Anchorage.

A major fault zone crosses the lower Susitna River near Alexander, north of Anchorage. This and other faults in the Alaska Range and Chugach Mountains are active, and earthquakes occur in this area.

This area contains some of the soils of Alaska which are most suitable for intensive use, including occupancy and agriculture. The deep, well-drained silty soils of the Susitna and Matanuska Valleys, together with a relatively mild climate, permit this area to sustain approximately seventy percent of the agricultural productions of the state, as well as contributing significantly to forestry and providing good habitat for many species of wildlife.

This segment is in the Cook Inlet Hydrologic Sub-region. It crosses both the Susitna and Matanuska River drainage basins. Low areas bordering both major and minor streams are subject to seasonal flooding. Except for occurrences of high concentrations of suspended sediment in streams, both surface water and ground water are of good quality and adequate quantities.

The principal vegetation-type ecosystems are Bottomland Spruce-Forest and Lowland Spruce-Hardwood Forest. Smaller areas of Low Brush-Muskeg-Bog occur at scattered locations in very low and poorly-drained level areas.

Pink, red, chum and silver salmon spawn are taken for commercial purposes from the waters within this segment. Rainbow trout and many other species of freshwater and anadromous fish are found in most of the Susitna River drainage regions. These provide the most concentrated sports-fishing areas of the state.

Moose, black bear and brown bear are abundant throughout the corridor except in the high mountains and in the more developed areas around Anchorage. The Nelchina and McKinley barren ground caribou herds range near the northern end of the segment. Upper Cook Inlet and the Susitna River drainage are very important waterfowl areas, the Susitna River delta being classed as a Key Area.

The Cook Inlet Region contains about half of Alaska's population and Anchorage, the largest city and most urbanized area, is within this segment. Anchorage is the business and industrial center of the state and provides significant employment in practically all sectors of the state's economy.

The rail and highway corridor which this segment would parallel is the most important land transportation route in the state, and scattered settlements are adjacent to both the railroad and the highway.

Segment Seventeen parallels BLM Corridor Number Twenty-nine (Railbelt and Power Grid) from Hurricane to Anchorage, following the existing Alaska Railroad to Willow. The corridor crosses state lands, d-1 lands, Cook Inlet Native Regional Corporation, and the following lands withdrawn for Native selection: Eklutna, Caswell, Knik, Cantwell and Montana Creek. No d-2 lands are crossed.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

Although no prehistoric archaeological sites are reported from this segment, two post-contact Tanaina Indian occupations (TYO 014 and ANC 038) suggest that there is potential for site discoveries



INDIAN GRAVES

Nineteenth century graves in a Russian Orthodox cemetery at Knik, near Anchorage, Alaska. The Russian Orthodox religion expanded along Alaska's coast during Russian colonization. On Christmas day, 1793, eight Russian monks left St. Petersburg and, after 293 days of travel by foot, sled, horse and boat, arrived 7,000 miles away at Kodiak to establish the first permanent church in Alaska, November 21, 1794.

ALLS

HISTORIC SUMMARY

The National Register of Historic Places lists two sites along Segment Seventeen: the Knik Site near Wasilla, and the Independence Mines just west of Palmer. The Alaska Railroad has influenced the area contained in this segment, as did homesteaders and people following the gold rush. They often used this corridor to reach trails such as the famed Iditarod Trail. The area is also rich in old Native architecture and cemeteries.

HISTORIC EVALUATION

The area traversed has many sites which several groups have attempted to qualify for listing on the National Register. There is considerable evidence of early Russian and English exploratory activity in the area. Many of these sites have been recorded by the Alaska Heritage Resource Survey of the Alaska Department of Natural Resources.

HISTORIC TRAILS

No Historic Trails are crossed by Segment Seventeen.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #68

TLM 001. HISTORIC. Canyon Railroad Station. Canyon Station is located at Mile 268.4 on the Alaska Railroad, thirty-eight miles northeast of Talkeetna. The station has been in use since the opening of the line. It was named circa 1916.

TLM 002. HISTORIC. Chulitna Railroad Station. The Chulitna railroad station, located on Mile 273.8 of the Alaska Railroad, forty-three miles northeast of Talkeetna, has been in use since the opening of the line. It was named in 1916.

HAL #69

TAL 003. HISTORIC. Chase Railroad Station. Chase Station was named in 1922. A flag stop at Mile 236.2 on the Alaska Railroad, its location is nine miles north of Talkeetna.

HAL #70

TAL 005. HISTORIC. Montana. This village seventeen miles south of Talkeetna was named in 1917 by its founders, railroad construction men, who built a camp on the site. More recently, in 1957, homesteaders settled the community, now Mile 208.3 on the Alaska Railroad.

TAL 006. HISTORIC. Fairview Inn. Fairview Inn, on Main Street, Talkeetna, was constructed in 1923, only three years after the patent for land lots was issued. The two-storey hotel is in good condition and has available for a museum the barber chair in which President Harding had his hair cut at the Inn. Other items, including recorded deeds, photos and relics, are available for display purposes.

HAL #71

TYO 014. ARCHAEOLOGICAL. About fifteen cache pits, measuring from one-half meter to one meter square, and one possible house pit are situated on a single hill rising one hundred feet out of the low floodplain. Located on the left bank, approximately one mile above the mouth of Willow Creek, this was probably a Tanaina Indian salmon storage area.

ANC 001. HISTORIC. Earthquake Park. Earthquake Park in Anchorage reflects the diastrophic forces of the 1964 earthquake.

ANC 002. HISTORIC. Fish Creek Rock. Fish Creek Rock, at the mouth of Fish Creek, is a large rock into which a date, indicating a period of Russian habitation at Talkeetna and western Cook Inlet, was carved by Russian traders.

ANC 011. HISTORIC. Campbell Station. Campbell Station, on A Street, Boulevard in Anchorage, is a typical frame Alaska Railroad station. Located at Alaska Railroad Mile 109.3, this flag stop was listed in the 1918 Official Railroad Guide.

ANC 021. HISTORIC. St. Innocent Church. St. Innocent Church was established in 1967, at 6724 East Fourth Street, by the Russian Orthodox Church.

HAL #72

ANC 038. ARCHAEOLOGICAL. Fisher-Hong Site. The Fisher-Hong Site is located one mile southwest of Knik on an unnamed creek draining into Lake. There is an L2 Major depression, three large rectangular housepits with attached rooms. Also present (but questionable) are two large circular housepits with a long entranceway. The one housepit, excavated in 1966, is evidence of contact period Tanaina occupation. It is uncertain that the other excavated feature was a habitation.

ANC 042. HISTORIC. Alaskan Chateau. The Alaskan Chateau, on Sixth Street, Elmendorf Air Force Base, Anchorage, is a two-storey wood-frame building designed and built in 1942 as a five-family command officers' quarters. In 1950 the structure was redesigned for use as temporary quarters for transient dignitaries such as heads of state and generals.

ANC 043. HISTORIC. Quarters of the Commander-in-Chief. The quarters of the Commander in Chief, Alaska, is located at 5-504 Fifth Street, Elmendorf Air Force Base, Anchorage. A stone monument in the front yard commemorates the meeting between President Nixon and Emperor Hirohito at the site, September 26-27, 1971. This was the first time that a reigning emperor had met with a President of the United States and the first time that a reigning emperor had left the territory of Japan. The structure is of two-storey wood-frame, surrounded by a picket fence. It was originally built in 1942 as a duplex to house field grade officers, and was converted in 1956 for the use of the Commander-in-Chief, Alaska.

HAL #72

ANC 044. HISTORIC. Whitney Station. Whitney Station, Alaska Railroad Mile 119.1, on the Elmendorf Air Force Base, Anchorage, is reportedly the first section house built on the Alaska Railroad north of Anchorage. Erected in 1918, the station was used by the military in days of steam. The one-storey structure is of wood-frame and low gable roofs.

ANC 045. HISTORIC. AEC Cottage (#2). The cottage, at 900 Delaney Street in Anchorage, is reported to have been the first residence of Captain Frederick Meares. Meares was one of the commissioners who directed the construction of the Alaska Railroad. The one and one-half storey, wood-frame building is composed of irregular, attached units; the eaves are projected and rafters exposed. Probable date of construction is 1916.

ANC 046. HISTORIC. AEC Cottage (#3). The cottage, at 349 West Harvard Avenue in Anchorage, is reportedly the oldest house on Government Hill (c. 1915). It is the former residence of John H. and Nellie Brown and was the first of fourteen cottages built by the Alaska Engineering Commission (AEC) during railroad construction days. occupied.

ANC 047. HISTORIC. Quonset Hut. The quonset hut at 300-5 East Cook Avenue in Anchorage, used by the Federal government to alleviate housing shortages during construction of the original Fort Richardson, is retained in its original condition. The occupied hut has a small front addition and jutting windows on the sides.

ANC 048. Corps of Engineers Houses. The United States Army of Engineers' Houses, at the west tip of the bluff, adjacent to present Brown's Point, Government Hill, Anchorage, were built during construction of the original Fort Richardson (c. 1941). They are former residences of Brigadier General B. B. Talley and Captain Smyser. The two white cottages were built to follow a design used in Washington State, the Mud Mountain Plan.

ANC 049. HISTORIC. Federal Building. The Federal Building and Manor Avenue in Anchorage were built in 1941 to alleviate the World War Two housing shortage. The site consists of ten duplexes.

HAL #73

TAL 001. HISTORIC. Curry Lookout. Curry Lookout, in the Curry, is known as the look-out point for Alaska Railroad passenger overnighting at the Curry Hotel. The pentagon-shaped building is a twentieth-century structure.

TAL 004. HISTORIC. Curry. Curry is the name given in 1922 to a railroad station located at Mile 248.5 on the Alaska Railroad, 10 miles northeast of Talkeetna. Prior to that date the station was known as Dead Horse, a camp begun before 1916.

SEGMENT EIGHTEEN

DESCRIPTION

Segment Eighteen extends from Potter, 69°03'N, 149°47'W, to Kachemak Bay.

ENVIRONMENTAL SETTING

This segment runs from Potter on the north shore of Turnagain Arm to Kachemak Bay in the south central portion of the Kenai Peninsula. Paralleling portions of the Sterling Highway is a potential alignment. Elevations along possible alignments range from sea level to as much as 500 feet above sea level.

This segment is in the Transitional Climatic Zone but has pronounced maritime characteristics at Kachemak Bay. Mean annual precipitation ranges from twenty inches at Potter to about forty inches at Seldovia. Mean annual temperature is about 35°F.

Geologically, the northwest portion of Kenai Peninsula is nearly completely covered with primary and secondary glacial-origin materials. Included are moraine and associated drifts, pro-glacial lake sediments and fluvial deposits. The northern portion in particular has many small lakes and extensive areas of spruce muskeg on nearly level areas bordering Cook Inlet.

This entire corridor has high potential for oil and gas and some proven reserves. There is oil and gas production in the area. Earth tremors and earthquakes have affected this region.

This area has a high percentage of upland soils suitable for farming and portions of the area have been and are now being farmed, especially near Kenai, Soldotna and Homer. The principal soils suitable for agriculture are well-drained silt loams developed from glacial deposits or from mixed volcanic ash (near Homer and Kachemak Bay.) A relatively high proportion of soils are suitable for community development and general construction.

This corridor is entirely within the Cook Inlet Hydrologic Subregion with drainage generally to the north and west. The northern portion is lake-dotted and streams are generally sluggish near the coast. Major hydrologic features are Kenai River and Cook Inlet.

Approximately 60 percent of the segment traverses Lowland-Spruce-Hardwood Forest, 30 percent Coastal Hemlock-Spruce Forest, and 10 percent Moist Tundra. The meskegs, small lakes, and Spruce-Hardwood Forest are especially good moose habitat and as much as 50 percent of this segment would cross lands of the Kenai National Moose Range.

Many small streams are salmon spawning areas and two of the largest have runs exceeding 50,000 fish. Freshwater fish of several species inhabit streams and lakes. Moose concentrations are in the northern half of the segment and in scattered localities north of Homer and Kachemak Bay. Waterfowl density is high in the lake-dotted area bordering Turnagain Arm, a key area for waterfowl migration and hunting.

This segment is relatively densely settled and had a 1970 population of more than 10,000 persons. Major population centers are Kenai, Soldotna, and Homer. Major occupations are farming, fishing, tourism, transportation, timber products, and military. Lower Kachemak Bay has a cluster of three primary fishing villages: English Bay, Seldovia, and Port Graham. People of these three places find seasonal employment in the salmon fisheries canneries of Kachemak Bay and Cook Inlet. All supplement their cash incomes with substantial quantities of subsistence harvests.

Segment Eighteen runs along BLM Corridor Number Twelve (Anchorage-Power Grid) from the Anchorage (Potter) area to Skilak Lake. It crosses proposed d-2 land or Native deficiency lands or lands withdrawn for National Selection. It does cross Chugach National Forest and the Kenai National Moose Range and State lands. However, the Cook Inlet Natives and the Department of the Interior are in the area.

ARCHAEOLOGICAL SUMMARY

The 56 archaeological sites reported from this segment are critically important to our understanding of the prehistory of southern Alaska. SEL 001 (Yukon Island) contains five cultural strata and is potentially one of the most important sites in the region. Extremely valuable information on the culture history of the Cook Inlet-Kachemak Bay area is present here, and the site is reportedly endangered by erosion and human activity. Another multi-component campsite, SEL 002 (McNeil Creeks) was excavated in the 1930's. SEL 005, a series of pictographs at Sadie Cove and SEL 075, the only known chert quarry in the region, are also of sufficient interest to warrant considerable care in survey and construction.

There are fifty shell middens identified in this region, both pre and post contact in date, which offer a rare opportunity for the discovery of stratified cultural materials in an undisturbed context. The most important of these sites tested thus far seem to be SEL 009 and SEL 066. SEL 009 is a deep shell midden on Aurora Spit which in 1973 produced a prismatic core of a type hitherto unknown for the Kachemak area. Excavation of this midden may shed new light on the prehistoric cultural relationships of the Cook Inlet area. SEL 006 is also reported to be a significant site in terms of Kodiak Island - mainland relationships and should not be disturbed until it can be carefully excavated.

ARCHAEOLOGICAL EVALUATION

The large number of reported sites and the possibilities for undisturbed stratification make this segment one of the most critical in the proposed alignment for archaeological survey. Although shell middens are among the most visible type of archaeological site, they are also among the most sensitive and difficult to excavate and interpret, so professional survey and excavation are essential in this case. It is to be expected that further discoveries will be made in this segment which will be highly significant to our understanding of the culture history of the indigenous inhabitants of Southern Alaska.

HISTORIC SUMMARY

The old eighteenth century St. Nicholas Russian Orthodox Church at Eklutna and the Hope Historic District are on the National Register of Historic Places. The entire area has rich evidence of early Russian influence through religion, settlements and barracks, as well as post-contact Native culture.

HISTORIC EVALUATION

This area is one of the most valuable for potential sites which can qualify for inclusion on the National Register of Historic Places, drawing from both Native and from post-contact sources. The area is also rich in traditional recreational uses with over twenty established State and Federal recreation areas.

HISTORIC TRAILS

SELDOVIA (quad. #50)

Trail 8, Trail to landing strip, runs from emergency landing strip southwest, paralleling the west bank of Fox River. Trail leads to isolated cabins south of landing strip. Pipe parallels trail.

Possible intersection with historic trails 17, 10, 16, 14, 15, 13, and 12 if southern limit of pipeline Segment Eighteen extends below 59°45'N.

Trail 7, Caribou Lake Trail begins in a marsh west of Moose Creek and runs in a northeast direction, ending at Caribou Lake (Possible) intersection.

ARCHAEOLOGICAL AND HISTORIC SITES

(Note: Seven archaeological and historic sites which might be of importance to Segment Eighteen are included in Segment Sixteen: SEL 002, SEL 004, SEL 019, SEL 022, SEL 060, SEL 077, and SEL 078.)

HAL #88

SEL 001. ARCHAEOLOGICAL. Yukon Island. This is one of the most important sites in the prehistory of the Cook Inlet - Kachemak Bay area. Five cultural strata are evident, one of which contained the oldest material for the area - Yukon Island period. Endangered by erosion and pot hunting.

SEL 003. HISTORIC. Alexandrovsk (English Bay). This was one of the first permanent Russian settlements on the mainland. Constructed in 1785-6, a fort, barracks, a storehouse, a bakery, and other buildings were mapped there in 1788. Although a runway now covers the site, occasionally aboriginal and Russian artifacts are found in this area or in the village. It is south of Kachemack Bay.

SEL 005. ARCHAEOLOGICAL. Sadie Cove. This site contains one of two sets of pictographs reported so far for the Kachemack Bay Region. It has a series of pictograph figures, about sixteen inches long, 32 to 37 inches above the shelter floor on the south wall. The site is located three miles in from the mouth of Sadie Cove, on the east side of the stream.

SEL 007. ARCHAEOLOGICAL. Kegler II. This site, on the northeast side of Bear Cove, is a shallow depression which may be a house pit.

SEL 008. ARCHAEOLOGICAL. This site, near the Aurora lagoon, was composed of shell midden, up to three feet deep, with the bones of fish, birds, and sea mammal on rock. The total surface area is approximately fifteen square feet.

HAL #88

SEL 009. ARCHAEOLOGICAL. The amount of midden remaining on this site is about three feet thick but the site has been extensively collected and potted. In the summer of 1973, a core was picked up on the beach below the site. The occurrence of this type of artifact, particularly of the variety with a prepared platform, has not been reported from Kachemak Bay to date. A more detailed examination could shed new light on the cultural relationship of Lower Cook Inlet with the adjoining areas. It is located on the Aurora Spit.

SEL 010. ARCHAEOLOGICAL. This site consists of some thin midden deposit on a small rock on a large rock point west of the most westerly entrance to Halibut Cove. The thickness of the midden averages two inches and covers approximately 600 feet square. It is endangered by collector activity.

SEL 011. ARCHAEOLOGICAL. Kegler. This site, in Peterson Bay, contains small shell middens about six inches deep.

SEL 012. ARCHAEOLOGICAL. This site, on the north shore of China Poot Bay, contains shell midden on a raised beach line 200 yards from the present beach line. The maximum depth of the midden is about eighteen inches but the extent is unknown.

SEL 013. ARCHAEOLOGICAL. This site, on the north shore of China Poot Bay, contains shell midden to a depth in excess of 24 inches which sometimes extends 75 yards into the brush. Earth moving work with bulldozers has been done.

SEL 014. ARCHAEOLOGICAL. This is an almost totally destroyed site on Anisom Point where there is shell midden in excess of one foot deep. The shells are scattered 150 yards over a flood tide pool at base of Anisom Pt.

SEL 015. ARCHAEOLOGICAL. Kegler XI. This is a small site on the south cape at the east end of Hesketh Island where shell midden, about eight inches deep and under four inches of overburden, was found.

SEL 016. ARCHAEOLOGICAL. Kegler XII. This site, on the northeast shore of Tutka Bay, contains small shell middens but is in danger from erosion and pot hunting.

SEL 017. HISTORIC. Chrome. This abandoned mining camp and townsite located on the west shore of Chrome Bay, was first reported in 1918. It is so named because of its association with the nearby chrome ore mine which began operation in 1917.

SEL 018. HISTORIC. Ss. Sergius and Herman of Valaam Church. This small Russian Orthodox Church building is perhaps one of the oldest buildings in English Bay and one of the older churches in the state. The building is on log sills, approximately 600 square feet, with 24 feet of the longer dimension joined to a newer structure. A two and one-half inch shiplap covers the older vertical planking of various sizes, but the basic structure is believed to be log. Associated with this church was Fr. Herman Moonin, who at the time of his death in 1972 was the oldest Russian Orthodox priest in Alaska. Born in English Bay, he had attended seminary in Sitka and served the English Bay church for forty years.

SEL 020. HISTORIC. Aurora. This is a former mining community on the southeast shore of Kachemak Bay, 28 miles northeast of Seldovia. This mining camp, established in 1900 and abandoned circa 1910, was named for the nearby coal mine. A U.S. Post Office was located there from 1902 to 1904.

SEL 021. HISTORIC. Port Graham (English Bay). In the 1904 ruins of several buildings (identified as a blacksmith shop, tool house, church, cook house and log barracks), hand tools, machinery, remains of a stone dock, and an abandoned mine were found. Some of the earliest exploitations of coal in southwest Alaska took place here. Portlock's 1787 chart listed this bay as "Grahams Harbor." (Same as SEL 003).

SEL 023. HISTORIC. Portlock. This is the site of an abandoned cannery town which was damaged by the 1964 earthquake, but it had been abandoned in 1949 by villagers due to fear of evil spirits and monsters. The town, established circa 1900, still contains empty buildings, a boardwalk, and debris.

SEL 024. HISTORIC. St. Nicholas Chapel. This Russian Orthodox Church building is located at Seldovia, Kachemak Bay.

SEL 025. HISTORIC. This is the site of a settlement reported by U.S.G.S. in 1915 and is located on the north bank of West Arm.

SEL 026. HISTORIC. This is the site of cabins or buildings reported in 1915 by U.S.G.S.

SEL 027. HISTORIC. Whorf's Coal Mine. This is the site of a coal mine reported in 1915 by U.S.G.S.

SEL 030. ARCHAEOLOGICAL. Cottonwood Creek Site. This site, partly excavated in 1934, formed part of the evidence for the Kachemak III formulation. Enough still remains so that systematic excavation could yield details of house construction and resource utilization of past environments. It is supposedly the first habitation site of the Tanaina Indians when they moved into the area.

SEL 031. ARCHAEOLOGICAL. This is the site of shell midden, three inches thick, exposed intermittently for forty feet of swampy area. It is located south of a cabin at the entrance of Aurora lagoon.

SEL 033. ARCHAEOLOGICAL. Kegler I. This site, consisting of shell midden on three rocky points on Chugachik Island, should contain information important to the pre-history of the local area. It may have been occupied primarily during the summer and extends 300 yards in length. It is endangered only by erosion and collectors.

SEL 034. ARCHAEOLOGICAL. This site contains midden deposits which lie to a depth of six to eight inches and extend for twenty feet. It is endangered by washing out and continuing erosion.

SEL 038. ARCHAEOLOGICAL. This is the site of a house pit, 150 square feet, which has long axis parallel to shore line. Shell midden is scattered nearby.

SEL 039. ARCHAEOLOGICAL. This is an almost completely destroyed site of shell midden in the roots of a tree which is being washed out. The depth of the midden varies from six to twelve inches but the extent is unknown and discontinuous.

SEL 040. ARCHAEOLOGICAL. This is the site of shell midden on an outcropping beneath spruce trees. The midden lies on bedrock or one inch below the surface. It is located on the north shore of China Poot Bay.

SEL 041. ARCHAEOLOGICAL. This is the site of thin shell midden (two to three inches) which is eroding from the roots of spruce trees. The extent of the outcrop is about six feet along the cut bank.

SEL 042. ARCHAEOLOGICAL. This site contains midden soil with shell bands which overline a rocky point on the south side of Bear Cove. The midden rests on bedrock and is eighteen to twenty inches deep. Tidal erosion is extensive.

SEL 043. ARCHAEOLOGICAL. This site is under private ownership and is potentially important in the outer Kachemak Bay area. The midden deposits, which reportedly reach a depth of fifteen feet, cover the west end of Beluga Spit and the adjacent portion of Ismailof Island. The spit has already subsided below high tide mark.

SEL 044. ARCHAEOLOGICAL. This is an almost totally destroyed site of a small amount of shell midden plastered against a rock bluff. The remaining midden is approximately six inches deep and occupies a four square foot area.

SEL 045. ARCHAEOLOGICAL. This site, located at the mouth of Jakol Creek, contains a thin shell midden, one to three inches deep and approx six feet long at the outcrop. The extent of the site is unknown and it continuing danger from tidal erosion.

SEL 046. ARCHAEOLOGICAL. This site contains shell midden located at the ferry landing in Jakolof Bay and on the rocky point at the west side of the entrance. The midden is one foot deep on the point end over two feet deep nearby.

SEL 047. ARCHAEOLOGICAL. This is an 800 square foot site on a wooded rocky point east of the entrance of Jakolof Bay. There is a thin shell midden, mostly mussel shells, which is six to twelve inches thick. Tidal erosion is endangering the site.

SEL 048. ARCHAEOLOGICAL. This site is indeterminate because shell midden deposits are almost completely covered by gravel deposited by storms.

SEL 049. ARCHAEOLOGICAL. This site, consisting of a three inch midden layer, is almost completely destroyed. The deposit, on a low bank which is washed over by high tide, is under the roots of a stand of dead spruce trees.

SEL 050. ARCHAEOLOGICAL. This site, consisting of shell midden on a rocky point, has been largely destroyed by tidal erosion. The only in situ material is one foot deep at the north end of the site and the extent of it is unknown.

SEL 051. ARCHAEOLOGICAL. This site, consisting of thin shell midden (three to four inches deep) found on a rocky point, probably covers the entire point which is about 150 feet across. The occurrence, however, is discontinuous.

SEL 052. ARCHAEOLOGICAL. This site, on the southeast portion of Cronin Island, has been almost completely destroyed by tidal erosion. A clam shell midden was found on a flat spot in a dead spruce grove. The remnants are one inch deep and approximately six feet square. It is located near a small cabin on the south end of Cronin Island.

SEL 053. ARCHAEOLOGICAL. This site, almost completely destroyed by tidal erosion, is located on a narrow neck of land connecting the two halves of Cronin Island. There are scattered clam shells with a small amount seemingly in place. The in situ midden is one inch thick and was probably thicker.

SEL 054. ARCHAEOLOGICAL. This site offers excellent excavation possibilities. It consists of mussel midden one foot thick and an outcropping along eight feet of bank. The extent of the midden back from the cut face is unknown. Erosion is probably stable.

SEL 055. ARCHAEOLOGICAL. This site has clam shell midden approximately two inches thick on a flat rocky point with a view to the northeast. The probable extent of the site is 100 square feet, and it is located on the northern half of Cronin Island.

SEL 056. ARCHAEOLOGICAL. This site consists of shell midden two inches thick located in a cut bank just above the beach. The view from the site is northwest toward Hesketh Island. The midden outcrops along a cut bank about ten feet and extends to a rock bluff three feet back.

SEL 057. ARCHAEOLOGICAL. This site is located on the western shore of Neptune Bay and consists of clam shell midden containing some fire-cracked rock. The lens of deposit is one inch thick and discontinuous over a distance of approximately six feet. Shells have been scattered over a low swale to the west for about 200 yards. Tidal erosion is continuing.

SEL 058. ARCHAEOLOGICAL. This site contains a predominately clam and mussel shell midden approximately one foot thick at the top of a gravel bluff fifteen feet high. The middle outcrop is six to seven feet long and has been exposed to tidal erosion which is continuing.

SEL 059. ARCHAEOLOGICAL. This site is located on the western shore of Neptune Bay and consists of a one to two inch thick clam shell midden near the top of a gravel bluff ten feet high. There were no fire-cracked rocks or bone.

SEL 061. ARCHAEOLOGICAL. This site is located on Barbara Point and consists of a two inch thick clam shell midden on a gravel bluff 25 feet high. The outcrop is six inches below the surface of the gravel and shows for fifteen feet along the exposure. Erosion is minor.

SEL 062. ARCHAEOLOGICAL. There are two segments of shell midden material, representing a prehistoric site, separated by the remnants of a fox farm representing an historic component of the site. The eastern segment is thin and small. The west segment is on a sharp slope, eight inches thick and displaying outcrops for about thirty feet. This site is exposed to minimal tidal erosion.

SEL 063. ARCHAEOLOGICAL. This site is located on the north side of Port Graham near Selanie Lagoon. This site is composed of a midden predominately mussel shell, approximately one foot deep and fifteen feet long at high tide level. Possible house depressions are present. The site has been exposed to continuing tidal erosion.

SEL 064. ARCHAEOLOGICAL. Located on the north shore of Port Graham near Selenie Lagoon is a site with a deep shell midden at least ten feet from the top of the exposure to the visible bottom. The midden exposure is forty feet in length, and distance from the exposure edge is unknown. Also present is a large amount of bone and wood and some stone. This site has the potential of containing as complete a sequence of cultural and historical materials as will be found in Port Graham, and will give the opportunity to sample the archaeology of the Pacific Eskimo on the outer Kenai Peninsula. The site is exposed to continuing tidal erosion.

SEL 065. ARCHAEOLOGICAL. Located on the north shore of Port Graham opposite the town of Port Graham is a site with a thin clam shell midden on a low gravel point about seven feet high. The midden is approximately six inches thick, but layers are divided and separated into two levels by a sterile sandy unit. The site is exposed to continuing tidal erosion.

SEL 066. ARCHAEOLOGICAL. On the north shore of Elizabeth Island is a site containing a shell midden with fire-cracked rock in it. The midden is situated in a bank which rises from the sand beach. The deposit is eight feet deep and exposed for fifteen feet, while the extent back from the bluff edge is undetermined. The site is significant in terms of studying the relationships between Kodiak Island group archaeology and that of the mainland Pacific Eskimo. To date, this area lacks reported sites from which needed comparative materials could be acquired. This site should be excavated. It is exposed to minimal continuing tidal erosion.

SEL 067. ARCHAEOLOGICAL. A thin shell midden was found on the back side of McDonald Spit facing Kositsna Bay. This midden measures one foot in depth and extends for six feet at the exposure. This site is almost washed away as a result of continuing tidal erosion.

SEL 068. ARCHAEOLOGICAL. A shell midden was found on a gravel spit between the mainland and a rock island on the south shore, near the head of Tutka Bay, nearest the mainland end. Midden thickness is in excess of one foot and an area of about six square feet is exposed. This site is almost washed away as a result of continuing tidal erosion.

SEL 069. ARCHAEOLOGICAL. A shell midden was found on the side of a rocky point on the north shore of China Poot Bay. The midden on the slope is eight inches thick and is exposed over an area of approximately fifty square feet. The top of the point has been cleared by a bulldozer. This site is exposed to minimal erosion.

SEL 070. ARCHAEOLOGICAL. There is a very thin shell midden trail along a rock bluff edge on the north shore of China Poot Bay. The midden is one inch thick. There are no artifacts or bone at this site which has been exposed to minimal destruction.

SEL 071. ARCHAEOLOGICAL. There is a mussel shell midden three inches thick under the roots of a spruce tree, six inches in diameter at the edge of a rock cliff on the north shore of China Poot Bay. The midden extent is unknown, and no artifacts or bone have been found at the site which has been exposed to minimal destruction.

SEL 072. ARCHAEOLOGICAL. There is a mussel shell midden six inches thick covering an area of five square feet on a low rock point on the east shore of Peterson Bay. The site is almost completely destroyed as a result of continuing tidal erosion, and some midden material has been covered by beach gravel.

SEL 073. ARCHAEOLOGICAL. There is a thin mussel shell midden three inches thick and exposed along six feet of beach, with some midden roots of dead spruce trees on the east shore of Peterson Bay. The site is exposed to continuing tidal erosion. No bones or artifacts were found at this site.

SEL 073. ARCHAEOLOGICAL. There is a deep mussel shell midden three feet in depth with an exposure ten feet long where a road has been pushed through on the east end of a ridge on the north side of Chi Poot Bay. The midden is located 200 yards from the edge of the bay. House pits with extra rooms are also located on the ridge, dating late to post-Kachemak Bay III era. Excavation of the house pits and midden allow site reconstruction for this area. Destruction to this site is minimal but could change.

SEL 075. ARCHAEOLOGICAL. This is a lithic site which is a quarry site as chert veins outcrop nearby. It is located on the north shore of China Poot Bay. No organics are present but chips were found in soil in the root system of a blown over spruce tree at the edge of a bluff overlooking China Poot Bay. This is the only recognized quarry site in the entire Cook Inlet region and it is exposed to only minimal destruction.

SEGMENT NINETEEN

DESCRIPTION

Segment Nineteen runs from Potter, eleven miles south of Anchorage, 61°03'N, 149°47'W, to Whittier, 60°46'N, 148°41'W, on Passage Canal on Prince William Sound.

ENVIRONMENTAL SETTING

This segment parallels the Alaska Railroad and Seward Highway from Potter to Portage along the northeast shore of Turnagain Arm, and from Portage eastward along Portage Creek and the Alaska Railroad to Whittier. Elevations range from sea level at Turnagain Arm to 600 feet at Portage Pass, the lowest part of the mountain divide within the segment corridor. From Portage to Whittier the segment would cross lands of the Chugach National Forest.

Although the entire segment is influenced by the maritime climatic factors of higher humidity and temperatures than comparable latitudes farther from the sea, portion of the segment north of the mountain divide are colder and drier than portions south of the divide at comparable altitudes. Potter and Whittier, respectively, have twenty and 160 inches annual precipitation, and 35°F and 40°F annual mean temperature. Excess cold (below 32°F) and high annual snowfall maintain several glaciers and ice fields at high altitudes near southern portions of the segment.

The segment is in the Kenai-Chugach Mountains Physiographic Province which has been shaped in the past by glaciation at higher elevations and in areas of very high snowfall.

Surficial geological deposits are principally coarse materials derived from glacial action on steep mountain slopes presently having a high percentage of exposed bedrock.

Earth tremors are frequent and earthquakes with magnitude equal to or greater than 8.0 on the Richter Scale have been recorded within the segment corridor. Whittier was heavily damaged by the Good Friday earthquake.

All portions of the segment having soil cover are mantled with glacial till, moraines, till plains and lake sediments. Steep upper slopes of mountains have shallow gravelly and loamy materials with many bedrock exposures. Well drained shallow to moderately deep gravelly to silty loams overlying gravel extend throughout lowlands and up mountain slopes. Peat soils occupy depressions throughout lowland areas.

About ninety percent of this segment drains into the Cook Inlet Hydrologic Subregion and the remainder to the Gulf of Alaska Hydrologic Subregion. All streams are relatively small and short; the principal freshwater body within the corridor is Portage Lake.

Coastal Hemlock-Spruce Forest and Alpine Tundra vegetation types are the principal terrestrial ecosystems. The Tide-Mixed Estuarine ecosystem of the Turnagain Arm borders the segment from Potter to Portage.

Salmon and freshwater fish spawn to a limited extent in the streams along portions of the segment both north and south of the Kachemak Mountains. The corridor between Turnagain Arm and the passes near southeast terminus is a key waterfowl migration route connecting Prudhoe Bay and William Sound and the interior lowlands of the Susitna Valley.

Mountain goats range over higher elevations of the Chugach Mountains southeast of Anchorage and moose are concentrated in small lowland areas near Portage and south of Turnagain Arm. Wolves are recorded as present in the corridor and black bear are seasonally concentrated along small fishing streams near Portage.

Girdwood (on Turnagain Arm) and Whittier with 1970 populations of 144 and 130, respectively, are the major population centers within the segment. Other populated places are Potter, Rainbow, Indian, Bird, Kern, Portage, and Portage Junction.

Commercial fishing, tourism and transportation are the principal occupations of the people of Whittier, which has a dock and is connected to Anchorage by the Alaska Railroad. All other mentioned communities are served by the Alaska Railroad and/or Seward Highway.

Alternate Segment Nineteen follows BLM Corridor Twenty-nine (Railroad and Power Grid from east of Anchorage along Turnagain Arm to the Kenai Peninsula - Whittier). It crosses no proposed d-2 lands, but it does cross the Native Deficiency lands of Cook Inlet Native Regional Corporation, the Chugach National Forest and State lands. This area has been subject to recent land selection litigation.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

Though there are no recorded archaeological sites for this segment, the presence of native ruins of the historic period, SEW 060, SEW 061, SEW 062, suggests that there is a potential for the discovery of early period sites.

HISTORIC SUMMARY

Segment Nineteen traverses a region rich in European historic culture and mining and native activities. Russian, English, and Spanish fleets explored the entire coast of Cook Inlet - from Turnagain Arm on the west side of Kenai Peninsula to Port Wells and Whittier in the Prince William Sound on the east.

HISTORIC EVALUATION

Segment Nineteen's corridor runs through Chugach National Forest Area, which is documented in the National Register. Care should be exercised to preserve any historical site that might be discovered during survey of this alignment.

HISTORIC TRAILS

No trails are crossed by Segment 19.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #77

SEW 017. HISTORIC. Girdwood. This was originally a mining camp named for James E. Girdwood who came to the area in 1896. Located on the Seward Highway and Alaska Railroad, 35 miles south of Anchorage at the head of a wagon road to Crow Creek, Girdwood consists of abandoned cabins and other structures which were below the high tide after the 1964 earthquake.

SEW 059. HISTORIC. This site was a camping place on Passage Canal used by natives going over the portage into Turnagain Arm. It is thought to have been destroyed during the building of Whittier.

SEW 060. HISTORIC. Barabara ruins, or native house ruins, were still present in 1911 at this village site on the southern end of Culcross Island.

SEW 061. HISTORIC. This village on the mainland, opposite the southern-most end of Culcross Island, was a 1911 site for the discovery of barabara ruins.

SEW 062. HISTORIC. Barabara ruins were present in 1911 in this village on Applegate Island, south of Culcross Island.

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SEGMENT TWENTY

DESCRIPTION

Segment Twenty, an alternate segment, extends from Portage (60°50'N, 148°58'W) to Seward (60°06'N, 149°26'W).

ENVIRONMENTAL SETTING

This segment traverses the valleys and passes of the Kenai Mountains from Portage, at the southeast end of Turnagain Arm, to Resurrection Bay. Elevations along potential alignments range from sea level at either end to approximately 1200 feet at the highest part of the mountain divide. Mountain peaks in the segment corridor have elevations of 4000-6000 feet above sea level. Potential alignments would likely parallel portions of the Alaska Railroad and the Seward-Anchorage Highway. Except at the southern end near Seward, potential alignments would cross the Chugach National Forest.

The entire segment is within the maritime climatic zone, with mean annual precipitation ranging from twenty-four inches at Portage to sixty inches in the vicinity of Seward. Mean annual temperature at sea level ranges from 35°F at Portage to 40°F at Seward, and 32°F or below at higher elevations where glaciers and extensive ice fields occur.

The entire segment is in the Kenai-Chugach Mountainous Physiographic Province, the southern-most arc of the Pacific mountain system. Past glaciation has been extensive throughout the segment and continues at higher elevations where snowfall equals or exceeds summer melting. Surficial geologic deposits consist of mostly coarse materials associated with the steep mountain slopes which have a high percentage of exposed bedrock.

Earthquakes having a magnitude equal to or greater than 8.0 on the Richter Scale have been recorded within the corridor of the segment.

Soils of sufficient depth to support growth of higher plants occur in the coastal areas at either end of the segment, while only in the valleys of mountainous regions. The segment contains both organic and mineral-organic soils. Organic soils are found principally in nearly level areas having poor drainage (peat muskegs). Mineral-organic soils consist of organic layers overlying mineral strata (silt, sand and gravel). The mineral layers are either alluvial or glacial deposits and they vary considerably in depth and degree of internal drainage.

Approximately ninety percent of this segment is within the Cook Inlet Hydrologic Region from which drainage is generally northward to Turnagain Arm and other points on Cook Inlet. The remaining ten percent drains southward to Resurrection Bay and is in the Gulf of Alaska Hydrologic Region. Kenai Lake is the major fresh water body within the segment and it drains northwestward via Kenai River to Cook Inlet.

The segment corridor traverses only three vegetation zones, Wet Tundra, Alpine Tundra, and Coastal Hemlock and Spruce Forest. Forest areas are confined to coastal plains and larger valleys having deep soils. The small portion of wet tundra is found in the vicinity of Portage on level areas downstream from Spencer and Twentymile Glacier. The major portion of the corridor has either sparse alpine tundra, rock, or is ice-covered.

Because of topographic limitations and climatic variables associated with this mountainous area, the segment corridor contains a large variety of aquatic and terrestrial habitats. Moose are found throughout the corridor, principally in major stream valleys. Mountain goats are found throughout the corridor at higher elevations. Both brown and black bears, wolves, and waterfowl are present in the corridor.

The population, business and industry within the segment corridor is concentrated in Seward, which in 1969 had a total employment of 2,170 out of a total population of 2,170. Major employers are in seafood processing, timber products, rail and marine transportation, and medical services. The corridor is traversed by both the Alaska Railroad and Seward Highway. Smaller population centers in the segment corridor include Silvertip, Tunnel, Grandview, Hunter, Moose Pass, Lawing, Lakeview, and Divide.

Segment Twenty corresponds to BLM Corridor Twenty-nine (Railbed and Power Grid) through the mountainous portion of the Kenai Peninsula to Seward. The Corridor passes through the Chugach National Forest state lands, and Cook Inlet Regional Corporation lands. No d-2 lands or lands identified officially as withdrawal for Native selection are crossed. There is land selection litigation in this area.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

There are no recorded pre-historic sites for Segment Twenty. This does not preclude, however, the uncovering of sites during survey and construction work.

HISTORIC SUMMARY

Segment Twenty traverses an area of both considerable English history and early Russian influence. The potential terminus was the site of considerable damage during the famed Good Friday Earthquake of March 27, 1964.

HISTORIC EVALUATION

No sites along Segment Twenty are presently listed on the National Register of Historic Places, although several sites should qualify. Some of the earliest evidence of English-speaking settlements is at Resurrection Bay, and some of the first evidence of Protestantism is in this area. It is difficult to predict what formerly undiscovered evidence of Russian shipbuilding might be recoverable since the earthquake and tsunami of 1964.

HISTORIC TRAILS

SEWARD (quad. #63)

Trail 1, unnamed, this trail begins at the south tip of Bear Lake at Sawmill. One branch runs northeast along the shore of Bear Lake. The other begins at Sawmill and runs in a southeast direction, ending at Little Bear Lake.

Trail 2, unnamed, this trail leads from west of Seward, north of Lowell Creek, and runs in a northwest direction toward Marathon Mountain. A second branch of the trail leads directly west to same mountain.

Trail 30, Marathon Mountain Trail, goes from Seward Hospital up Lowell Creek Canyon Road to Alpine Ridge. It is one mile long.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #90

SEW 017. HISTORIC. Grandview. At Mile 44.9 of the Alaska Railroad, near the head of Placer River in the Kenai Mountains, there is a single structure railroad station established c. 1908.

SEW 024. HISTORIC. Moose Pass. There is an Alaska Railroad Station at Mile 29.3 on the southwestern shore of Upper Trail Lake which was reported by A. H. Brook of the U.S.G.S. in 1912.

SEW 037. HISTORIC. A two-storey cabin, probably log, is located at Johnson Pass Hot Springs, near Tinker Oil Claim on Johnson Pass Railhead, four miles from Mile 64, Seward Highway.

XBS 003. HISTORIC. Winter Place. This site, located on Wood Island, is a village site and sea otter hunting camp. Native name for the site is Ugci-unit.

XBS 024. HISTORIC. Moose Pass. This is a station located at Mile 29.3 on the Alaska Railroad, on the southwest shore of Upper Trail Lake.

XBS 001. HISTORIC. Voskressenski. Located at the north end Fox Island and adjacent cove on Resurrection Bay, this is the site Baranov chose for shipbuilding in 1793. The ship, Phoenix, was built that year and sailed in 1794 for Kodiak under the command of Shulas

SEW 001. HISTORIC. Seward Railroad Depot. Presently located Fifth Street and Armstrong Avenue, this wooden building served as the Alaska Railroad depot from 1917 to 1964. It was moved from its original location at the foot of Adams Street in 1928 and is now being used as the State Ferry Office.

SEW 027. HISTORIC. Lakeside Roadhouse. This site is along the Alaska Railroad, on the west side of Bear Lake seven miles north of Seward and was reported by Grant and Higgins of the U.S.G.S. in 190

SEW 031. HISTORIC. Fourth Avenue Dock and Landing Area. This is on the original main line east of Seward, the beach area from Division Tunnel Waterfall to Seventh Avenue. Having decided on Resurrection Bay as the terminus of their railroad, the Alaska Central Company sent men, the company, and equipment to build the town, dock and begin the railroad. They arrived August 8, 1903, which is now considered the place of origin of Seward. The first Matanuska settlers landed at the old dock at this site on May, 1935. The new dock, built in 1955-58, was destroyed by the earthquake and tsunami. Some ruins of the dock are still visible at the site.

SEW 033. HISTORIC. Resurrection Lutheran Church. Located at Fourth Avenue and Church Street in Seward, the church was built in 1916-17. It is the second oldest church building in Seward. Originally serving the Methodist congregation, the building was sold in 1949 to the Lutheran Church. The Lutheran congregation was organized in 1945. This was the first Lutheran Church in Seward and on the Kenai Peninsula. The church building is wood-frame, painted yellow with brown trim and in good condition.

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SEW 032. HISTORIC. The observation car "SEWARD" rests at Third Avenue and Jefferson Street in Seward. This railroad observation car was built in 1916 by the Pullman Company as a diner for the Northern Pacific. The blue and gold car is now used as a tourist information center by the Seward Chamber of Commerce. In 1964, the car was donated to the City of Seward after serving as observation car for the Alaska Railroad, which purchased it in 1935.

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SEW 034. HISTORIC. Seward Memorial Church. This was originally the chapel at Fort Raymond in 1942. Now located at Fourth Avenue and Church Street in Seward, it was moved there by the Methodists in 1946, when they bought it. The Methodist Congregation, formed in 1904, is the second oldest church group in Seward and they are the first Methodists on the Kenai Peninsula. The church is a wood-frame building with white siding and red trim and is in good condition.

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SEW 040. HISTORIC. Fort McGiluaray (Battery #293). This is a former Military Coastal Defense Battery site. It is on Caines Head, eight miles south of Seward on the west side of Resurrection Bay. The fort was abandoned April 7, 1944.

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SEW 038. HISTORIC. Brown and Hawkins Store. The store was established in 1903 when Seward was founded. The present store was built in 1907. A wood-frame building painted pink, the store provided a banking service which led to the establishment of the Bank of Seward. The Anchorage branch store's banking operations led to the establishment of the National Bank of Alaska. The founders of the store were C. E. Brown and C. W. Hawkins.

SEW 090. HISTORIC. Mt. Marathon Trail. This is a rough trail from the outskirts of Seward to Race Point, Mount Marathon (3,022 feet above sea level). Annual July 4 celebrations feature a foot race from downtown Seward to Race Point. The origins of the race are unclear, but the first official race records are dated 1915. Since 1964 a Junior Division Race has been held which goes about halfway up the trail.

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SEW 028. HISTORIC. St. Peters Church. This was the first church building of Seward. Built in winter of 1904-05 at Second Avenue and Adams Street, this wood-frame building with brown siding, green shingle roof, and white trim was the first Protestant church on Kenai Peninsula and the first Episcopal church in south-central Alaska. The church contains a unique altar painting with Resurrection Bay and Christ surrounded by Alaskans both white and Native, painted in 1925 by Jan Van Emple.

SEW 025. HISTORIC. Lawing. This is an Alaska Railroad Station, listed in the Alaska Railroad Guide of 1925. At Mile 23.3 on the eastern shore of Kenai Lake, the site consists of six or seven buildings and is dated from 1925.

SEW 023. HISTORIC. Ballaine House. This is a two-storey wood-frame house, stucco, white, with red trim, built in 1905 by Frank L. Ballaine one of Seward's founding party. Ballaine was assistant to his brother John, the first agent for Alaska Central Railroad who never resided in Seward. Frank acted as First Agent and was the one who decided on the name Seward. The house is at 437 Third Avenue in Seward.

SEW 020. HISTORIC. Divide. This is a former station at mile 12 of the Alaska Railroad, ten miles north of Seward. It is reported as site of two or three buildings.

SEW 021. HISTORIC. Crown Point. This is an Alaska Railroad station at Mile 24.5, twenty-two miles north of Seward. The U.S.G.S. reported a railroad station at this site in 1912 called Trail Lake Sta

SEW 012. HISTORIC. Railroad Cemetery. Located at Alaska Rail Mile 4.5 out of Seward, this is the burial place of Mary Foral Lowell, wife of William (or Arthur) Lowell, the first English-speaking settler in Resurrection Bay. Mary died May 24, 1906. Only eight gravemarkers are legible in the cemetery, now overgrown with trees and brush. Many other markers are broken.

SEW 013. HISTORIC. Falls Creek Station. Located north of Seward at Alaska Railroad Mile 22, this former station was reported in 1922.

SEW 011. HISTORIC. Diversion Tunnel. This is a 250 foot dam and 2,200 foot diversion tunnel under Bear Mountain south of Seward which eliminated the danger of Spring floods of Lowell Creek to Seward. This Corps of Engineers project was undertaken because of the damage past floods (1917 and 1935) had caused to the city and the Alaska Railroad yards.

SEW 003. HISTORIC. Jesse Lee Home. The Jesse Lee Home is the Seward site where Benny Benson designed the Alaska Flag. The wood frame building is in a deteriorated condition.

SEGMENT TWENTY-ONE

DESCRIPTION

This segment extends from Moose Pass, 60°29'N, 149°22'W on the southwest shore of Upper Trail Lake to Skilak Lake on the Kenai Peninsula, 60°25'N, 150°20'W.

ENVIRONMENTAL SETTING

This short segment could laterally connect Segments Eighteen, Nineteen and Twenty, and is part of an alternative routing for the Kachemak Bay Alternate Route. Potential alignments for the east portion of the segment overlap potential alignments of northern portions of the Seward Alternate either along the Alaska Railroad or Seward Highway Corridors. This segment is entirely within the Kenai Mountains and would connect with Segment Eighteen near Skilak Lake. However, for assessment purposes, this route could cross Turnagain Arm and a variety of routings are possible.

Average annual temperature for the segment is about 35°F (near Portage) and annual precipitation averages about eighty inches. Both total precipitation and total snowfall are higher at higher elevations within the segment. The climatic zone is Maritime.

This segment would traverse relatively deep glacial valleys of the Kenai-Chugach Mountains Physiographic Province. Surficial geological deposits are glacial materials in valleys or exposed bedrock on mountain slopes. Past glaciation has been extensive and continues at higher elevations.

Earth tremors and earthquakes have occurred in this segment corridor.

Significant depth soils within the segment are confined to major valleys and more gentle sloping areas near Turnagain Arm and Skilak Lake. Soil type is principally silt loam overlying gravelly and stony glacial deposits and lake sediments. Deep, poorly-drained peat soils occur in depressions in areas of well-drained silt loams.

The entire segment is in the Cook Inlet Hydrologic Subregion and drains to Cook Inlet via the Kenai River, and via smaller streams to Turnagain Arm. Kenai Lake, Kenai River, and Skilak are major freshwater bodies in the corridor.

The principal vegetation type is Alpine Tundra and includes large areas of barren ground. Alpine Tundra is the habitat of mountain goats. Moose and black bear inhabit areas of Coastal Hemlock-Spruce Forest, which in this segment occur only in major valleys and lowlands bordering Turnagain Arm.

This segment crosses portions of both the Chugach National Forest and the Kenai National Moose Range. Moose is the most abundant large game animal in the segment. Both brown bear and black bear are seasonally concentrated around lakes and fishing streams. Wolf is recorded as present in the area.

This segment is lightly populated throughout, with Moose Pass (1970 population fifty-three) being the largest inhabited place. Principal occupations are those associated with recreation, tourism and transportation.

Segment Twenty-one has no comparable Corridor identified by 1974 study by the Bureau of Land Management.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

No prehistoric sites have been recorded for this segment.

HISTORIC SUMMARY

Since this is a theoretical route which could take various alignments other than the Segment described herein, the entire area in central Kenai Peninsula, including historical assessments for other routings, was forcibly considered. In addition to details already reported for other routings through the Kenai Peninsula, this segment shows evidence of early Russian and English-speaking miners' activities.

HISTORIC EVALUATION

The area has no sites included in the National Register and to date only limited evidence exists of Russian mining activity of early nineteenth century mining camps. Some early families settled here and cemeteries of these settlers have been recorded.

HISTORIC TRAILS

No trails are crossed by Segment Twenty-one.

ARCHAEOLOGICAL AND HISTORIC LOCALES

HAL #89

SEW 030. HISTORIC. Devil's Gulch. This is a site from which Russian artifacts were recovered.

SEW 035. HISTORIC. Michaelson Family Cemetery. This site is the graveyard of four members of the Michaelson family who died in the influenza epidemic of 1920. It is located at the north end of Lower Summit Lake near the U.S.F.S. wayside near the road. It is difficult to see, and a child's grave is partially covered by a narrow ledge at the end of the road.

SEW 036. HISTORIC. A squared-off log of non-diagnostic character was recovered from this site on Canyon Creek.

SEW 002. HISTORIC. Hirshey Mine. This is the only gold lode mine on the Kenai Peninsula to date. Begun in 1911, Hirshey Mine is located on Mile Twelve, Palmer Creek Road, Hope.

SEW 015. HISTORIC. Gilpatrick. This is a small mining camp in the Moose Pass district on Seward Highway, 22 miles south of Sunrise, at the junction of Quartz and Slate Creeks south of Summit Lake. It was named for John Gilpatrick, who discovered gold on Summit Creek in 1896.

SEW 022. HISTORIC. Dahl. This was a former mining camp named Dahl Placer Mine, located on Canyon Creek at the northeast shore of Lower Summit Lake, sixteen miles south of Sunrise. It had a post office from 1905 to 1913 and now has three buildings.

SEW 042. HISTORIC. This is believed to be the site of a nineteenth century Russian mining area and possibly a way station on the route from Fort Saint Nicholas at Kenai to Voskressenski Post on Resurrection Bay. Hammers, mining tools, utensils, kettles, samovars and large log structures were taken from the site, indicating early twentieth century mining activity.

SEW 041. HISTORIC. Slaughter Gulch. This is a nineteenth century site from which Russian artifacts were recovered.

SEW 043. HISTORIC. This is a site and tunnel where tempered copper tools, such as a pick and axe, were reportedly found during the early 1900's. The site, located on Shaft Creek near Coopers Landing, is believed to be the site of nineteenth century Russian activity. Prospectors George Slayback and Tom Wells discovered the site.

SEW 029. HISTORIC. This site is apparently a lodge's trading post where Russian materials and pre-contact artifacts were recovered from a garden; this site is located on the Kenai Peninsula near the Russian River.

SEW 018. HISTORIC. Hope Historic District. This is an old mining district at the mouth of Resurrection Creek on the southeast shore of Turnagain Arm. Originally called Hope City, it was established circa 1896 and still contains the old mines, placer and hard rock trails and other mine-related structures.

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SEGMENT TWENTY-TWO

DESCRIPTION

Segment Twenty-two extends from Delta Junction, 64°02'N, 145°44'W, to Beaver Creek, the Canadian - U.S. border of Alaska and Yukon Territory.

ENVIRONMENTAL SETTING

This segment closely parallels The Alaska Highway throughout and ascends The Tanana River Valley, closely paralleling the river immediately upstream of Delta Junction.

This mostly lowland segment is in the Continental Climatic Zone with relatively lower precipitation, warmer summers and colder winters than comparable latitudes on the coast. Mean annual temperature is 20° to 25°F and the mean annual precipitation ranges from ten to twenty inches with the warmer and wetter areas being near the border.

The route of this segment is through the Tanana-Kuskowim Lowland Physiographic Province bordering the northern side of The Alaska Range. Most of this segment is through areas of recent alluvium and glacial lake deposits with occasional moraines and bedrock exposures.

Soils of the lower terraces of Tanana, Delta and other major streams are poorly drained deep silt loams with thick organic mat and isolated masses of ice-rich permafrost. Soils on steep slopes, lower southfacing slopes, hills and higher terraces are well drained gravelley loams and silt loams. The lower lying soils have severe drainage limitations; and except for loess deposits on terraces, which have only slight limitations, soils on steep slopes and hills are severely to moderately susceptible to erosion.

Some localized areas of the Lowlands have combinations of soils and other factors making them physically suitable for settlement and site development.

Permafrost is discontinuous in most of the Tanana Hydrologic Subregion. This segment parallels The Tanana River, the largest stream of the region, estimated to have an average annual flow at Nenana of 24,290 cubic feet per second. Major tributaries of the Tanana are the Nabesna and Chisana. Seasonal snow pack and lakes provide significant surface storage and alluvial aquifers provide significant ground water storage in the region. Water quality is generally good but some springs have high amounts of magnesium-sodium carbonate type dissolved solids.

The first half of this segment is through Bottomland Spruce - P Forest, the second half through Lowland Spruce - Hardwood Forest, with areas of Low Brush Muskeg-Bog scattered throughout and a small area of Upland Spruce - Hardwood Forest near the Canadian border.

This mostly lowland route has several species of freshwater fish streams here are not important anadromous fish spawning areas because of their great distance from the sea. Waterfowl are found all along this segment and have high density from Tetlin Lake upstream to near the Canadian Border; Delta Junction being the focus of two major migratory routes. The Mentasta Caribou Herd ranges near the segment in the vicinity of Tak. Bison have winter range area between The Tanana and Delta River south of Big Delta. Moose, grizzly and black bear range throughout this segment with their concentrations coinciding with the lowlands followed by the Alaska Highway.

This segment is along the Alaska Highway and has population centers at Dot Lake, Tok, Tetlin Junction and Northway Junction. Significant employment is found in transportation, services, and government.

Segment Twenty-two parallels BLM Corridor Number Twenty-seven (Rampart-Canada) from Delta Junction to Canada along the Alaska Highway. No proposed d-2 or Native deficiency lands are crossed. Lands crossed withdrawn for Native Selection include Healy Lake, Tanacross, Northway and Dot Lake. State lands and the Former Tetlin Reserve are also crossed.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

Two of the most important archaeological sites in Alaska lie within this segment of the alternate pipeline route which follows the Alaska Highway. The Dixthada Site (on Mansfield Creek near present Mansfield Village) is one. Most sites in Upper Tanana and Copper River area have very few artifacts and cannot be associated with historic Athabaska. Dixthada contains a long and more or less continuous sequence of historic and prehistoric Athabaskan material culture.

There are ten refuse middens graded in age from those at south end of site (abandoned only twenty years ago) to those at north end (abandoned long before European contact). Collections include: hammered native arrow and spear points, awls and needles, skin scrapers, whetstones, stone adzes, very small stemmed arrow points, blades with bilateral endscrapers, retouched flakes, polyhedral cores and the small prismatic flakes struck from them; stemmed bone and horn arrow points, barbed and notched bone points (fish spear prongs), bone knives, scrapers and Cut birchbark fragments, burned stones indicate cooking was done in birchbark baskets. No pottery at this or any other site.

Campus-type cores and endscrapers suggest the earlier Dixthada component may be related to the PalaeoArctic Tradition.

The Healey Lake Site, excavated by Cook and McKennan in 1971, contains the earliest radiocarbon dated level in Alaska. Level I in the site contained thin triangular lozenge and tear-drop shaped points (one of which may be fluted) and a bone fragment which yielded a date of 11,072 + 170 B.P. This is overlain by a Tuktuk-like complex in Level II, a complex of campus-related microcores and blades in Level III, and historic Athabascan artifacts in the top level of the site.

EVALUATION

The presence of these two rich and extremely early sites makes it imperative that a thorough professional survey be preliminary to any pipeline construction in this segment.

HISTORIC SUMMARY

In his 1885 explorations of the Copper, Tanana, and Tetlin Rivers, Lt. H. T. Allen recorded several Indian villages in the region of Segment Twenty-two. During the gold rush era, The Valdez-Eagle Trail extended to the Forty Mile gold fields at Tanacross and served as a route for both the stampedeers and their supplies. Old fur-trading posts of the Hudson's Bay Company are also present within this corridor. The more recent construction of the Alcan Highway during World War II is also of contemporary historic importance.

HISTORIC EVALUATION

Since this corridor traverses the Forty Mile gold field region bordering Alaska and the Yukon Territory, full consideration should be given to the historic values of camps, mines, and posts within Segment Twenty-two. Presently there are no sites listed on the National Register.

HISTORIC TRAILS

No historic trails are crossed by Segment Twenty-two.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #53

XBD R-1. ARCHAEOLOGICAL. Healey Lake. (See Archaeological Summary)

XMH R-1. ARCHAEOLOGICAL. One side scraper from a lake west of Healey Lake was found by Clyde Wahuhathg of the U.S.G.S. (Skarland 1948: p. 116-120)

HAL #54

TNX R-1. ARCHAEOLOGICAL. Dixthada Site. (See Archaeological Summary)

TNX 001. HISTORIC. Nandell. Former Indian village or camp located on Tetlin River near Tetlin Lake. Originally called "Nandell Village" after its chief. Reported to have a population of eight-hundred in 1885 by Lt. Allen, U.S. Army.

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SEGMENT TWENTY-THREE

DESCRIPTION

Segment Twenty-three extends from the border of Alaska and the Yukon Territory near Beaver to the town of Boundary, near the border of Alaska and British Columbia. The segment is entirely in Canada.

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ENVIRONMENTAL SETTING

From the north end this segment follows the Alaska Highway to Haines Junction. From here it follows the Haines cut-off to Boundary Camp on the Alaska-Canada border.

Separated from the sea by the St. Elias Mountains, this segment has a mostly continental Type Climate with Maritime Climatic Zone influences at the southern end. Mean annual temperature ranges from about 25°F to 35°F, north to south. Mean annual precipitation ranges from about ten inches at the north end to forty inches at the south end.

This segment continues in the Tanana-Kuskowim Lowland physiographic province to just south of Kluane Lake. South of this point to the Alaska border the route is in narrow valleys draining to Southeast Alaska and lying between The St. Elias and Coast Mountains Provinces. The entire region has had extensive glaciation, and present surficial geology is either glacial deposits, existing glaciers, or bedrock exposed by glaciation.

Soils are principally either coarse and rubbly or silty in texture, depending on distance from originating glaciers. Some soils also include volcanic ash.

This Canadian segment is wholly drained by river systems flowing through Alaska to reach the sea, and is in The Upper Yukon, Tanana, and Southeast Alaska Hydrologic Subregions. The Kluane and Dezadeash Lakes are important water bodies at stream headwaters of the region.

The principal vegetation throughout is Upland and Lowland Spruce-Hardwood Forest. The area is known to be inhabited by the same species as adjacent parts of Alaska. These include moose, bear, mountain goat, and many species of fur-bearers. Freshwater fish of many species inhabit stream and lakes. Larger lakes and wetland areas around them are habitat for waterfowl.

Haines Junction is the principal populated place along the route.

ARCHAEOLOGICAL SUMMARY

The fourteen known prehistoric sites for this segment represent a rather complete cultural sequence for the Southwest Yukon. The discovery and excavation of R1, JhVq-1 the Gladstone site and R2, Ji the Little Arm site has brought to light data of immense archaeological importance. These two sites in themselves exhibit evidence of six cultural phases spanning a period of 10,000 years which have been identified by characteristically unique tool inventories. The other twelve known sites represent components of the district cultural phase identified at the Gladstone and Little Arm sites. These cultural complexes are manifestations of larger distinct ways of life persisting in time and space, called traditions.

The traditions represented in the corridor of Segment Twenty-two are Cardilleron-Kluane Northwest Microblade-Gladstone, Little Arm at Taye Lake, and Denetasira by Aishikik and the Bennett Lake complex. This last tradition represents the material culture of many of the Athabaskan peoples.

The importance of these sites to the prehistory of Northwest America is that they begin to exhibit for a 10,000 year period significant cultural adaptations of groups to major environmental changes. These range from the Paleo-Indian big game hunters adapted to a grass-tundra environment to groups adapting to an environment of the invading boreal forest.

EVALUATION

Though much excavation has been done in this area there is every reason to believe that many as yet undiscovered sites remain to be found. The importance of this area archaeologically can not be overemphasized. The choice of this alternate alignment would require careful survey to protect both known sites and as yet undiscovered from destruction.

HISTORIC SUMMARY

The Yukon Territory's Klondike region was the scene of the fabulous gold rush era of 1897 to 1898, and during World War II, it was an important link on the Northwest Staging Route. The famous Dawson Range, the setting of the Klondike Gold Rush, is just north of this segment.

HISTORIC EVALUATION

The area in which the segment would follow the highway through Canada is extremely rich in evidence of early English and French speaking traders, missionaries and trappers, as well as established Native cultures throughout the region. The Yukon Territory was probably the area of the most intense competition between European races and religions west of Hudson Bay in the post-contact era. The area is undergoing territorial debate over Native land claims.

HISTORIC TRAILS

Data on historic trails in this Canadian segment was not available at this time.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #57

R1, JhVq-1. ARCHAEOLOGICAL. The Gladstone Site. This site is located on the northeast side of Kluane Lake about midway between its two extremities. The site is just east of where Gladstone Creek enters Kluane Lake.

The Gladstone Creek site is a stratified multi-component one. Artifacts found in the lowest layer (the yellow zone of Kluane silt) have been assigned to the Kluane cultural complex.

The Kluane complex is the most poorly defined of those found in the southwest Yukon. At the Gladstone site it is uniquely distinguished by Lerma-like points, scraping planes and pebble choppers. Blades, microblades, and split pebble choppers are important distinctive traits which continue into later horizons. MacNeish has given the Kluane complex the probable date of 7500 B.C. and has tentatively assigned it to the Cordillerian archaeological tradition. (MacNeish 1964:330) (Fig.82). Further comparisons have been made to Rainey's discoveries at Rampart Rapids, Alaska. (Rainey 1939:378); (MacNeish 1964:331).

Following the Kluane component in time at the Gladstone Creek site is an assemblage of artifacts which represent the Gladstone cultural phase in the southwest Yukon. The Gladstone phase is a transitional stage between the more distinctive Little Arm and Taya Lake phases (MacNeish 1964:290). Little Arm, Gladstone and Taya Lake are all closely linked by a host of traits in common. These tracts form the basis for MacNeish's conclusion that these complexes belong to the northwest microblade tradition (MacNeish 1964:319). They all represent a like subsistence pattern. They have a similar microblade and small polyhedral core complex including distinctive tongue-shaped cores (MacNeish 1964:319).

The evidence suggests that "the Gladstone people were nomadic hunting and trapping microbands in winter coalescing in the summer to form macrobands for fishing in lakes and streams." (MacNeish 1

The Gladstone complex shows great similarities to complexes in surrounding areas particularly the Pointed Mountain in Northwest T (MacNeish 1954) and that of the Campus site (Rainey 1939) found on Campus of the University of Alaska at College, Alaska. (MacNeish 1964) The Gladstone phase has been assigned the tentative date of 4200 B (MacNeish 1964, Fig. 82)

The uppermost component of the Gladstone Creek site is called Aishihik. The diagnostic artifacts found are Anderson, Catan, and Aishihik points, three-quarter grooved adzes, thumb nail scrapers, plain antler arrows.

During the winter these people lived as nomadic hunting microbands and in summer gathered on lake shores to fish. (MacNeish 1964:294) yet, little is known about the Aishihik complex to support relating to complexes in other geographical areas. Future work will surely uncover the data necessary to fully explain the role of the Aishihik complex plays in the culture history of the Southwest Yukon. The Aishihik complex has been given the probable date of 300 A.D. (MacNeish 1964, Fig. 82)

JiVs-1 R2. ARCHAEOLOGICAL. The Little Arm Site. This stratigraphic multi-component site is located on the east side of Kluane Lake and directly across from the mouth of the Kluane River. It is situated south of the point that marks the beginning of the Little Arm of Kluane Lake, which has recently been renamed Brooks Arm.

The Little Arm component is situated in the lowest strata and represents the earliest occupation at this site. Artifacts found which are unique to the Little Arm phase are serrated side scrapers, plain end scrapers, Plainview, Minto and Milnesand points, Anaktuvuk and Fort Creek Burins, lashed antler points and unifacial drills. These artifacts in combination with types which persist from the previous horizon are diagnostic of the Little Arm phase. The diagnostic types of artifacts are tongue shaped polyhedral cores, truncated microblades, prismatic microblades, secondary burin spalls, keeled end scrapers, Fort Liar burins, Agate Basin points, graters, and split pebble choppers. A "high proportion of microblades to blades is a possible characteristic of this phase." (MacNeish 1964:289)

964:291) The evidence suggests that the Little Arm people were nomadic microbands who hunted and trapped during the winter, then joined into macrobands during the summer to fish on lake shores.

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The Little Arm is closely related to the Gladstone and Taya Lake complexes of the Southwest Yukon; both of which are described in this section. Farther afield, however, there is evidence of close relationships with complexes in the Simpson-Liard area of the Mackenzie drainage and complexes in central Alaska. The Little Arm complex has been assigned to the northwest microblade tradition and has been given the tentative date of 5500 B.C. (MacNeish 1964:312)

The component which follows the Little Arm component at this site has been designated the Taya Lake component. Unique traits of the Taya Lake complex are Whitehorse points, notched scrapers, an antler hammer and large half-moon side blades. Other diagnostic artifact types are large side-scrapers, crude plano-convex end scrapers, chi-thos, spokeshaves, tabular cores, blades and an abundance of crude bifacial scrapers or ovoid knives. The Taya Lake people appear to have had the same community pattern as the Little Arm and Gladstone people. They occupied the site during the summer while fishing, trapping and hunting.

The Taya Lake complex is also included in the northwest microblade tradition and represents its final stage. The Taya Lake complex is believed to be closely related to the Fisherman's Lake complex in southwest N.W.T., the Lockhart River, and N.T. Docks complexes in eastern Northwest Territories. A resemblance has also been seen to materials from the Tyone site (Irving 1957) in central Alaska. The Taya Lake complex has been assigned to the time period between 2000 B.C. and 300 A.D.

The upper most component of the Little Arm site is designated the Bennett Lake and represents the material culture of the late prehistoric and historic tribes in the area. Unique artifacts include Stott, Prairie, Fresno, and Catanpoints, Copper spear points, long bone fleshers, scrapers made from glass or gunflint, copper awls, copper pins, ground slate, bonetubes, antler and copper gorges and copper tinklers. Other diagnostic artifacts are thumbnail end scrapers, three-quarter grooved adzes, beaver tooth gouges, pebble net sinkers and chithos.

The settlement pattern differs from that of the previous mentioned groups in the area. Groups stayed together as macrobands during most of the year, the exception may have been an occasional hunting microband during winter. In winter these multifamily macrobands trapped, hunted and perhaps ice fished on the frozen bodies of water near their camps. In summer the macrobands trapped and did lake fishing at locations different from their winter camps. They also moved to rivers and large streams when the salmon ran. (MacNeish 1964:295)

Large herbivore bones found attest to some big game hunting with bow and arrow. Copper was worked cold from modules. Skins, bone, wood, antler, and birch bark were also worked.

The Bennett Lake complex has been assigned to the Denetsiro Tradition. (MacNeish 1964:348) The Bennett Lake complex is viewed as having definite relationships to the Dixthada Site (Rainey 1939) on the Tanana in Central Alaska (MacNeish 1964:332). The time period between 300 and 1900 A.D. has been given to the Bennett Lake complex.

R6. ARCHAEOLOGICAL. The Christmas Creek. This site is located on one of the small streams which drain the height of land separating the Kluane Lake basin from the Alsek Valley. It is located on the eastside of the southern end of the lake. Here a chopper was found in the yellow zone of Kluane silt, and has been assigned to the Kluane complex, the oldest in the region.

R11, Site 1085. ARCHAEOLOGICAL. This site is located north of the highway near Mile post 1085 on a high bluff estimated to be about one hundred feet above the level of Kluane Lake. Flaking debris and artifacts not described were found.

R12, Site 1081. ARCHAEOLOGICAL. This site is also located north of the highway but at Mile post 1081, a broken projectile point and other artifacts were found.

R13, Site 1074. ARCHAEOLOGICAL. This site is located on a terrace. The site stretches from approximately Mile 1073.5 west beyond mile 1075 with the greatest concentration of artifacts being found in a one-quarter by one-half mile area at mile 1074.

R14, Site 1075. ARCHAEOLOGICAL. This site is located in the vicinity of Mile post 1075. Several artifacts were found on the surface here.

R5, JiVs-5. ARCHAEOLOGICAL. An ancient camp was situated on the high terrace on the north side of the Kluane River mouth where it enters Kluane Lake. The artifacts were picked out of a brown soil probably Slim's River silt, just under the volcanic ash. The presence of an Anderson point, a Besant point, an Agate Basin point, one flat-topped end scraper, one blade, two microblades, and four side scrapers suggests a Tye Lake component.

R8, JiVg-1. ARCHAEOLOGICAL. Ancient remains were found on the west side of the Talbot Arm of Kluane Lake about one mile north of the entrance. They were situated on the south end of a very high terrace that skirts the hills on the Talbot Arm, at the place where it turns to run east and west along the edge of the hills. The side scraper, blade and three microblades and bones eroding out of the bottom of the reddish brown zone of the Kluane silt under the volcanic ash hint that this is a Little Arm component.

R4, JiVs-4. ARCHAEOLOGICAL. This site is located on the ridge just north of the air strip near Burwash about two miles west of Kluane Lake. The artifacts seemed to be eroding out from below the volcanic ash at the bottom of reddish brown (Kluane) silt and included a side scraper, a neatly chipped plano-convex end scraper, an Agate Basin and a Milnesand point. This suggests a Champagne occupation.

R3, JiVs-3. ARCHAEOLOGICAL. This site is located on the terrace just in back of the Burwash Lodge on the west side of Kluane Lake. The artifacts, a three-quarter grooved adze, a Aishihik point, a notched end scraper, two flat-topped end scrapers and one ovoid end scraper, two thumbnail end scrapers, two chi-thos and side scrapers are reasons for classifying this site as a probable component of the Aishihik phase.

R7, JiVs-2. ARCHAEOLOGICAL. This site is located on the east side of Kluane Lake on a point that marks the beginning of the Little Arm. It is on the next point north of JiVs-1 R2 and on the same terrace. It was tested in 1944 by F. Johnson. In the lower part of the reddish brown soils he found a number of tools which are classified in the Little Arm phase. Artifacts included an Agate Gasin and a Milnesand point, one blade, nine microblades, one tongue-shaped core, a burin, five end scrapers, twelve side scrapers, and seven bifaces.

HAL #38

R9, JcVe-1. ARCHAEOLOGICAL. This site is a surface site on the high terrace against the hills on the east side of a dry creek flowing into the Kluhini River just west of Dezadeash Lake. Artifacts include four microblades, a tabular-polyhedral core, two thin side scrapers, retouched on one side, one thin side scraper retouched on two sides, one thick side scraper retouched on one side, one thick side scraper retouched on two sides, two point tips, a Refugio point, two ovoid bifaces, a square-based biface and one biface fragment, three flat-topped end scrapers, and an end-of-blade scraper. This assemblage possibly belongs to the Tye Lake phase. (R. MacNeish 1964)

R10, JeVi-1. ARCHAEOLOGICAL. This site was found by F. Johnson on the north side of the Alaska highway at mile 1013 (now 1011.9). Subsequent widening of the highway has almost completely destroyed the site. In the lower part of the reddish silty sands underneath the volcanic ash he collected a few artifacts and chips. Lerma and Milnesand points, one ovoid plano-convex and flattopped end scraper, six side scrapers, the eight microblades and two tongue-shaped cores which Johnson found allow one to classify the site tentatively as a Little Arm component. (R. MacNeish 1964)

SEGMENT TWENTY-FOUR

DESCRIPTION

This segment begins near Pleasant Camp on the border of Alaska and British Columbia, 59°27'N, 136°21'W, and runs to Haines on Portage Cove in Chilkoot Inlet, 59°14'N, 135°26'W.

ENVIRONMENTAL SETTING

This southeast Alaska segment follows the Haines Highway in the Klehini and Chilkat River Valleys to terminate at the head of Lynn Canal on Chilkat Peninsula. This segment is the terminal portion of an alternative route through the southwest portion of Yukon Territory, Canada.

The mountains between this segment and the sea have a moderating effect on the Maritime Climatic Zone found here. The mean annual precipitation of about eighty inches is much less than some nearby areas on the coast, and the mean annual temperature varies from 35°F, a few miles from the sea, to 40°F on the coast.

This segment follows narrow valleys in the Coast Mountains Physiographic Province. These valleys have either coarse rubbly deposits or exposed bedrock on steep mountain slopes which have been extensively glaciated. Level or nearly level land is a scarce commodity in this extremely mountainous area with many nearby glaciers and ice fields at higher altitudes.

Soils on the moraines and on foot slopes bordering narrow plains and v-shaped stream valleys are shallow, stony and gravelly loams, with finer sediments in the vicinity of fiords, and peat deposits in local depressions. Except for areas of peat, soils have only moderate limitations for most uses.

Glacier-fed streams, high precipitation, steep mountain slopes, numerous fiords, and short stream courses are the dominant hydrologic features of this segment in the Southeast Hydrologic Sub-region. Water supplies are abundant, of good quality, and soils at lower elevations are free of permafrost.

This segment contains only Coastal Hemlock-Spruce Forest within potential pipeline alignments, but Alpine Tundra occurs on nearby mountains.

Brown and black bear and moose are relatively abundant in this area. Deer are present on Chilkat Peninsula. Waterfowl are also present, but the valleys followed by this segment are only minor migratory routes. Local streams are important salmon spawning grounds, with some having runs exceeding fifty thousand fish.

Klukwan is a Native village on this route which is eligible for land withdrawal under the Alaska Native Land Claims Settlement Act. Klukwan had a 1970 population of 103. Haines and Port Chilkoot, near the end of this segment, had a combined 1970 population of 1125. Major employment in this area is in fishing and transportation.

Alternative Segment Twenty-four corresponds generally to BLM Corridor Number Thirty-nine (Haines) which follows the Klehini River at the Alaska border to its confluence with the Chilkat River and on to Haines. It crosses no proposed d-2 lands, no Native deficiency lands and no lands withdrawn for Native selection, but it does cross the former Klukwan Reserve and State lands.

ARCHAEOLOGICAL SUMMARY

Within Segment Twenty-four there are no recorded pre-historic sites. This does not preclude the uncovering of sites during survey and construction.

HISTORIC SUMMARY

Segment Twenty-four contains significant information regarding the history of the State of Alaska. The Klondike, the Trail of '98, Chilkoot Pass, White Pass, the Yukon Railroad, Skagway, Dawson City, the Dalton Trail, Lynn Canal, Haines, Klukwan, and Porcupine, among many others, are places that have notably influenced the historical development of both the immediate area and the interior of Alaska.

This segment presently has two sites on the National Register of Historic Places, Pleasant Camp Post on Mile Forty-two of Haines Highway (SKG 002) and the Skagway Historic District and White Pass, at the head of Taiya Inlet on Lynn Canal.

HISTORIC EVALUATION

In view of the large amount of documented historic data in this area and the great potential for further discovery of historically significant sites, Segment Twenty-four must be given careful consideration prior to final selection of the alignment.

HISTORIC TRAILS

SKAGWAY (quad. #45)

Trail 3, Dalton Trail and other offshoot trails from the Dalton Trail; begins at Pyramid Harbor thence northwest along the Chilkat River and follows a trail from Pleasant Camp to Pyramid Harbor.

TRANSPORTATION INGENUITY



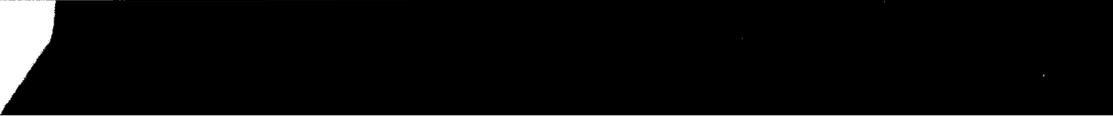
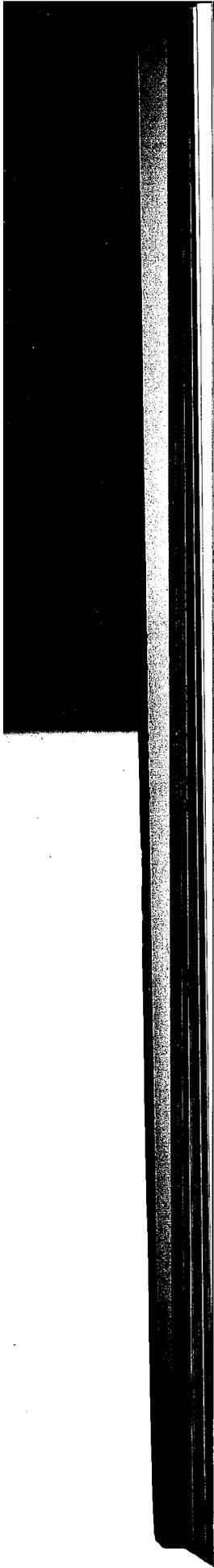
Reindeer, introduced into Alaska, have been used to pull freight and mail sleds. Note the Lappland-design for rounded-sled bottom.



Goats to pull this freight to Dawson where apparently the town was still in the unorganized area of N.W.T. (1895). Early gold rush.



This 1914 prospector at Nome mashes his way toward town on a narrow gauge railcart from a mining area nearby.



HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #61

SKG 001. HISTORIC. Fort William H. Seward. This significant example of an early twentieth century military post was established to police the gold rush. The twelve acre site consists of several early twentieth century military buildings surrounding a parade ground. It was operative from 1898 to 1943.

SKG 002. HISTORIC. Pleasant Camp. In 1900 this was the site of a Royal Canadian Northwest Mounted Police post and a customhouse. Today deteriorating log cabins remain there.

HAL #62

SKG 019. HISTORIC. Old Chilkat. Within the state park at the stream outlet of Chilkat Lake is this old town which was buried in a rock slide killing women and children, the men having been out hunting at the time. The village survivors then moved further along the stream toward Lutak Inlet, but the town never flourished as before.

SKG 011. HISTORIC. Klukwan. This Tlingit Indian village was reported by the U.S. Navy in 1880. Location is the north shore of Chilkat River 1.4 miles southeast of Glass Point and twenty-one miles southwest of Skagway.

SKG 014. HISTORIC. Pyramid Harbor. This abandoned Klondike gold rush era site is on the west shore of Chilkat Inlet, five miles southwest of Haines at the head of the Dalton Trail (formerly Chilkat Trail which the Natives had used as a trade route.) The trail was first discovered by a white man, E. Bean, in 1880, and was later developed by John Dalton as a commercial route to the Klondike gold fields and the interior. It was also the meeting site of the Seward and the Chilkat Chiefs and the site of an early cannery employing Chinese labor.

SKG 005.. HISTORIC. Chilkat. This former Tlingit Indian village, abandoned about 1910, is located on the Chilkat Peninsula, two miles south of the center of Haines. The name "Chilkat" refers to a tribe of Tlingit and means "salmon storehouse."

SKG 004.. HISTORIC. Chilkoot Site. Heavily overgrown, this site was one of the principal Chilkat towns. It is located on the Chilkoot River between Chilkoot Lake and Lautok Inlet. Six major houses were reported here in 1908, but were abandoned by about 1910. During the August 7, 1869 eclipse, Secretary of State Seward was a guest here while he concluded a treaty between the Chilkat and Sitka Indians.

SKG 010. HISTORIC. Gantegastaki. This former Tlingit Indian village was first reported in 1880. Location is Haines Airport at the mouth of Chilkat River.

SKG 007. HISTORIC. Haines. Haines was originally an Indian village called "Dei shu", meaning "end of trail." The first white man to settle here was George Dickinson, an agent of the North West Trading Company during the Klondike Gold Rush. The site is located on Portage Cove in Chilkoot Inlet, sixteen miles southwest of Skagway.

SKG 015. HISTORIC. Porcupine. This gold mining town was typical of communities critical in establishing the economic worth of Alaska by attracting an urban population and fostering industrial development. Established in 1898, Porcupine has twenty-five buildings in evidence today, eleven of which are still standing. It is endangered by vandalism or erosion.

SEGMENT TWENTY-FIVE

DESCRIPTION

Segment Twenty-five, an alternate route, extends from Copper Center (61°57'N, 141°27'W) to the Copper River's intersection with the Tiekel River.

ENVIRONMENTAL SETTING

From Copper Center to the village of Tonsina, Segment Twenty-five parallels the Copper River on its southwest side. At Lower Tonsina the segment crosses the Copper River, then continues southward and southwestward, crossing the Chitina River opposite the village of Chitina, recrossing the Copper River near Canyon Creek, and following the west shore of the river southward to Tiekel River. The terrain is principally riverine, but varies from broad flood plains at the north end to narrow terraces in the southern half. Included in this segment are populated regions and remote uninhabited areas.

This portion of the Transitional Climatic Zone in Alaska has a mean annual precipitation of ten to twenty-four inches, north to south, and a mean annual temperature of 28° to 35°F. Lowland areas at the north end of Segment Twenty-five have both colder winters and warmer summers than areas to the south.

This segment begins in the Copper River Lowlands and enters the Kenai-Chugach Mountains physiographic province near the half-way point at Chitina. These provinces have alluvial/glacial lake sediments and alluvial deposits or exposed bedrock, respectively. Narrow stream terraces exist on both sides of the Copper River at several places south of Chitina.

Soil cover in this segment is principally recent alluvium and glacial outwash from nearby glaciers in the Chugach Mountains of the southern portion of segment. Drainage in this portion ranges from good on terraces to very poor in low areas bordering the Copper River.

Between Copper Center and Chitina the area of poorly drained lowland soils is quite broad, with deep silty soils having thick organic mat. Most soils have severe limitations for site development and other uses because of poor drainage and topographic position.

The hydrology in the Gulf of Alaska Hydrologic Subregion is essentially that of the Copper River, as the segment is at all points on or near its shore and under present plans would cross it twice. With eighteen percent of this stream's watershed in glaciers, it is the most extensively influenced by glaciers of Alaska's major streams. The Copper River has a broad flood plain in the Basin at Copper Center and at best only a narrow flood plain in some reaches in the Chugach Mountains.

Water supply is abundant and of good quality. Spring flooding a hazard in many places.

Between Copper Center and Chitina the Bottomland Spruce-Poplar Forest system predominates, and between Chitina and Tielke River the Upland Spruce-Hardwood Forest predominates, each of these areas occurring in narrow strips along the Copper River.

The riverine and lake habitat around Copper Center and the Cop and Tonsina Rivers is very important for waterfowl. Both black and brown bear are usually concentrated along streams around Copper Center. Caribou have winter range here and a small herd of transplanted bison range just north of the Copper River near the northern end of the segment.

Moose range along the segment and are concentrated in major valleys and the Copper River Lowland. Both mountain goat and dall sheep in nearby mountain areas.

The Copper River drainage contains many species of freshwater fish and is an important salmon spawning area.

Chitina, a Native village with a 1970 population of thirty-eight is the most populated place in Segment Twenty-five. Chitina is located on the left bank of the Copper River and is the southern terminus of Edgerton Highway. The villagers depend on subsistence and in 1972 they harvested mammals, fish and wild or cultivated vegetables and berries for an annual take of 98,875 pounds.

This consisted of 74 percent fish, 23 percent mammals, 0.4 percent cultivated vegetables, and 2.6 percent wild berries and roots. Some income is derived from a small tourist industry, as well as work in Copper River salmon fishery.

Segment Twenty-five generally corresponds to part of BLM Corridor Number Thirty-four (Copper Valley). The BLM Corridor crosses: the Wrangell Mountain National Forest, which is a proposed d-2 land, the Ahtna Native Regional Corporation, which has a Native deficiency land, and Chitina, which is a village withdrawn for Native selection.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

The three prehistoric sites in Segment Twenty-five seem to be related to the large number of more recent Copper River Indian habitations in the area. Data of this kind for ethnoarchaeological studies and other diachronic investigations of culture change are considered very important.

HISTORIC SUMMARY AND EVALUATION

The Copper River provided the natural passage into the interior necessary for the travel and exploration which resulted from the discovery of copper and gold in the mining belt areas of Copper Center, McCarthy and Kennecott.

The Copper River drainage in Segment Twenty-five is responsible for it being studied and documented in depth, particularly as the Eyak Indian and the mining settlements are concerned.

The development of mining interests throughout the Copper River watershed and Chitina vicinity, accompanied by construction of the Copper River-Northwestern Railroad and others, are considered of such magnitude as to have been listed in the National Register. Additional sites would appear to meet the specific criteria for the National Register. In this area is the battleground site of a battle in which local Indians defeated a Russian expeditionary group.

HISTORIC TRAILS

VALDEZ (quad. #68)

Trail 12, Klutina Pioneer Access Road, route crosses Trail 12 two miles west of Copper Center.

Trail 33, Klutina Boat Landing, route crosses Trail 33 one mile west of Copper Center.

Trail 52, route crosses Trail 52 two miles southwest of Copper Center.

Trail 37, route crosses Trail 37 at its intersection with Richardson Highway.

Trail 51, route crosses Trail 51 two miles north of Willow Creek village.

Trail 35, Copper River Bluff Trail, route parallels Trail 35 along west bank of Copper River to Lower Tonsina Village.

Trail 80, Tonsina Trail, route intersects Trail 80 at its intersection with Edgerton Highway.

Trail 82, Tonsina River to Taval, route parallels trail along east bank of the Copper River to the mouth of Canyon Creek.

Trail 24, Old railroad bed winter river route to Taval, route parallels Trail 24 in a southerly direction along the west bank of the Copper River to the Tiekel River.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #46

VAL 027. HISTORIC. This is a site indicated on the 1899 map of Abercrombie as an Indian house, but Indian legend indicates that a monster emerged at this point.

VAL 028. ARCHAEOLOGICAL. This reported (deLaguna) prehistoric site of Copper Village was located some three to four miles below the Dadina River on the left bank of the Copper River.

VAL 029. HISTORIC. This reported site of an old settlement is located on the right bank of the Copper River about two miles south of its convergence with the Dadina River.

VAL 030. HISTORIC. Located on the right bank of the Copper River, about one mile below the convergence of the Copper River, is this reported site of a settlement.

VAL 031. HISTORIC. This reported site of a one-house settlement is on the left bank of the Copper River between the Dadina and the Nadina Rivers.

VAL 032. HISTORIC. This is the reported site of a fish camp on the right bank of the Copper River opposite the mouth of the Nadina River.

VAL 033. HISTORIC. A reported site on the left bank of the Copper River just above the mouth of the Nadina River, this is possibly the location of Chief Nicolai's camp in 1899.

VAL 034. HISTORIC. This is a reported site of a native village on the left bank of the Copper River, about seven miles below Copper Center.

VAL 035. HISTORIC. A reported site of a village located some six and one-half miles south of Copper Center on the right bank of Copper River. It may have been Chief Strickwan's winter village.

VAL 011. HISTORIC. This abandoned site consisted of Chief Escaldita's village and five family dwellings. In 1964 this site consisted of abandoned cabins, one of which was painted for use as a church.

VAL 014. HISTORIC. This reported site was once a settlement on the right bank of the Copper River at the landing field five miles north of Chitina.

VAL 015. HISTORIC. This reported site of Chief Bacile's house, between Kuslina Creek and Horse Creek on the left bank of the Copper River is about seven and one-half miles above Chitina.

VAL 016. HISTORIC. This site is reported to have been the home of Chief Billium when the whitemen first arrived. Its location is on the left bank of Copper River at the mouth of the first small stream above Horseck.

VAL 017. HISTORIC. This reported site of settlement, now unoccupied, was where a Naltsina father of two middle-aged men now living at or near Copper Center lived. It is located on the second stream north of Horseck along the Copper River.

VAL 018. HISTORIC. This reported site, the village of Chief Estaloda, is located about two miles south of the confluence of the Tonsina and the Copper Rivers.

VAL 019. HISTORIC. Reportedly the site of the "Midnoosky House", this location is on the left bank of the Copper River just north of the mouth of the Tonsina River.

VAL 020. HISTORIC. Literally called "Ngasa", this is the reported site of a settlement opposite the mouth of the Cheshnina River on the right bank of the Copper River.

VAL 021. HISTORIC. This is the reported site of a small settlement on the right bank of the Copper River where the Naltsina father of an elderly resident of Copper Center was born. It is located four or five miles above the mouth of the Tonsina River (called Liverstake).

VAL 022. HISTORIC. This reported former site of three winter houses is on the left bank of the Copper River just above the mouth of the Chetaslina River. The houses were on a slight hill where there were three winter houses.

VAL 023. HISTORIC. This reported site of a settlement, located on the right bank of the Copper River above the mouth of the Chetaslina River, may have been where Chief Hiebigstag's summer village was located.

VAL 024. HISTORIC AND ARCHAEOLOGICAL. Kenney Lake Site. This reported (de Laguna) site, where a present settlement is located, was also a prehistoric settlement.

VAL 065. HISTORIC. Daikah Denim's Village. Daikah Denim's village is the largest and most significant Ahtna site in the Valdez area known to date. The structural remains and organic preservation are excellent. Although few artifacts have been recovered, seed beads indicate trade with Prince William Sound after the Russian influx. There are two sections, each with about seven house-pits and numerous caches. The houses in the south portion are larger and often have two rooms. Two houses in the south half were excavated in 1973, but the entire site has been mapped. We recommend that the site be nominated to the National Register as it is in danger of destruction. It is located about two miles south of Chitina, south of Susie's Lake, on a bluff overlooking Copper River's right bank. Pertinent dates are 1800-1850.

VAL 066. HISTORIC. This site is an historic fish camp of the Escaldita family, but now debris of the State Fish and Game Camp of the last decade effectively covers most evidence of earlier occupation. Several graves are evident but are in a bad state. Located at the mouth of the Escaldita Creek, this site is in danger from tourists.

VAL 067. HISTORIC. This site located at the mouth of Fox Creek and containing a few cache pits and fish bones, has little potential for advancing knowledge of Ahtna life-styles.

VAL 068. HISTORIC. Possibly an old home of the Goodlataw's, this site contains one house-pit, a grave with rock and lumber, a shallow pit twelve feet long, eight feet wide, and twenty inches deep with planks lining the sides. It's located approximately at Mile 127.5, of the Copper River and Northwest Railway.

VAL 072. HISTORIC. Kuskalana River Railroad Bridge. Located south of Strelna at Mile 18-C of the Chitina-McCarthy Road is an old Copper River and Northwest Railway bridge which was converted to use as a highway bridge. The structure is 550 feet long and twenty-eight feet wide.

VAL 036. HISTORIC. The site of Tanana Jack's Village is on the left bank of the Copper River, five miles below Copper Center.

VAL 037. HISTORIC. Chief Stickwan died in 1907 at this site on the right bank of the Copper River about two and one-half miles south of Copper Center.

VAL 038. HISTORIC. Chief Andrew lived at a settlement on the left bank of the Copper River, about one-half mile south of the confluence of the Klutina and Copper Rivers.

VAL 042. HISTORIC. Known for old fish camps, this site is now Copper Center.

VAL 056. HISTORIC. Copper Center Lodge. Perhaps the most popular on the Valdez Trail, the roadhouse Copper Center Lodge was probably built in the late 1890's by Reginald Blix, one of the original settlers of Copper Center. Although the roadhouse was destroyed in 1932, the present Copper Center Lodge is on the site.

HAL #47

VAL 004. ARCHAEOLOGICAL. This reported site of an old fishing station, with a hut and hieroglyphs, is along Copper River about two and one-half miles south of Taral, Alaska.

VAL 005. HISTORIC. This reported site on the right bank of the Copper River is just above Wood Canyon and below Taral.

VAL 006. HISTORIC. Taral. This historic native village was abandoned in 1910 when the Copper River and Northwest Railroad came through. Russian artifacts and charcoal were found in the surface to a depth of five feet.

VAL 007. ARCHAEOLOGICAL. This excavated site, at the north side of Taral Creek's confluence with the Copper River, consists of eight rounded housepits.

VAL 008. HISTORIC. O'Brian Creek. This reported site of an historical fish camp is just across the Copper River from Taral, Alaska on Mile 127 of the Alaska Railroad.

VAL 009. HISTORIC. Susie's Lake. This reported site of an historical fish camp is just across the Copper River from Taral, Alaska. It is located on Alaska Railroad Mile 129.

VAL 010. HISTORIC. Chitina. This Copper River and Northwest Railway boomtown is located on Mile 131 near Edgerton Cutoff.

VAL 074. HISTORIC. Strelna Site. The Strelna site is a former railroad community which has no known period structures surviving. The name which is taken from Strelna Creek ("people all died off") was borrowed from the natives. Supposedly the community once contained stores and a hotel and was the location of a spur to the Hubbard and Elliot mine. Grave sites are reported in the area. The site dates to c. 1910-1938.

HAL #48

VAL 002. HISTORIC. This is the reported site of an old dancing place opposite Spirit Mountain.

VAL 003. HISTORIC. This reported site, dating to 1898, was an Indian camp along Copper River about seven and one-half miles south of Taral.

VAL 047. HISTORIC. Crown Railway is an abandoned railbed to a major copper mining area which was used from 1908 to 1938.

VAL 069. HISTORIC. Uranatina Station. This site, located fifty-¹miles northeast of Valdez, is also called the "Tiehell River" station.

DESCRIPTION

Segment Twenty-six extends from the confluence of the Tiekel and Copper Rivers to Hawkins Island

ENVIRONMENTAL SETTING

This southern segment of the Copper River Alternative follows the right bank of The Copper River from Tiekel River, Southward corssing to the left bank at Miles Lake. From Miles Lake the segment parallels closely the Copper River Highway to near Cordova, traversing the Copper River Delta most of the way, then crosses to the west of the river again over Long Island. From Cordova the segment successively crosses Orca Inlet and Hawkins Island to terminate on Windy Bay on the northwest shore of the island. Cordova is the only significant populated place near this segment.

This segment in the vicinity of Prince William Sound and adjacent to The Gulf of Alaska has a Maritime Zone Climate typical of coastal mountain areas of northern latitudes. Mean annual precipitation is about 160 inches and the mean annual temperature ranges from 35° to 40°F, depending on local elevations.

This segment is in the Kenai-Chugach Mountains Physiographic Province, however, the terrain along potential pipeline alignments is principally riverine-deltaic except for the northernmost 60 miles, which would follow an old railroad grade on narrow terraces at the foot of steep slopes along the right bank of The Copper River. The lower reaches of the river are extremely braided, with many islands and frequent channel course changes. East of Cordova are two major active glacial outwash deltas. From Eyak River southeast of Cordova, the potential alignment crosses a low mountain range and then would have a submarine section across Orca Inlet to Hawkins Island.

This segment is occupied by soils developed in recent alluvium and glacial outwash from both The Miles and Allen Glaciers bordering The Copper River. The Copper River contains numerous recent sand and gravel bars.

The segment follows and crosses The Copper River twice, traversing the delta areas over a distance of about 40 miles. This major stream of The Gulf of Alaska Hydrologic Subregion is extensively braided in the delta region, with many channels and sand and gravel bars. Three major glaciers, The Allen, Childs and Miles, feed directly to The Copper River. On The Gulf, southeast of Cordova, the segment crosses the deltas of The Scott and Sheridan Glaciers. West of Cordova, a submarine section across Orca Inlet to Hawkins Island would be necessary. Flooding is a frequent problem for this segment.

This segment passes through High Brush, Apine Tundra (near glaciers), Wet Tundra (in delta areas), and Coastal Hemlock-Spruce Forest (South of Cordova and on Hawkins Island). The Wave Beaten Coast Marine Ecosystem also has strong influences for the terminal portion of the segment.

This segment includes important terrestrial and aquatic habitats. At higher elevations mountain goat is the most important mammal. Moose, black and grizzly bear ranges overlap from sea level to mid elevations in mountain valleys. All three of these species seasonally concentrate on streams, the bears for fishing and moose for foraging on aquatic vegetation. Several coastal bays and major deltas have high concentrations of harbor seal and sea otter. Deer range in mountains up to near the terminal points of glaciers.

All of the nearby coastal zone in Prince William Sound and The Gulf of Alaska and Copper River is important waterfowl habitat, with the Copper River Valley being a major migration route. Many streams are very important salmon spawning areas and habitat for freshwater fish. Prince William Sound and vicinity is a very important fishery for both fin fish and shell fish.

This segment has no settled places of significance other than Cordova. The Cordova area had a population of 1,787 in 1970. Government and manufacturing processing are the largest economic sectors, with the latter mostly in the fishing industry.

Segment Twenty-six corresponds to BLM Corridor Number Thirty-four (Copper Valley) from the Tielke River south to the Copper River delta where it continues west to Cordova. It crosses the Wrangell Mountain National Forest proposed d-2 land; the Chugach Native Regional Corporation, a native deficiency land; Eyak, withdrawn for native selection; and the Chugach National Forest

ARCHAEOLOGICAL SUMMARY

Segment 26 of the proposed pipeline which traverses the Copper River delta exhibits a high potential for archaeological discoveries. Six major archaeological sites have been recorded for this region, most of which were discovered and excavated by deLaguna (1934). Cor 001 (Palugvik) proved to be the largest and most extensive site in the Prince William Sound area and is listed in the National Register of Historic Places. Cor 029, Cor 030 and Cor 038 (Tauxtvik) were also former village sites excavated by deLaguna (1934). Cor 051 seems to have been a temporary campsite and Cor 035 a burial cave and shell midden. The cave contained the remains of one adult and two infants and has pictographs on its walls. Much of the artifact material from this important site was disturbed by modern looters, re-emphasizing the necessity for tighter controls over the potential archaeological discoveries to be made in the region.

EVALUATION

Dr. Frederica deLaguna has spoken most eloquently on the problem of pipeline impaction in this region. From her personal research experience in the Prince William Sound and Cook Inlet area in the 1930's as well as the 1950's and 60's she describes the following conditions:

"The lower part of the Copper River, which you note as an alternate, runs through the prehistoric homeland of the Eyak Indians, an area which has never been explored archaeologically, but which is known to have contained Native settlements. To end the pipeline at Hawkins Island or Gravina Bay is to take it straight into the heart of known Chugach Eskimo ("Aleut") sites. The Copper River route, now that the old Railroad is abandoned, might become a road of great scenic value into the interior. In any case, the value of The Copper River salmon should not be put in jeopardy. To turn the route aside to go over the pass (Thompson Pass) past Tiekel, and bring it down into Jackpot Bay, again makes the terminus at one of the most important archaeological sites in the area ("Jack Bay"). All of the proposed terminals in Prince William Sound have, further more, ignored the dangers of navigation: numerous shoals, strong and sudden storms, major tides, etc. The old Alaska Steamship Company took every precaution in navigating these waters. Today's over-long, carelessly built and handled supertankers will certainly rip their bottoms, and goodbye the salmon of Prince William Sound."

It is clear from deLaguna's statement that this area is critical in terms of archaeological potential. Our present knowledge of Eyak and Chugach Eskimo prehistory is fragmentary at best, and it is almost certain that new discoveries will be made in this segment which will fill major gaps in our knowledge of these first inhabitants of Southern Alaska.

HISTORIC SUMMARY

The first discovery of the Copper River Delta region by white men occurred in 1741 when Vitus Bering explored the Chugach territory. Captain James Cook followed in 1778 and returned to England to report about "the great land," causing a succession of later explorations. In 1819, a Russian expedition landed on the banks of the Copper River and established a post near the present site of Chitina. Indians attacked this camp, killing several explorers, and forced the Russians to withdraw. Never again did the Russians attempt to establish a settlement in this region. In 1885, Lt. H. T. Allen explored this area for the U. S. Army.

Following the initial intrusion by the European, the next historical influence that entered this area was a transportation system. The Copper River and Northwestern Railway all but created the modern communities of McCarthy, Kennicott, Chisana, and Cordova, which was, ironically, the only one to survive the shut-down of that railway in 1938. One site, Polugvik (Cor 001), is listed on the National Register of Historic Places.

HISTORIC EVALUATION

Due to the presence of many traditional Eyak and Ahtna settlements and the extremely important presence of The Copper River, which connects the interior of Alaska with the sea, this region must be considered to be very important from an historic point-of-view. Also, the recreation potential and quality of scenery of Copper River Delta area, Chugach National Forest, and other Federal lands must be taken into account.

HISTORIC TRAILS

VALDEZ (quad. #68)

Trail 24, Old Railroad bed winter river route to Taval, route parallels trail 24 in a southerly direction from the Tiekel River to the mouth of the Tasnuna River.

Trail 79, Tasnuna Route, route intersects Trail 79 at the southern portion of the Tasnuna River Dela.

CORDOVA (quad. #64)

Trail 18, Old Railroad grade, route parallels trail 18 from the mouth of the Tasnuna River, along the west bank of the Copper River, to Million Dollar Bridge.

Trail 19, Copper R. Highway to Martin River, route intersects the western extent of Trail 19 at the mouth of Sheep Creek.

Trail 2, Eyak trail - Cordova, route intersects Trail 2 at the Eyak River, two miles west of Eyak village.

Trail 5, Hawkins Island, route intersects Trail 5 at Hidden Cove, Hawkins Island.

HISTORIC AND ARCHAEOLOGICAL LOCALES

HAL #50

COR 014. HISTORIC. Bremmer. Bremmer Station, fifty-five miles northwest of Katella, was on the Copper River and Northwest Railway and was listed in that company's guide of 1911.

HAL #51

COR 005. HISTORIC. Million Dollar Bridge. The Million Dollar Bridge is a collapsed railroad bridge dating back to 1908.

COR 007. HISTORIC. Abercrombie Site. The Abercrombie Station on the Copper River and Northwest Railway dates back to 1911. It is located on the left bank of the Copper River at Abercrombie Rapids.

COR 015. HISTORIC. Ikhlerkhamut, a former Eskimo settlement is located near the mouth of the Copper River, on the delta. This settlement is listed in Hodge 1907:596.

COR 024. HISTORIC. Katalla Junction. Katalla Junction, at Mile thirty-nine on the Copper River Highway, is a railroad junction described in The Iron Trail. It is the trailhead to the Bering River Coal and the Katalla oil fields.

HAL #52

COR 001. ARCHAEOLOGICAL. This site formerly the village of Palugvik, was located on two sand bars that connect two small islets, separated by a bight 630 feet wide, with Hawkins Island on the south shore, 5.8 miles from the southern end of Canoe Pass. The 630 foot wide bight drains dry during extreme low water. Over one-hundred artifacts were excavated from this site in 1930 and 1933, from four cultural midden layers. This is the largest and most extensive site, to date, excavated in the Prince William Sound. This site is listed in the National Register of Historic Places.

COR 003. HISTORIC. Cordova Historical District. In the Cordova Historical District about ten buildings associated with the Copper River and Northwestern Railway remain standing despite the 1964 earthquake and fire which largely destroyed the downtown section of the city. In 1906 it was the terminus of the Copper River and Northwestern Railways and the shipping port for the copper ore from the Kennicott Mines. The district is located on the Orca Inlet, east of Spike Island.

COR 008. HISTORIC. Located five and one-half miles southeast of Cordova along the Copper River Highway is the site of Eyak Village, the principal village of the Eyak Indians. There are no visible remains of the settlement, which was reported in 1869.

COR 016. HISTORIC. Naval Radio Station. The Naval Radio Station, a U.S. Navy communications station in World War II, was used as a Highway Department office prior to the March, 1964 earthquake.

COR 017. HISTORIC. Heney Monument. The four foot stone Heney Monument is inscribed: "John Wilson, Jesse H. Parker, H. L. Lyons, Bernard Windhaus, Joseph Drury, Alex Osier, A. Amye, Michael Gvozoe. Sacred to the memory of by faithful friends and co-workers who lost their lives during the construction of the Copper River and Northwestern Railway. Erected in grateful remembrance of their splendid services by M. J. Heney 1906-1907-1908." The monument was reportedly moved from the old railway bed on the east side of Eyak Lake after the 1964 earthquake. It is located on Mile 3.6 of the Copper River Highway.

COR 018. HISTORIC. Rex Beach Cabin. The Rex Beach Cabin was the former residence of Rex Beach, author of The Iron Trail, a novel about the Copper River and Northwest Railway. Location is Mile 22 of the Copper River Highway, south of the road near Alaganik.

COR 019. HISTORIC. Alaganik. Alaganik is the site of a native village, graveyard and old trading post which was visited by Serebrenikov in 1848. The village had a population of 117 in 1880, both Eskimo and Eyak. Location is Mile 22 of the Copper River Highway.

COR 021. HISTORIC. Saint Michael The Archangel Church. A Russian Orthodox Church, the Saint Michael the Archangel Church is in Cordova.

COR 022. HISTORIC. In Eyak, Alaska is the site of a former church, Saint Theodosia of Chernigov. This was a Russian Orthodox Church.

COR 023. HISTORIC. Russian Explorers Graves. These Russian explorers graves are located on Mile 20 of the Copper River Highway.

COR 025. HISTORIC. Camp 30. Camp 30, Mile 27 of the Copper River Highway, is the location of a Copper River and Northwestern Railroad construction camp.

COR 026. HISTORIC. Railroad Caboose. The railroad caboose, the last piece of rolling stock left in Cordova from the old Copper River and Northwest Railway and in use from 1909 through 1938, has been condemned by the city, which has promised to remove it if the Historical Society will rebuild and refurbish the caboose. The caboose is to be relocated at the junction of Chase Avenue and Copper River Highway, destined to be a park or scenic area. The caboose has been located on a lot, owned by Dave Parmeter, off Lefever Avenue in Old Town of the city (Eyak area) at Mile 2.

COR 029. ARCHAEOLOGICAL. Located on a small island in the north end of Hawkins Cut Off, facing a sand bar which joins the island of Hinchinbrook, is a midden, approximately 3,750 square feet in area, which is overgrown with vegetation. Moderately decayed shell, bone, and fire-cracked rock were recovered at a maximum depth of three feet below the surface. Excavations produced splitting adzes, planing adzes, hammerstones, lamps, ground slate, bone and a Chinese coin belonging to K'ang Hsi period, A.D. 1662-1723.

COR 030. ARCHAEOLOGICAL. A former village site on Shorttail Point, on the eastern most point of Hinchinbrook Island south of Hawkins Cutoff. Whatever midden there may have been at one time, was entirely washed away by 1933. Splitting adzes and planing adzes have been found there.

COR 035. ARCHAEOLOGICAL. On the south shore of Hawkins Island, about three miles east of the southwest point, opposite Rip Rock, and eight-tenths of a mile west and fifteen feet above the beach is a burial cave approximately twenty-four feet long. Shell midden 2.5 inches thick is topped by three inches of earth and fallen rock. The remains of one adult and two infants are in a recess at the rear of the cave. The grave has been disturbed by modern looters. One artifact, a barbed slate blade, was found in the cave. Several pictographs are above the graves.

COR 038. ARCHAEOLOGICAL. Tauxtvik. Tauxtvik, "Cockle Place", is the name of a village on top of a cliff that is 250 feet long and twenty to thirty feet high. The site may extend two hundred feet back from the edge of the cliff. The midden is one to two feet thick, but the clearing is heavily overgrown. The village is identified with the legend of the Tlingit invasion which occurred during the Russian occupation of Nuchek, probably during the Fall of 1805. It's located one mile west of Canoe Passage.

COR 041. HISTORIC. One-quarter mile northeast of Canoe Pass is a village site atop a steep bank, approximately twenty-five feet high, 160 feet long, and extends inland approximately fifty feet. Within this site are black earth, shell, fire-cracked rock and animal bones from six inches to three inches thick. This site also includes two rows of shallow depressions probably, but not definitely, house pits, and slate, hammerstone, cut whale bone and bone artifacts. De Laguna intended to excavate this site, but did not.

COR 042. HISTORIC. "Devils Rock" is located at the north end of Canoe Pass and is reported to have been a former refuge island.

COR 051. ARCHAEOLOGICAL. On the south end of Grass Island, off the south shore of Hawkins Island, due north of Cordova, is the site of what was probably a temporary camp. A small shell midden with a maximum depth of two feet and surrounding area were excavated. One piece of cut whale bone and a splitting adze were recovered.

COR 054. HISTORIC. Informants report a red painting representing men on the cliffs at Orca Inlet, Cordova Bay on the north shore of the narrows on the mainland opposite Channel Island. The pictograph is said to be visible from a boat and most brilliant when wet. In 1933 de Laguna looked for these but did not find them.

COR 083. HISTORIC. Cordova Post Office and Courthouse. Cordova Post Office and courthouse are located in an 84'x49' concrete three-storey building which is representative of early twentieth century institutional architecture. The exterior was "bush hammered" to give the appearance of granite, and the interior has many features of 1920's institutional architecture. Location is Second Street and Federal Avenue in Cordova.

COR 089. HISTORIC. Shepard Point is the site of ruins of a former Western Fish Company cannery. This site was first reported in 1931 by U.S.C. and G.S. It is located seven miles northeast of Cordova and three miles southwest of Rude River delta, on the northeast shore of Orca Inlet. About one and one-half miles northeast of this point, on the south shore of Orca Inlet, is another former cannery site.

SEGMENT TWENTY-SEVEN

DESCRIPTION

This segment starts at the Tsina River, 61°15'N, 145°18'W, and runs along the Tiekel River valley to Copper River, 61°12'N, 144°55'W.

ENVIRONMENTAL SETTING

This segment of about twenty miles connects the proposed prime route with the south portion of the Copper River Alternative, Segment Twenty-six. The segment descends eastward from about 1200 feet to 400 feet above sea level on the Copper River. This stretch of the Tiekel River Valley is relatively narrow and steep-sided, and is apparently uninhabited.

This segment is in the Transitional Climatic Zone in the Chugach Mountains. Mean annual temperature is about 30°F and mean annual precipitation about thirty inches.

This narrow valley, less than ten miles wide, in the Chugach Mountains has glacial moraine deposits or exposed bedrock throughout its length. Steep mountain slopes and ice fields border both north and south sides of the valley.

This segment has only coarse gravelly to loamy soils or exposed bedrock throughout. Because of steep slopes, erosion is a hazard.

The hydrology in this segment consists of short, relatively swiftly flowing streams in narrow valleys. Precipitation is relatively high, with winter snow pack being the most important surface water storage source.

A narrow strip of Upland Spruce Hardwood Forest borders both sides of the Tiekel River along this segment, with Alpine Tundra nearby at all points. This segment does not contain notable habitat for waterfowl or major fish species, but the habitat is good for mountain goat nearby. The segment has no apparent population.

Segment Twenty-seven does not correspond to any BLM Corridor.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

There are no recorded pre-historic sites in Segment Twenty-seven.

HISTORIC SUMMARY AND EVALUATION

There are no recorded historic sites within this segment. However, the drainage of the Tiekel River provided a difficult but natural access to the Copper River from the Valdez-Fairbanks Trail for miners and exploring prospectors.

HISTORIC TRAILS

There are no recorded trails in this segment.

HISTORIC AND ARCHAEOLOGICAL LOCALES

There are no recorded sites in Segment Twenty-seven.

SEGMENT TWENTY-EIGHT

DESCRIPTION

Segment Twenty-eight, an alternate route, extends from the Keystone Canyon (61°04'N, 145°53'W) to Jack Bay (61°02'N, 146°39'W).

ENVIRONMENTAL SETTING

This short segment of about twenty-five miles runs a parallel line, inland, from the south shore of Port Valdez. It terminates on Jack Bay in the upper portion of Valdez Arm which is in the northeast portion of Prince William Sound.

Its location in the vicinity of Prince William Sound and its proximity to the Gulf of Alaska give the segment a Maritime Zone Climate typical of coastal mountain areas of northern latitudes. The mean annual precipitation is about 160 inches and the mean annual temperature ranges from 35° to 40°F, depending on local elevations.

The Kenai-Chugach Mountains Physiographic Province in this area has been extensively glaciated and numerous ice fields still exist near the segment. Surficial geologic deposits are either moraines or exposed bedrock in the mountains, or beach deposits around Prince William Sound. Earth tremors are frequent in this region and damaging earthquakes occasionally occur.

The segment has gravelly to loamy soils along beaches and in major stream valleys. These are the result of recent glacial activity in the nearby mountains. Steeper slopes on hills and mountains around the eastern portion of Prince William Sound have either a thin, coarse soil cover with a thin organic mat, or exposed bedrock.

The hydrology in Segment Twenty-eight consists of short, relatively swiftly flowing streams in narrow valleys. Precipitation is relatively high, with winter snow pack being an important surface water storage source.

This segment is entirely within the Coastal Hemlock-Spruce Forest Ecosystem. This segment includes important terrestrial and aquatic habitats. At higher elevations along the segment, mountain goat is found. Moose, black and brown bear ranges overlap from sea level to mid elevations in mountain valleys with all three of these species seasonally concentrated on streams, the bears for fishing and moose for foraging on aquatic vegetation. Several coastal bays have concentrations of harbor seal and sea otter. Deer range in mountains up to or near the terminal points of glaciers. Neither dall dall sheep or caribou are found in this area.

All of the nearby coastal zone in Prince William Sound and Gulf of Alaska and Copper River are important waterfowl habitats, with the Copper River Valley being a major migration route. Many streams are very important fisheries for both fin-fish and shell-fish.

This segment is near Valdez, the site of present development of terminal and port facilities for the crude oil pipeline. Present nearby population centers are in a state of expansion.

ARCHAEOLOGICAL SUMMARY AND EVALUATION

Eliamar (COR 002) and Busby Beach (COR 076), the only known prehistoric occupations of this segment, are in all likelihood related to the later Indian occupation of the region. The potential for ethnoarchaeology is rated quite high in comparable situations.

HISTORIC SUMMARY

Spanish exploration and documentation of Valdez Arm and Port Valdez in the 1790's influenced place names throughout the area. The 1897 Gold Rush, the construction of the Copper River and Northwestern Railway systems, and the Valdez-Fairbanks-Eagle Trail have contributed to the historical heritage of this region significantly.

HISTORIC EVALUATION

The region within Segment Twenty-eight has potential for pre-contact and post-contact Native sites.

HISTORIC TRAILS

There are no historic trails within this segment.

HISTORIC AND ARCHAEOLOGICAL LOCALES

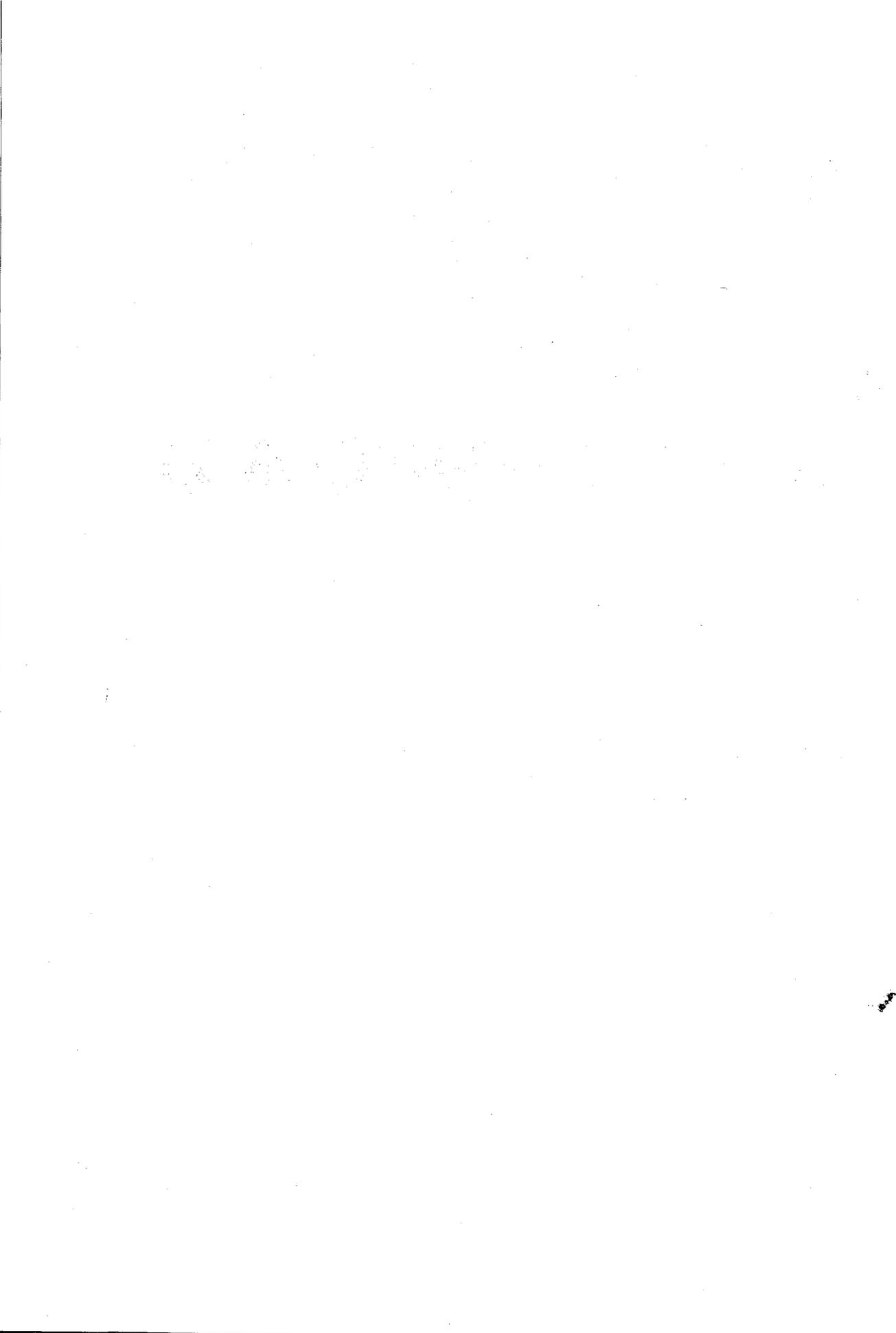
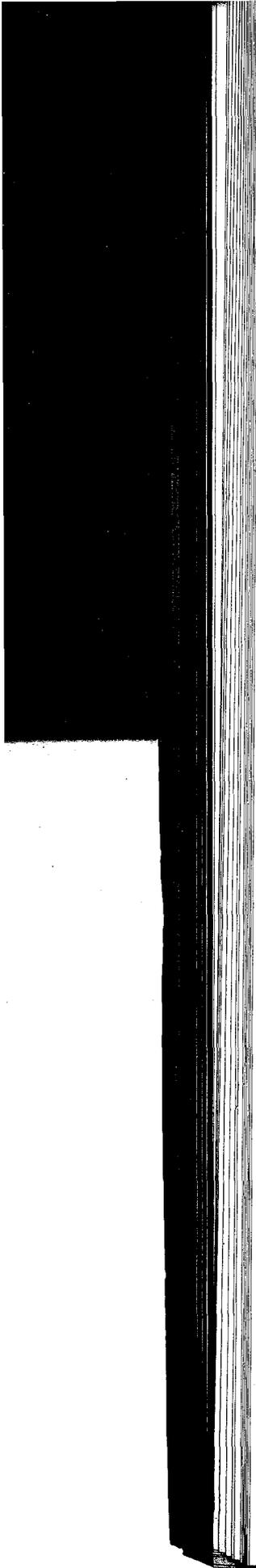
HAL #44

COR 079. ARCHAEOLOGICAL. Kcnoqli. This Indian village, "where they catch fish for winter", was reported by deLaguna to have a two inch thick layer of humus and fire-cracked rocks near the cabins, as well as artifacts. Two barabaras are reported, but they have since washed away.

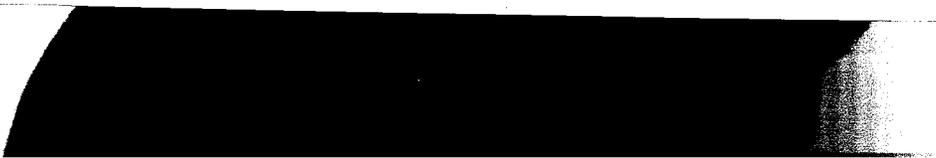
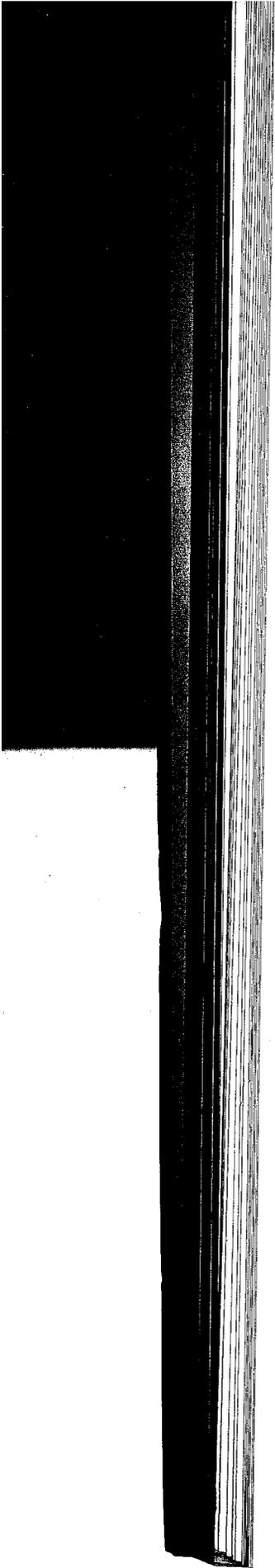
COR 073. ARCHAEOLOGICAL and HISTORIC. Boulder Bay. This is the site of a reported settlement, however, deLaguna found nothing here during her investigations.

COR 076. ARCHAEOLOGICAL. Busby Beach. On the mainland opposite Busby Island, about one mile north of Ellamar, is this reported village of people who later lived at the location of Ellamar. The site contains a midden with earth and fire-cracked rock, but no animal bone or shell. It is located on a gravel bank about four hundred feet long and six inches to twenty inches in height. It is spruce covered and may extend back about four hundred feet.

COR 002. HISTORIC and ARCHAEOLOGICAL. Ellamar. At Ellamar are located an abandoned copper mine with about thirty buildings and, at the same location, a prehistoric site. It is located near Virgin Bay, Tatitlek Narrows.



AFTERWORD



AFTERWORD

The Federal Power Commission directed that we review the application made by the El Paso Alaska Company on September 24, 1974, and particularly the El Paso evaluation of archaeological and historic sites that are or might be located along the possible pipeline routes proposed by the applicant. The El Paso discussions on these subjects are contained in Volume IV, Sections 2A.8 and 2A.9, of its formal application.

In less than ten pages, El Paso addresses succinctly the general history and prehistory of the prime route, or approximately twenty-three percent of the total routing studied in this report. In addition, El Paso included a general summation of recreational sites established along the prime route, and a general acceptance of unique aesthetic features of Alaska along the prime route. El Paso cites the documentation and data banks of archaeological and historical records available at the time of its application to the Federal Power Commission.

Iroquois was not asked to evaluate recreational potential or the aesthetic values addressed by El Paso, but we did address the traditional and cultural land uses whenever possible and recognized recreational uses in those segment areas where intensive recreational activity manifested itself so highly that this type of land use forcibly found itself in our discussion of contemporary cultural values. In addition, what some individuals consider to be a sporting or recreational outlet is similar in nature to everyday subsistence pursuits of a great many Natives in areas traversed by proposed pipeline routes. Representative subsistence data has been analyzed in this report.

The archaeological and historic potential of all the proposed route segments is invaluable for our progeny and the possibility of irretrievable losses is an obvious threat. In addition to safeguarding the public interest by regulations such as those cited on page xv of this report, there should be additional procedures articulated for appropriate investigations before any alignment outside or within the utility corridor is approved.

Our evaluations and recommendations expressed in this report are based on a thorough knowledge of the historical and archaeological factors involved in the pipeline corridors through the State and also on our knowledge of existing practice and of recent experiences in large Arctic construction projects requiring billions of dollars of capitalization.

For these reasons we have stressed in the text the need for field investigations prior to any final and formal approval of a precise pipeline alignment. In the case of approval of a general corridor, commensurate field investigations are needed prior to the alignment staking. If valuable evidence is found and appears to warrant careful excavation, this can be reasonably carried out only without the pressure of an approaching earth-moving machine.

It is our opinion that the El Paso application suffers from a degree of understatement and an absence of quantification relative to historic and archaeological potential along all its routes—particularly along the prime route El Paso solely assessed in its application. Along the entire prime route itself, there are, according to the criteria described earlier on page five, at least 1286 potential archaeological sites of which no more than 160, about fourteen percent, have reports of archaeological evidence by the end of 1974.

It is a gross misinterpretation to suggest that all the archaeological evidence has already been found in Alaska, and it is equally inaccurate to suggest that irretrievable and priceless data will somehow take care of itself as construction proceeds. Therefore, considerable historical and archaeological work remains to be done.

If the safeguards we recommend are accepted by the responsible public agencies at the National and at the State level, it is our view that there are no historical or archaeological impediments to the El Paso proposal and that there is no reason to deny the applicant the approval he seeks for any of the potential gas pipeline routes on these specific grounds alone.

Without such safeguards as recommended herein, the historical archaeological preservation issue is sufficient, we believe, to impede gas pipeline construction in many of the route segments on the basis of existing evidence alone.

We must point out that much of the data reviewed and assessed by El Paso was retrieved by efforts sponsored by Alyeska along a specific alignment which usually is several miles and a number of valleys away from the aligned route options described by El Paso. This data is not necessarily applicable since it is not the same alignment. In addition, there are access and egress routes for construction along the entire gas pipeline prime route which are to be defined or identified, if that route is selected. The sum of all these construction roads between the existing State haul road and the prime gas pipeline route could equal the entire length of the pipeline itself.

In evaluating the historical and archaeological potential of each segment, a comparison between quantitative and qualitative values is necessary. On a quantitative basis, for example, the potential sites counted under our criteria suggest that the least damaging route for a gas pipeline north of the Yukon River, considered only on this narrow slice of the total environmental analysis, would in fact be the proposed Prime Route:

<u>SEGMENTS</u>	<u>ROUTE</u>	<u>POTENTIAL SITES</u>	<u>SITES RECORDED</u>	<u>PERCENTAGE</u>
1, 2 and 3	Dietrich Pass	426	116	27.2%
1,5,6 and 3	Itkillik River	592	35	5.9%
1,4,6 and 3	Anaktuvuk Pass	615	37	6.0%

Of the twenty-eight segments assessed, Segment Two has the highest ratio of recorded sites to total potential sites. This is due to the intense field investigations associated with the construction of the crude oil pipeline and because of the narrow confines of the route going through the Brooks Range. By the time the crude oil pipeline gets through the Dietrich Pass, the historical and archaeological evidence will either have been discovered or irretrievably lost, with little left between these two extremes.

For all segments, excluding the Canadian segment, the ratio of recorded to potential sites averages 6.2 percent.

The quantitative comparison for possible routes south of the Yukon - even within this narrow frame of reference - becomes more complex; requiring a critical path type of analysis, preferably using computers for speed, which goes far beyond the requirements and scope of this report.

Also, for some segments north of the Yukon, the possible gas pipeline routes are much closer to the actual crude oil pipeline route and the recorded and potential sites along a possible gas pipeline alignment in the Dietrich Pass area would be close to the crude oil pipeline. Therefore, north of the Yukon, the relationship of recorded to potential sites is more meaningful and accurate in this context.

While this study is the first of its kind sponsored by the Federal Government and is extremely valuable as a unit of measure in evaluating a multibillion dollar project application, it should be realized by the casual reader that there is a great deal of missing or undiscovered data, as well as impressive amounts of actual data as this report demonstrates. Out of over 4,000 recorded sites which we plotted, only 224 fell within the corridors of the twenty-eight segments investigated; and some 2,399 additional potential sites in these segments have probably never been investigated in the field. Only in Segment Two has the criteria we established been subject to any thorough field test, and the discovery rate of 27.2 percent suggests that there remains incalculable historic wealth in Alaska.

On the qualitative basis, and on ecoanthropological grounds alone, we would recommend against the Anaktuvuk Pass alternative because of the very adverse probable impact on the villagers residing in the area and their dependence on subsistence and on migratory patterns of wildlife which may already be threatened by the crude oil line.

On the basis of no cumulative or repetitive adverse impact, the obvious choice is the Dietrich Pass route. What is to be discovered has probably been discovered through the investigations undertaken by the crude oil pipeline activity. Anything left undiscovered will probably be disturbed.

On the basis of discovery-potential, the Itkillik Route offers the highest potential and less possible ecoanthropological adverse impact than would the Anaktuvuk Route, but there may be other sectorial studies, subsequently pursued, which could prove otherwise.

A qualitative comparison of routes south of the Yukon would also require an analysis utilizing computers for timely results.

The proposed pipeline will traverse areas containing archaeological sites of all ages, from pre-10,000 B.C. to the period of European contact. The portion of the Pipeline Corridor which crosses the north slope is already known to be in an area of critical importance for the potential discovery of sites relating to the earliest prehistory of man in the Americas. The Alyeska survey has also demonstrated that new discoveries will be made regarding Eskimo and Athasaskan Indian origins and relationships; and that potential rich site localities will yield much more abundant information on the life of all the prehistoric cultures which inhabited the American Arctic and Subarctic. (Campbell 1973, 20-23)

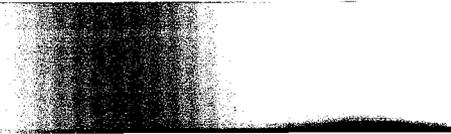
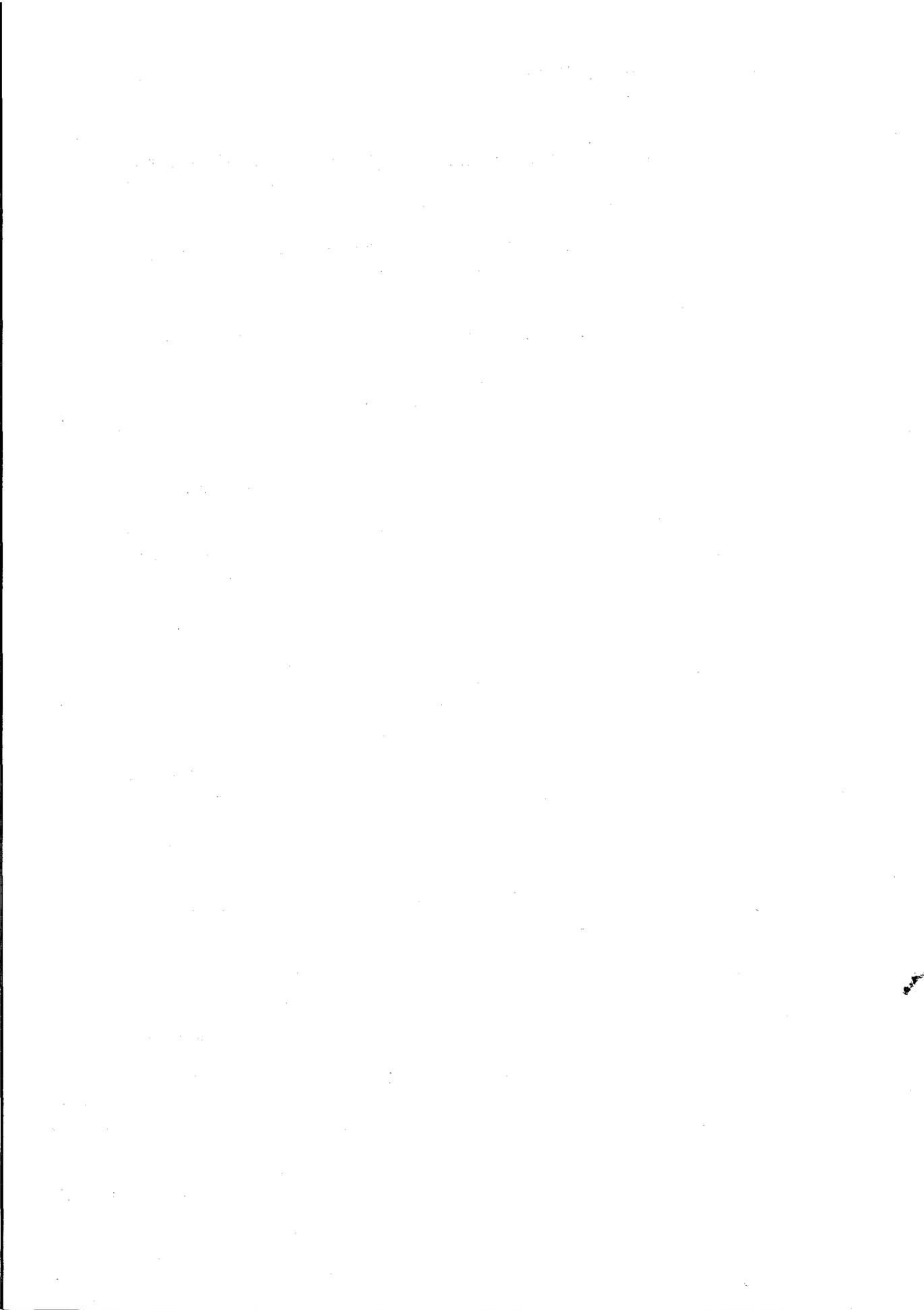
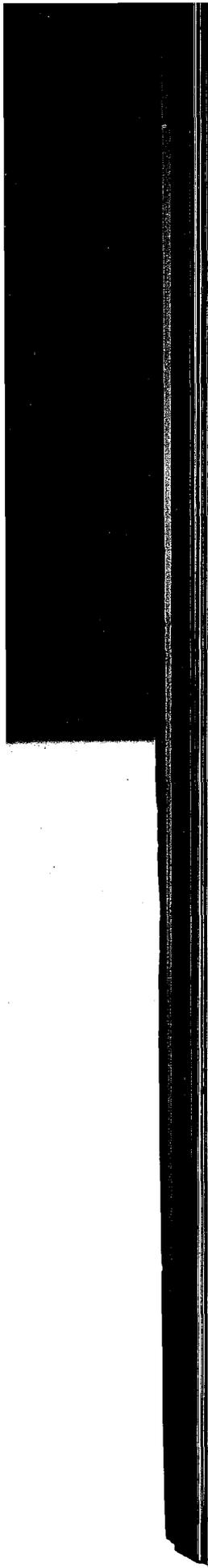
Although the Alyeska survey by Cook et al. has revealed a long list of archaeological discoveries, many of these are fragmentary and incomplete, the present assessment suggests that a great many new archaeological discoveries would be made in the course of survey and construction of the gas pipeline. The AHRS data bank has likewise been of great assistance in gathering information for this independent assessment, but it has also become clear that there are major omissions in the basic data entering that file. It is only through a controlled, on-the-ground survey by disciplined teams can the archaeological resources of potentially important areas be secured.

The site data compiled by the Alyeska survey and earlier investigators provide compelling evidence for the absolute necessity of coordinated, professional survey work and excavation at all stages of pipeline construction. Archaeological teams should only be led by certified professionals and the data collection methodology rigidly controlled. Such teams could be certified through the Anthropology Division of the United States National Museum or the Alaska Department of Natural Resources and not simply by the applicant alone. Only in this way can the kinds of omissions and errors in field data which are unfortunately common in previous surveys be obviated.

Although the El Paso gas impact statement on archaeological resources of the proposed prime route was based on survey reports then available, there are major omissions which require clarification. The El Paso statement lacks original effort and addresses this problem in only the briefest of terms, and it is essential that more detailed preparations be initiated before survey and construction begins. This should include, at the minimum, plans for the selection and standards for archaeological investigations, the eventual instruction of pipeline workers in site recognition, provisions for re-routing the pipe before or during the alignment survey or halting construction while important sites are excavated (already regulated by the state).

End

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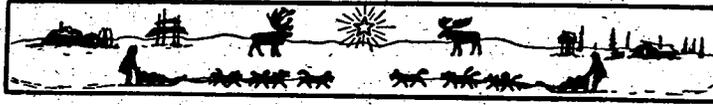
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APPENDIX

Tundra Times



Owned, controlled and edited by Eskimo, Indian, Aleut Publishing Company, a corporation of Alaska natives. Published at Fairbanks, Alaska, weekly, on Wednesdays.

Address all mail to Box 1287, Fairbanks, Alaska, 99707. Telephone 452-2244.

IROQUOIS RESEARCH INSTITUTE

February 3, 1975

The Federal Power Commission is making an environmental evaluation of several routes in Alaska which are proposed for natural gas pipelines. The Iroquois Research Institute is preparing for the Commission a study of the traditional, cultural, historical and archaeological importance and potential of sites that may be on or near the routes proposed by the El Paso Alaska Company.

The purpose of this public letter is to request the assistance of citizens who are familiar with the areas crossed by any portion of possible pipeline routes proposed by the El Paso Company. These citizens may want to advise us of certain sites and places with possible special historical, religious or cultural importance; or to advise us about sites known to them but about which information would not be found in usual reference materials such as those of the Alaska Heritage Resource Survey, the Alaska State Museum and university museums, the Smithsonian Institution, the Canadian National Museum, or in such books as "Resources of Alaska, A Regional Summary", and so forth.

In particular, we ask for the help and cooperation of Natives and individuals familiar with the areas near the following places: Arctic

Village, Fort Yukon, Circle, Stevens Village, Rampart, New Minto, (Old) Minto, Gakona, Gulkana, Tazlina, Copper Center, Eyak, Tatitlek, Anaktuvuk Pass, Alatna, Allakaket, Chenega, English Bay, Umiat, Ninilchik, Alexander (Susitna R.) Eklutna, Seldovia, Port Graham, Healy Lake, Dot Lake, Tanacross, Chitina, Northway, Nabesna Village, Tetlin, Hoonah, Haines, Tenakee Springs, Angoon, Kake, Eagle, Eagle Village, Kenai, Seward, Valdez, Cordova, Whittier, Homer, Delta Junction, Glennallen, Anchorage, Fairbanks, Juneau, Klukwan, Wiseman, Livengood and others near the proposed routes.

We request that you write to us before February 18, 1975, and that you describe the site and its characteristics and its approximate location in direction and miles from a known village, cabin or geographic point.

Please address your letters to:
Dr. Robert L. Humphrey
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Thank you. Your replies will become part of the public record being established by the Federal Power Commission. Yours in Friendship,
IROQUOIS RESEARCH INSTITUTE.

FEDERAL POWER COMMISSION
WASHINGTON, D.C. 20426

IN REPLY REFER TO:

OGC
El Paso Alaska Company,
et al.
Docket No. CP75-96, et al.

TO THE PARTY ADDRESSED:

The Iroquois Research Institute is undertaking under contract with the Federal Power Commission an analysis of the potential and importance of archaeological and historical sites in the proximate vicinity of El Paso Alaska Company's proposed pipeline. In the interest of obtaining additional data, the FPC Staff requests that any relevant information related to this subject, which you have available, be given to the Iroquois Research Institute. A memorandum is attached herein from the Iroquois Research Institute further explaining their needs. The material submitted will be available to any party upon a sufficient showing of good cause.

Sincerely yours,



Allan W. Anderson, Jr.
Commission Staff Counsel

cc: All Parties

RECEIVED

FEB 21 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

February 20, 1975
Washington, D. C.

REQUEST & INQUIRY

February 13, 1975

SUBJECT: Cultural, Historical and Archaeological Evaluations

REFERENCES: (a) Gas pipeline routes proposed by the El Paso Alaska Co
(b) National Historic Preservation Act of 1966

MEMORANDUM

On behalf of the Federal Power Commission, under their contract to us, this organization is evaluating the potential and the importance of archaeological and historical sites on or near the proposed natural gas pipeline routes described by the El Paso Alaska Company in its filing CP75-96 to the FPC on September 1974, and whose proposed alignments are shown on our attached Area Map No. 1

By means of this Request & Inquiry Memorandum we are addressing individual groups or organizations having possible relevant information of sites having cultural, religious, architectural, historical, anthropological or archaeological significance along these routes and which information may not be available in existing published materials. We do have access now to competent research materials such as those of the Alaska Heritage Resource Survey Index, the Smithsonian Institution, and to such recent publications as "Resources of Alaska, A Regional Summary," published by the Joint Federal-State Land Use Planning Commission, 1974.

We would be grateful if you could reply to this letter by February 27, 1975. Your advice and cooperation would be greatly appreciated.

Thank you.

Sincerely yours,
IROQUOIS RESEARCH INSTITUTE

Robert L. Humphrey
Robert L. Humphrey, Ph. D. Bernard W. Poirier
Chief Project Scientist Director

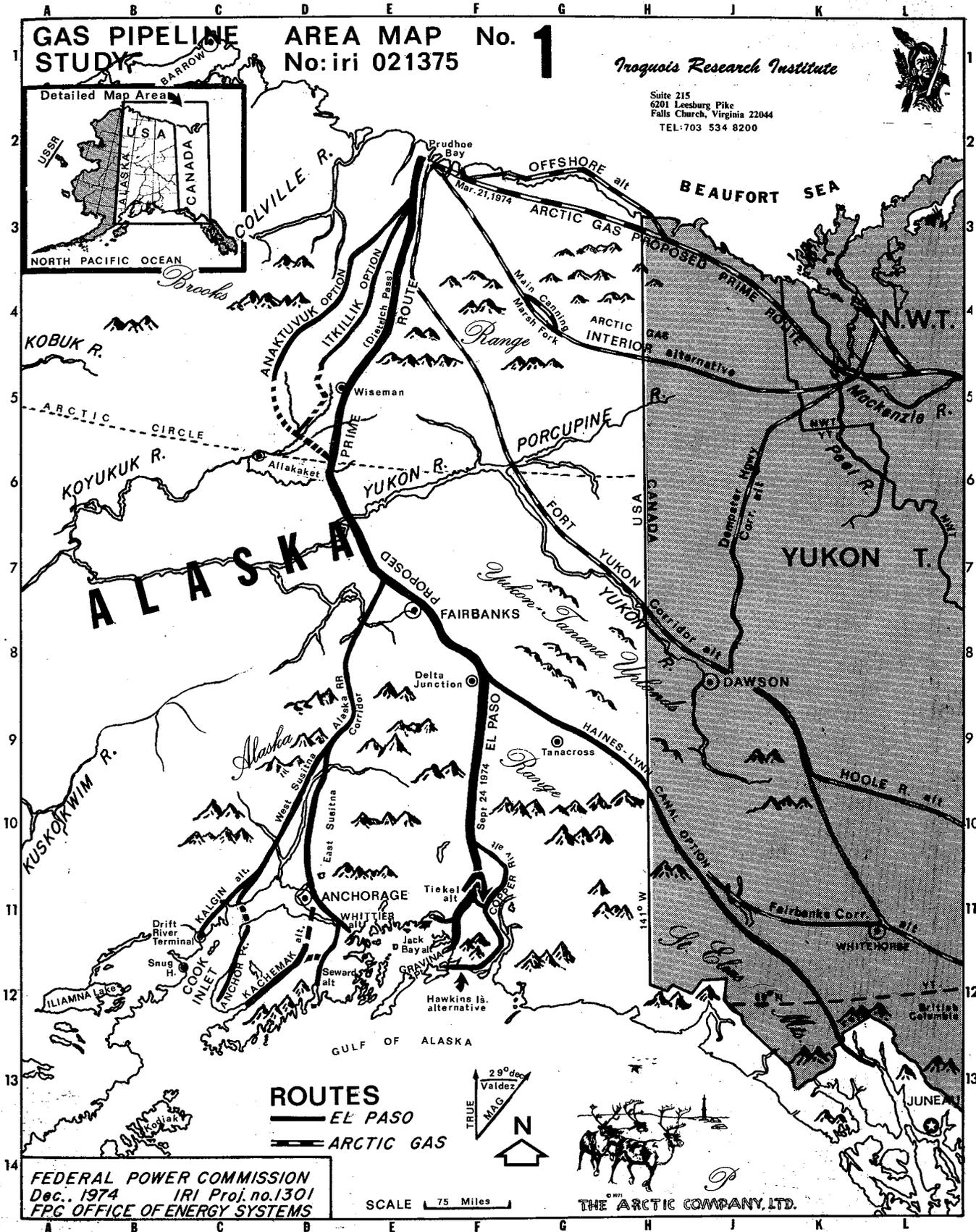
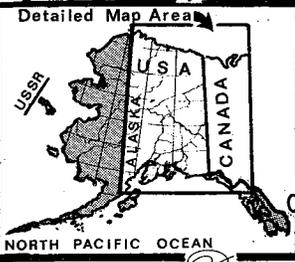
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GAS PIPELINE AREA MAP No. 1

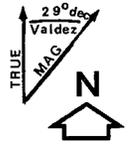
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Re: Letter notification

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P. O. Box 823
Copper Center, Alaska 99573

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Barrow, Alaska 99723

The Tundra Times
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Fairbanks, Alaska 99701

Calista Corporation
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Anchorage, Alaska 99501

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Division of Lands
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Chairman
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Seattle, Washington 98104

Director of State Libraries
State Department of Education
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Juneau, Alaska 99801

Alaska Historical Commission
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Anchorage, Alaska 99501

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Anchorage, Alaska 99501

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Director
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National Park Service
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Anchorage, Alaska 99501

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Southeast Alaska Empire
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Juneau, Alaska 99801

Commissioner
Department of Natural Resources
Pouch M
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Alaska Transportation Commission
Mackay Building
Anchorage, Alaska 99501

Jim Huntington
Village Council
Galena, Alaska 99741

Executive Secretary
Advisory Council on Historic
Preservation
Suite 430
1522 K Street, N. W.
Washington, D. C. 20005

Honorable Ted Stevens
United States Senate
Washington, D. C. 20510

Honorable Mike Gravel
United States Senate
Washington, D. C. 20510

Honorable Don Young
United States Representative
Washington, D. C. 20515

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National Archives and Records Service
The National Archives of the U.S.
Washington, D. C. 20408

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Chesapeake Bay Center
Smithsonian Institution
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Edgewater, Maryland 21037

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Chairman of American Studies
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Smithsonian Institution
Washington, D. C. 20560

Dr. William Sturtevant
Editor, Handbook on North Am.
Department of Anthropology
Smithsonian Institution
Washington, D. C. 20560

Dr. Sam Stanley
Center for Study of Man
Department of Anthropology
National Museum of Natural History
Smithsonian Institution
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Dr. Charles O. Handley, Jr.
Curator of Mammals
Department of Vertebrate Zoology
National Museum of Natural History
Smithsonian Institution
Washington, D. C. 20560

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11388 Dorcey Place
Lorton, Virginia 22079

George C. Wilson
The Washington Post
1150 15th Street, N. W.
Washington, D. C. 20005

John Fialka
Washington STAR-NEWS
225 Virginia Avenue, S. E.
Washington, D. C.

To the Village or Town Councils of each of the following: (ALASKA)

Cities:

Kenai	99611		Arctic Village	99722
Seward	99664	(city)	Fort Yukon	99740
Valdez	99686		Circle	99733
Cordova	99574		Stevens Village	99774
Whittier	99501 R.Br.		Rampart	99767
Homer	99603		New Minto	99758
Delta Junct.	99737		Gakona	99586
Glennallen	99588		Gulkana	
			Tazlina	
Anchorage	99501 (Bor.)		Copper Center	99573
Fairbanks	99701 (Bor.)		Eyak	
Juneau	99801 (Bor.)		Tatitlek	99677
		(city)	Anaktuvuk Pass	99721
			Alatna	
			Allakaket	
			Chenega	
			English Bay	
			Ninilchik	99639
			Tyonek	99682
			Alexander (Susitna R. delta)	
		(city)	Eklutna	
			Seldovia	99663
			Port Graham	
			Healy Lake	
			Dot Lake	99737
			Tanacross	99776
			Chitina	99566
			Northway	99764
			Nabesna Village	
			Tetlin	99779
		(city)	Hoonah	99829
		(city)	Haines	99827
			Tenakee Springs	99841
		(city)	Angoon	99820
		(city)	Kake	99830
			Eagle	99738
			Eagle Village	99738

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During winter, air mail may still take up to two weeks for delivery.

February 6, 1975

Regional Director
National Park Service
U. S. Department of the Interior
Pike Building
523 4th Street
Seattle, Washington 98104

Subject: Proposed El Paso Natural Gas Pipeline Routes - Alaska

Reference: National Historic Preservation Act of 1966

Dear Sir:

On behalf of the Federal Power Commission, under their contract no. FP-1 to us, this organization is evaluating the potential and the importance of archaeological and historical sites on or near the proposed natural gas pipeline routes described by the El Paso Alaska Company in its filing CP75-96 to the FPC on September 24, 1974, and whose proposed alignments are shown on our attached Area Map No. 1 (012775).

We request that you identify for us those properties or sites which may be located on or near these alignments and which are included in or have been identified as eligible for inclusion in the National Register according to the referenced Public Law and to Chapter VIII, Advisory Council on Historic Preservation (Part 800). We would also appreciate learning from you any information related to relevant current research or planned investigations and unpublished works.

For your information we have initiated a search of record data in the Alaska Heritage Resources Index and in other available competent materials to secure a detailed inventory of known and potential archaeological and historical sites.

Should you have any questions related to this inquiry, or if we can be of any service, please do not hesitate to contact us at the address or telephone number above. Meanwhile, we hope to receive your reply by February 26, 1975.

In anticipation of the courtesy of your early reply, we remain

Respectfully yours,
IROQUOIS RESEARCH INSTITUTE

Original Signed By
D. W. POIRIER

Robert L. Humphrey, Ph.D. Bernard W. Poirier
Chief Project Scientist Director



United States Department of the Interior

NATIONAL PARK SERVICE

Pacific Northwest Region
Fourth and Pike Building
Seattle, Washington 98101

IN REPLY REFER TO:

H34
(PNR)PSA

February 13, 1975

RECEIVED

FEB 18 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Dr. Robert L. Humphrey
Chief Project Scientist
Iroquois Research Institute
6201 Leesburg Pike, Suite 215
Falls Church, Virginia 22044

Dear Dr. Humphrey:

This is in response to your and Mr. Poirier's February 6 request for information on National Register properties located near the El Paso Alaska Company's proposed natural gas pipeline.

We do not maintain detailed records on the location of National Register properties and, regretfully, will not be able to provide you with the information. The Alaska State Historic Preservation Officer does have the data, however, and you may wish to consult him. He is Mr. William A. Scheck, Director, Division of Parks, Department of Natural Resources, 323 East Fourth Avenue, Anchorage, Alaska 99501.

It would appear that a portion of El Paso's prime route parallels the Trans-Alaska pipeline. This was archeologically surveyed and you might check with Dr. John Cook, University of Alaska, and Dr. William Workman, Alaska Methodist University (Anchorage), to obtain information on the results. These same gentlemen might also be able to provide generalized information on the remaining routes.

We hope the above will be of some use and offer our apologies for being unable to provide a more comprehensive reply.

Sincerely yours,

Robert S. Luntley
Associate Regional Director,
Professional Services



Save Energy and You Serve America!

Eagle, Alaska - on the Yukon River
a 2nd class city which has tripled population
past two years - 150 residents by summer of

Charlie Village old village near Kasilik & G
very historical

Keep Oil Out

People too

RECEIVED

MAR 7 1975

THE ARCTIC COMPANY, LTD.
BOQUONIS RESEARCH INSTITUTE

HAND WRITTEN REPLY RECEIVED FROM
EAGLE COUNCIL, EAGLE, ALASKA

CITY OF CORDOVA

Phone: (907) 424-3237
or 424-3238

Box 938
CORDOVA, ALASKA 99574

Reply to:

"The Friendly City"
March 5, 1975

Iroquoi's Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Mr. Humphrey:

We are not familiar with any historic or cultural sites along the proposed El Paso pipeline to Pt. Gravina.

We have passed your request on to Eyak Village Corporation, a local minority village corporation, for their review.

The City of Cordova heartily supports the route to Pt. Gravina in the light of economic activity it will bring to our area.

Sincerely,

Mark Kazazean
Mark Kazazean
Acting City Manager

MK/slj

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MAR 18 1975

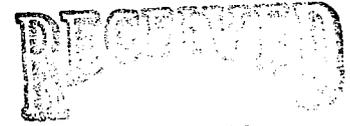
**THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE**

**Advisory Council
On Historic Preservation**

1522 K Street N.W. Suite 430
Washington D.C. 20005

Robert L. Humphrey, Ph. D.
Chief Project Scientist
Iroquois Research Institute
6201 Leesburg Pike
Falls Church, Virginia 22044

MAR 10 1975



MAR 12 1975

THE ARCHIVES CENTER, INC.
IROQUOIS RESEARCH INSTITUTE

Dear Dr. Humphrey:

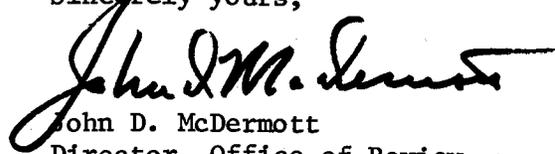
This is in response to your request of February 13, 1975 concerning the El Paso Alaska Company's proposed gas pipeline routes through Alaska and the National Historic Preservation Act of 1966.

It is not within the purview of the Advisory Council to furnish the specific information concerning cultural resources which may be affected by the proposed undertaking. It is suggested that you work closely with the Alaska State Historic Preservation Officer (Mr. William A. Scheck, Director, and Recreation, Department of Natural Resources, 323 East Fourth Avenue Anchorage, Alaska 99501) in an effort to gain such data.

With respect to your inquiry concerning the Act, the Council was created by the Act to advise the President and Congress in the field of historic preservation. Section 106 of the Act directs the head of any Federal agency considering an undertaking which would affect cultural resources included in the National Register of Historic Places to afford the Council an opportunity to comment on the undertaking prior to its approval. The issuance on May 1971 of Executive Order 11593, "Protection and Enhancement of the Cultural Environment" broadened the Council's area of responsibility. By that Order Federal agencies were directed to work with the Council to insure that their plans and programs contribute to the enhancement and preservation of non-federally owned cultural resources. It further required the head of any Federal agency to afford the Council an opportunity to comment on all undertakings which would result in the sale, transfer, demolition or substantial alteration of a property under his agency's control or jurisdiction that had been determined eligible for inclusion in the National Register by the Secretary of the Interior. The "Procedures for the Protection of Historic and Cultural Properties" (36 C.F.R. Part 800) set forth the steps and procedures to follow in obtaining Council comments. For your information, a copy of the procedures is enclosed.

Should you desire additional assistance, please contact Michael H. Bureman of the Advisory Council staff at P. O. Box 25085, Denver, Colorado 80225, telephone number (303) 234-4946.

Sincerely yours,



John D. McDermott
Director, Office of Review
and Compliance

Enclosure

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March 6, 1975

Robert L. Humphrey, Ph. D.
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

RECEIVED
MAR 10 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Dear Dr. Humphrey:

Thank you for the opportunity to participate in your project to evaluate the potential and importance of our archaeological and historical sites in the vicinity of the proposed natural gas pipeline routes proposed by El Paso Alaska Company. The only proposed route by El Paso which affects southeastern Alaska is the "Haines-Lynn Canal Option" which appears to traverse the Klehini and Chilkat River Valley's in the northern part of Southeastern Alaska.

Sealaska Corporation is presently engaged in a project to locate and identify various Native cemetery and historical sites throughout southeastern Alaska as a part of its land selection procedure under the provisions of the Alaska Native Claims Settlement Act. The inventory report on this project is scheduled to be published in August, 1975, and we would be happy to furnish you with a copy of the report at that time inasmuch as it will identify from personal interviews as well as existing literature, Native cemetery and historical sites in the Klehini and Chilkat River Valley's.

Again, we thank you for this opportunity to participate in your project and look forward to sending you a copy of our Sealaska report on cemeteries and historical sites in August of this year.

Sincerely yours,



John Borbridge, Jr.
President



U.S. DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL OCEAN SURVEY
Rockville, Md. 20852

C513/WS

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MAR 7 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

MAR 5 1975

Mr. Bernard W. Poirier
Director
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, VA 22044

Dear Mr. Poirier:

The records of the National Ocean Survey do not include the type of data requested in your letter of February 13, 1975.

May I suggest an inquiry to the Cartographic Archives Division, National Archives and Records Service. Their files are quite comprehensive as to cartographic products relevant to cultural, religious and historical development of America's territories.

If we can be of any further service, please let me know.

Sincerely,

Allen L. Powell
Rear Admiral, NOAA
Director
National Ocean Survey



El Paso Alaska Company

*2727 Allen Parkway
Houston, Texas 77019*

POST OFFICE
75

March 3, 1975

RECEIVED
MAR 5 1975

**THE ARCTIC COMPANY, LTD
IROQUOIS RESEARCH INSTITUTE**

Mr. Bernard W. Poirier
Director
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Mr. Poirier:

I am writing to you in response to your letter of February 13 in which you have requested assistance in evaluating the potential and the importance of archaeological and historical sites near El Paso Alaska's proposed natural gas pipeline. As you are aware, we are currently preparing responses to certain questions posed by the Federal Power Commission which have a bearing on this subject. As soon as these responses are completed, I will be pleased to forward to you all pertinent information.

Sincerely,

Luino Dell'Osso, Jr.
Luino Dell'Osso, Jr.
Project Manager

LD'O/kb

cc: Mr. Walter G. Henderson

Maison provinciale
3456 avenue Ontario, Montréal, Qué. H3G 2C7

Le 14 janvier 1975

M. Bernard Poirier,
Iroquois Research Institute,
215 - 6201, Leesburg Pipe
FALLS CHURCH, Virginia E.U.
22044.

RECEIVED

FEB 20 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Monsieur,

Ci-inclus copie des deux articles de la revue
Etudes Oblates, tel que demandés. Frais \$ 3.00.

Voici l'adresse de nos archives historiques
oblates et le nom du directeur de ces archives :

R.P. Gaston CARRIERE, o.m.i.,
Archives Deschâtelets,
175 rue Main,
Ottawa, Ont.
K1S 1C3

Tél. (613) 237-0580.

Ces archives peuvent contenir des documents
qui touchent votre étude. Une autre source de documentation
serait les archives oblates de nos missions du Mackenzie.
Vous adresser là au P. Gilles Mousseau, o.m.i. (auteur d'un
des articles que je vous envoie copie) P.O. Box 3, Fort Smith,
T.N.O. XOE 0P0 Tél (403) 872-2052. Cependant, nos archives
historiques d'Ottawa ont peut-être copie microfilmée des
documents de Fort Smith. Le Père Carrière pourra vous le dire.

Bien vôtre,



Donat Levasseur, o.m.i.
archiviste.



Province of Manitoba
Provincial Archives

200 Vaughan Street
Winnipeg
~~R3C 0B8~~
R3C 1T5

RECEIVED

MAR 3 1975

VIA: Air Mail
February 28, 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Mr. George Shake
Iroquois Reserve Institute
215 - 6201 Leesburg Pike
FALLS CHURCH, Virginia 22044
United States of America

Dear Mr. Shake:

We are enclosing a list of articles published by the Company relative to Alaska.

We have the following Fort Yukon (in what is today Alaska) documents in our archives:

Fort Yukon Journals 1847-1856 - H B C Archives B.240/a/1-8

Fort Yukon Account Books 1851-1870 - H B C Archives B.240/d/1-13

Correspondence - Fort Yukon 1869-1870 - H B C Archives B.240/b/1

There will also be references to Fort Yukon in the Fort Simpson correspondence. H B C Archives B.200/b series.

Journal of the Yukon 1847-48 by Alex Hunter Murray, edited by L.J. Burpee, was published in 1910.

A microfilm copy of the Company archives from 1670-1870 is deposited at the Public Archives of Canada, Ottawa. Just in case you wish to consult it a copy of the "Rules and Regulations..." is enclosed.

Sincerely yours,

Shirlee Anne Smith
Archivist
Hudson's Bay Company Archives

SS/th

encl.



UNIVERSITY OF ALASKA
COLLEGE, ALASKA 99701

February 26, 1975

RECEIVED

MAR 3 1975

Dr. Robert L. Humphrey
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Dear Bob,

Your Request and Inquiry Memo reached me yesterday and I hasten to respond by your deadline. As you know, I have been the principal investigator for much of the Alyeska oil pipeline (Bill Workman has been in charge of the southern end). We have been working on this project since 1969 when we found our first site along the right-of-way. Since then, some 300 more have been located and, in many cases, excavated. Last summer alone, we had 85 people in the field for some 19,000 man hours of excavation and survey, and we could not keep up. Our earlier operations have been described in two large reports to Alyeska and in an Arctic Institute Technical Paper.

I think our work rather conclusively proves that there will be a large number of sites impacted by El Paso construction. Of greatest importance is the need for advance survey and testing with excavation of large sites (or rerouting of the pipeline). This would be true of any alternate used, such as the Alaska rail road corridor.

If you have need for more specific information that what is in our earlier reports, please let me know.

Sincerely,

John P. Cook
Department of Anthropology

JPC/vjk

STATE OF ALASKA

JAY S. HAMMOND, GOV

DEPARTMENT OF HIGHWAYS

OFFICE OF THE COMMISSIONER

P. O. BOX 1467 - JUNEAU 99801
(907) 364-2121

February 25, 1975

El Paso Alaska Co.
Pipeline Route

Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Gentlemen:

We are sorry that we cannot add to the research material you have already completed relating to cultural, religious, historical, etc. significance along the proposed gas pipeline route. However, if you have not already done so, we would recommend contact with the Department of Interior. We understand substantial investigations along these same lines were conducted in connection with the Aleyeska Pipeline.

RECEIVED

MAR 3 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Sincerely yours,

Walter B. Parker
Commissioner of Highways

Jack T. Bodine
Jack T. Bodine
Acting R/W Director

CITY OF SEWARD



P. O. BOX 337
SEWARD, ALASKA 99664

CITY MANAGER	224-5214
COMPTROLLER	224-5216
INFORMATION	224-5215
CITY POLICE	224-5201

February 25, 1975

RECEIVED

MAR 8 1975

**THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE**

Mr. Robert L. Humphrey, Ph. D.
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

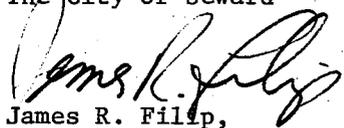
Dear Mr. Humphrey:

Thank you for your letter of February 13, 1975 giving the City of Seward an opportunity to respond to certain cultural, historical and archaeological items in regard to proposed pipeline routes within Alaska.

The sphere of influence of the City of Seward is restricted to the area immediately surrounding Resurrection Bay and the only item that I am aware of that might be relevant to your consideration in this area is the Iditarod Trail which ran from Seward to Nome.

It is difficult to determine specifically whether the proposed route from Anchorage to Seward would encroach on the former Iditarod Trail however, information available to you will probably eliminate this fact very quickly.

Sincerely,
The City of Seward


James R. Filip,
City Manager



National Museums Musées nationaux
Canada Canada
National Museum Musée national
of Man de l'homme

RECEIVED

MAR 8 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

February 21, 1975

Iroquois Research Institute,
Suite 215,
6201 Leesburg Pike,
Falls Church, Virginia 22044
U.S.A.

Attn: Bob Humphrey

Gentlemen:

A. McFadyen Clark and I have done 5 years or seasons of anthropological and archaeological research (both summer and winter) in the Koyukuk River drainage during the period 1961-1972, from the villages of Evansville (Bettles Field), Allakaket-Alatna, Hughes and Huslia. Some of the results of this program is available in preliminary reports or narrowly-focussed topical papers, but final analysis is in progress and will continue for some time. This constitutes but part of a continuing culture history project we are conducting in the Koyukuk River drainage.

The proposed gaspipeline alignments pass through territory presently utilized for trapping, and formerly occupied on a year-round basis, by the South Fork group of the Koyukuk Division of Koyukon Athapaskan Indians as well as by some Eskimo, primarily of Kobuk affiliation. We have information regarding present, recent past, and earlier historic indigenous utilization, as well as notes on a limited number of settlements which may predate the contact period.

Insofar as actual ground coverage is involved, our own surveys reach only to or just below the southern limit of the area seemingly affected, while surveys by the University of Alaska (ALYSEKA program) lie along the eastern limits of the area. From these, the archaeological potential of the area can be predicted.

Enclosed are materials, including reprints, which provide general or background information for the anthropology, indigenous history, and prehistory of the Koyukuk region. In addition, a paper on contact period houses is to appear in Arctic Anthropology Vol. 11 supplement shortly, and one thick report will be sent under separate cover. Also enclosed is a section of data extracted from our field notes of 1968 and 1969 with hand written annotations from 1970 data.

.../2

Ottawa
K1A 0M8

This will be most important for you because it mentions settlements and areas of archaeological interest close to the proposed alignments. This is not for publication, but is for your information only; however, you can extract some facts from it such as settlement or area designations, location, and nature or significance. The manuscript may be cited as: D. Clark and A. McFadyen Clark, 1970, Survey of Protohistoric and Historic Camps, Sites, and Settlements (Koyukuk River), 42 pp. typescript, in possession of the authors.

Although we have not made a ground survey, it is apparent from the accounts we obtained that the area definitely has sites of anthropological-historical-archaeological significance, that is, ones of contact period (ca. 1838-1885) and early historic age which could be investigated using archaeological techniques supplemented with ethnographic information. Insofar as prehistory is involved, results obtained from the eastern limits of the area through the contract salvage program of the University of Alaska, and to the south in the Koyukuk drainage by ourselves (see papers attached), place the Koyukuk area very importantly in the prehistory of Alaska. Probably three quarters of the fluted points from Alaska have come from this region. We may note also the frequent discovery of Pleistocene faunal remains along the Koyukuk River and tributaries. There was a Pleistocene "bone bed" between Allakaket -- seven miles above the village and the South Fork River, but this one no longer is productive. Due to topographic factors and alluvial history some parts of the area crossed by the proposed alignments may have a low potential for the discovery of archaeological sites, but when considering the entire area it is very likely that significant archaeological material is present. Close surveillance of the area would be extremely desirable.

Yours sincerely,

Donald W. Clark

Donald W. Clark
Mackenzie Basin Archaeologist
Archaeological Survey of Canada

/eg

Encs.

Tanacross Village Council
Tanacross, Alaska 99776

Mr. Robert L. Humphrey, Ph. D.
Mr. Bernard W. Poirier
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Mr. Humphrey and Mr. Poirier:

In reference to your letter of February 13 on the pipeline route and any historic sites, we do have numerous cemetery sites and one or two historic sites. We cannot give you the exact locations at this time because we do not have a specific map.

Our village is presently using the area specified for hunting, trapping, and fishing subsistence. We request to be notified of any plans for "pipeline" route in this area behind our village. It is within our land withdrawal.

Please do not hesitate to write to us if you need any more information and thank you for writing.

Sincerely,

Tanacross Council Members

Betty Thomas
Ray S. Denny
Jacob Isaac
Kenneth Thomas

RECEIVED

MAR 7 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

cc: Rosemarie Maher
Tanana Chiefs Conference
Tok Sub Regional Office

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE

P.O. Box 1628, Juneau, Alaska 99802

2360

February 24, 1975



Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Sirs:

The USDA Forest Service, Alaska Region, has prepared environmental analyses for the proposed El Paso Natural Gas Pipeline routes on National Forest lands. These have been submitted to the Department of Interior for inclusion in their environmental statement for that project. The sections dealing with cultural resources are enclosed and represent the most knowledgeable listing of sites I can give you at this time. As you will note most of the locations are also in the Alaska Heritage Survey Inventory.

Hopefully this information will be of value to you.

Sincerely,

Joseph Zybulski
DOUGLAS REGER
Regional Archeologist

Enclosures

RECEIVED
FEB 27 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Sec.

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Archevêché-Archbishop's Residence

388, McTernan, Alberta, Canada

TOH 2LO

Le 24 février 1975

Monsieur Bernard Poirier
Suite 215
6201 Leesburg
FALLS CHURCH, Virginia
U.S.A.

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FEB 28 1975

THE ARCTIC COMPANY, LI
IROQUOIS RESEARCH INSTIT

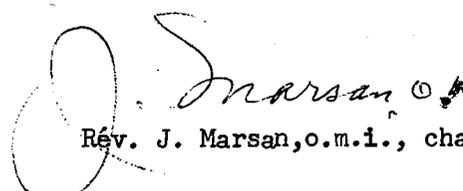
Cher monsieur Poirier,

Pour faire suite à votre appel téléphonique de la semaine dernière, je vous fais parvenir ce que j'ai pu trouver dans nos archives du vo de Mgr Isidore Clut et du Père Lecotre au Yukon et en Alaska.

Si vous voulez d'autres renseignements sur les missions missionnaire de ce coin-là, il vous faudra vous adresser aux diocèses soit de soit de Prince George, soit de l'Alaska; ce que vous avez peut-être fait déjà.

Nous n'avons rien ici sur les cimetières de cette région les activités missionnaires plus récentes, étant donné que ces territoires ne pas de notre circonscription ecclésiastique.

Si je puis vous être utile en quelque chose pour votre n historique, n'hésitez pas de communiquer avec moi; je ferai mon possible pour service dans la mesure de nos ressources documentaires.


Rév. J. Marsan, o.m.i., cha



United States Department of the Interior

NATIONAL PARK SERVICE

Alaska Task Force

524 W. 6th Avenue, Room 201

Anchorage, Alaska 99501

February 24, 1975

IN REPLY REFER TO:

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FEB 27 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Mr. Robert L. Humphrey
Mr. Bernard W. Poirier
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, VA 22044

Dear Sirs:

We have received your request for archeological and historical information relating to the proposed El Paso natural gas pipeline.

This office has provided draft information of this type to the inter-agency Interior task force now preparing an environmental statement for the Arctic Gas Company proposal for a similar line. We suggest you contact the Washington office of the Bureau of Land Management to determine if this information is in final form.

Sincerely,

Keith A. Trexler
Keith A. Trexler
Management Assistant



303

Save Energy and You Serve America!

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have the opportunity to see them. Like the Anaktuvuk option, I would expect that the greatest difficulties of this route would come in connection with native land claims, since it appears to run through or near the native settlements of Heal Lake, Dot Lake, Tanacross, Tetlin and Northway.

As Bill Irving has demonstrated, there are sites to be found along the Susitna and the recently discovered Dry Creek site near McKinley Park lies in the Alaska R.R. corridor. There are also some important sites on Kachemak Bay. However, since most of this option is outside my personal experience, I had best leave comment to others.

I gather from your memorandum that your interest is confined to the proposed El Paso routes and does not include those of Arctic Gas. In a way I am sorry, since in the summer of 1970 Ed Hall and I made an archaeological reconnaissance of the Old John Lake area--just west of Arctic Village and just south of the Arctic Gas interior alternative. As a consequence I do have a little first hand knowledge of that section of the Brooks Range. However, as I have already noted, the only way to evaluate the archaeological potential of any of these proposals is to stake out the actual route and then check it out carefully on the ground.

All good wishes to you in your project and let me know if I can be of any help to you as it develops.

Sincerely,



Robert A. McKennan
Professor of Anthropology
Emeritus, and Research
Professor of Anthropology

RAMcK; MEW



Dartmouth College HANOVER · NEW HAMPSHIRE · 03755

Department of Anthropology · TEL. (603) 646-3256

RECEIVED

FEB 26 1975

THE ARCTIC COMPANY, LTD
IROQUOIS RESEARCH INSTITUT

Dr. Robert L. Humphrey
Chief Project Scientist
Iroquois Research Institute
Suite 215, 6201 Leesburg Pike
Falls Church, Virginia 22044

February 24, 1975

Dear Bob:

I have just received your form inquiry regarding archaeological sites along the proposed pipeline routes of the El Paso Alaska Co. First let me say that I am delighted to learn that you are handling the archaeological aspects of this project, since I am convinced that field experience in the Arctic is a sine qua non for a job of this sort.

I am sure you will agree that our present imperfect knowledge of Alaskan archaeology makes it impossible to evaluate the importance of archaeological sites along such generalized routes as those on your enclosed map. Not until the routes are actually staked out and field parties have been able to go over the ground can we really say very much about its archaeological potential. As you know, together with Jack Campbell, Elmer Harp and Helge Larsen I was a member of the Arctic Institute committee that served as archaeological consultants and monitors for the BLM for the two years preceding actual construction of the oil pipeline and consequently I had the opportunity to visit virtually all the sites along that route. In as much as the El Paso prime route parallels the Alyeska route there is no reason to go into detail here, for you certainly must have access to the Alyeska archaeological reports. Suffice to say that the great bulk of the sites occurred along the foothills and flanks of both the north and south slopes of the Brooks Range and in the Livengood area. I would expect the Itkillik and Anaktuvuk options would show similar patterning. I would also expect that the Anaktuvuk route would present difficulties in connection with native land claims.

The Haines-Lynn Canal option seems to come very close to two important sites that I know well from my own excavations--namely Healy Lake and Dixthada. I also know from my own reconnaissance work on the headwaters of the Goodpaster, Healy, and Fortymile rivers that there are a variety of sites in the Yukon-Tanana Uplands. Undoubtedly your optional route would reveal others--and since this is part of my own stamping ground I would love to

Ninilchik Natives Association, Inc.

Box 173

Ninilchik, Alaska 99639

567-8731

February 20, 1975

Mr. Robert L. Humphrey, Ph. D.
Mr. Bernard W. Poirier
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Sirs:

According to the map we have received on the proposed natural gas pipeline routes, the line goes through our whole town, without a more detailed map, we cannot respond to this inquiry properly.

Sincerely,

Ninilchik Natives Association

Richard Greg Encelewski
Richard Greg Encelewski
General Manager

RGE:rh

RECEIVED

FEB 25 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

306

President Guassim Oshalkoff Vice-President Cecil Demidoff Honorary Chief Larry M. Oshalkoff

General Manager - Greg Encelewski

Secondary Treasurer Marjorie Hostetter

Mgr Seghers avait été amené à Vancouver par Mgr Demers, le premier évêque de l'île de Vancouver, dont le diocèse s'étendait jusqu'en Alaska.

Donc, les missionnaires français qui ont pénétré les premiers à l'intérieur de l'Alaska, dont vous me parliez au téléphone, sont les Oblats. Les Jésuites canadiens n'ont vécu en Alaska que de 1896 à 1912, et furent remplacés par des Jésuites américains de la province de Californie.

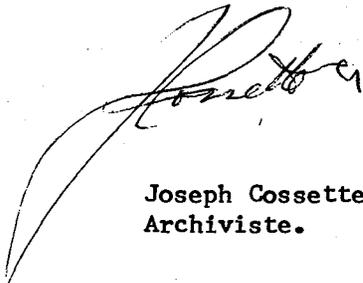
Je vous envoie des photocopies sur le sujet. Vous pourrez sûrement vous procurer à Washington le livre du P. Baets.

Ici, nous avons un certain lot de lettres de missionnaires et de photographies de l'époque 1896-1912. Rien d'autre.

J'espère que les Jésuites de Collège, Alaska, pourront vous donner de meilleures informations. J'ai envoyé en 1973, de la documentation au R. P. Louis L. Renner, S.J., Box 80153, Collège, Alaska, 99701. Peut-être pourrait-il vous aider. *C'est l'archiviste.*

ll

Veillez croire, cher Monsieur Poirier, à toute ma considération.



Joseph Cossette, S.J.,
Archiviste.

RECEIVED
FEB 24 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Archives de la Compagnie de Jésus

Province du Canada-français

C. P. 130, Saint-Jérôme

Cité Terrebonne, Qué.

J7Z 5T8

Le 19 février 1975,

Monsieur Bernard Poirier,
Iroquois Research Institute,
Suite 215,
6201, Leesburg Pike,
Fall Church, Virginia, 22044.

Re: Suite à votre appel d'aujourd'hui
au sujet de l'Alaska.

Cher Monsieur,

J'ai peu de choses dans nos archives sur la période de l'histoire de l'Alaska, dont vous m'avez parlé.

Je vous envoie quelques notes tirées des Papiers du P. Joseph Alphonse Desjardins, S.J. qui fut missionnaire à Holy Cross et Nulato de 1907 à 1912. Il a écrit un petit livre sur le sujet, intitulé EN ALASKA, DEUX MOIS SOUS LA TENTE, publié en 1930, à Montréal, Imprimerie du Messager canadien. Il y relate ses expériences de missionnaire et y donne aussi certains détails historiques sur l'histoire des missions catholiques en Alaska.

J'en crois que beaucoup de ces notes ont été tirées de l'ouvrage de l'abbé Maurice de Baets: MGR SEGHERS, L'APOTRE DE L'ALASKA, publié à Paris, chez Oudin, 1896. xcII, 237p.

Les premiers missionnaires catholiques à pénétrer à l'intérieur de l'Alaska furent deux Pères Oblats venus du Canada: Le P. Séguin, 1852; le P. Petito, 1870; le P. Lecorre et Mgr Clut, 1872-73. Mgr Seghers passa l'hiver 1877-78 à Nulato et visita les villages le long du Yukon.

ARCHIVES DES CHÂTELETS

175, RUE MAIN, OTTAWA K1S 1C3 CANADA.

TÉL.: (613) 237-0580, POSTE # 71

Le 19 février 1975

M. Bernard Poirier, Directeur
Iroquois Research Institute
Suite 6201
Leesburg Pike
FALLS CHURCH, Va 22044

RECEIVED

FEB 24 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Cher M. Poirier,

Suite à votre téléphone ce midi, je vous fais parvenir ce que je crois le plus important sur cette question de Mgr Isidore Clut, o.m.i. et Auguste Lecorre, o.m.i., en Alaska. L'article tiré des Missions... est assez long, mais j'ai cru mieux faire de le transcrire en entier, parce que le début qui ne porte pas directement sur l'Alaska donne au moins les préparatifs du voyage. J'ajoute une lettre, provenant des archives générales des Oblats de Marie Immaculée, Rome, dossier Clut, datée de Fort Providence, North West Territories, le 20 octobre 1873, au retour du voyage. Elle est assez difficile à lire parce que le papier utilisé par le missionnaire était très mince et l'écriture un peu effacée.

Je pourrais vous faire parvenir d'autres documents si vous le jugez utile, mais je doute qu'ils ajoutent beaucoup. Il y a un ~~écrit~~ récit écrit par le père Lecorre vers 1913 qui est assez long et qui a paru dans une petite revue missionnaire. En outre, je trouve deux articles parus dans Etudes oblates :

Gilles MOUSSEAU, o.m.i., "L'affaire d'Alaska" A propos du voyage de Mgr Clut dans l'Amérique Russe en 1872, dans Etudes Oblates, 5 (1946), p.160-188.

Cet article dépasse beaucoup la question du voyage.

Joseph Etienne CHAMPAGNE, o.m.i., First Attempts at the Evangelization of Alaska, Ibidem, 2 (1943), p.13-22.

J'ai également un résumé du journal de Mgr Clut dont je pourrais vous relever les points saillants. Je n'ai pas le texte intégral, il est aux archives diocésaines de McLennan, Alberta et c'est le père Jean Marsan, o.m.i., qui en a la charge. Son adresse est : Archbishop House, Box 388, McLennan, Alberta, Canada, T0H 2L) Le récit du voyage se trouve dans le 2^e cahier des Mémoires, p.14-48, et le 3^e cahier, p.1-271 4^e cahier, p.1-21. Le séjour en Alaska proprement dit, est dans le 3^e cahier, p.15-27, et 4^e cahier, p.1-21. Je puis vous envoyer un ~~écrit~~ copie de mon résumé qui donne une bonne idée du voyage.

Je prends la liberté d'inclure une petite facture, car je dois moi-même payer à l'extérieur pour les photocopies.

Espérant que ces documents et renseignements vous seront de quelque utilité, je vous prie, cher monsieur de croire à mon entier dévouement,

G. Carrière
Gaston Carrière, o.m.i.
archiviste.



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**CITY OF
ANCHORAGE**



ANCHORAGE HISTORICAL AND FINE ARTS MUSEUM
121 - 7th Avenue
Anchorage, Alaska 99501

February 20, 1975

Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Sirs:

In response to your memorandum of February 13 I do not think that we could add any information to that which you may receive from the office of the State Park Archeologist or Historian. If you have not already done so I suggest you contact them: Division of Parks, McKay Building, Anchorage, Alaska, 99501.

However, thank you for your inquiry and thoroughness.

Sincerely,

A handwritten signature in cursive that reads "M. P. Wyatt".

M. P. Wyatt
Curator of Collections

MPW/krk

FEB 24 1975

THE WYATT COMPANY
ANCHORAGE HISTORICAL AND FINE ARTS MUSEUM



February 20, 1975

Dr. Robert L. Humphery
Iroquois Research Institute
6201 Leesburg Pike
Falls Church, Va.

Dear Dr. Humphery:

This is in answer to Mr. Poirier's longdistance telephone call of last night.

I spoke both with Bishop Whelan and Dr. John Cook of the University of Alaska about religious sites possibly threatened by a pipeline. Both are of the opinion that there is no possible threat to any former religious sites other than cemeteries. All the Catholic Missions are in western Alaska with nothing in the area of the present pipeline being built.

In short: nothing to be concerned about as far as Catholic religious sites is concerned.

Sincerely,

Louis L. Renner S.J.

Dr. Louis L. Renner, S.J.

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FEB 24 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE



Department of Anthropology

18 February 1975

Dr. Robert L. Humphrey
Chief Project Scientist
Iroquois Research Institute
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Bob:

My experience in the areas potentially to be affected by the various El Paso Alaska Co. pipeline routes has been limited to an archaeological survey of the immediate shores of Old John Lake, near Arctic Village, in the summer of 1972 and, more recently, a brief survey of the lower valley of the Charley River, tributary to the Yukon, and the banks of the Yukon River from Eagle to Circle.

Old John Lake lies near the Arctic Gas Interior alternative. Bob McKennan and I located a relatively large number of sites around the lake; our report in Polar Notes, a copy of which I think I sent you, summarizes our findings. Based on this experience I assume site density would be high along the Chandalar River and its tributaries. A helicopter ride down the Canning River suggested to me that fewer sites will be found along the upper course of this stream but, given the results of the oil line survey, undoubtedly important sites exist there.

I found no sites along the Charley River or the Yukon between Eagle and Circle, adjacent to the Fort Yukon corridor alternative. However, given the difficult nature of the terrain, the amount of time I devoted to the survey and numerous other factors, this is no reflection on the archaeological potential of the area.

If I can provide further information please let me know.

Best,

Ed

Edwin S. Hall, Jr.
Professor
Acting Chairman

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FEB 21 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

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Koniag, Inc.

REGIONAL NATIVE CORPORATION

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FEB 21 1975

February 18, 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Dr. Robert L. Humphrey
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia

Dear Dr. Humphrey:

Thank you for your Inquiry Memorandum of February 13, 1975.

Koniag Regional selections are not located along either El Paso or Arctic Gas pile line routes, therefore information regarding sites having, cultural, religious, archaeological, anthropological, historical, etc. significance to the Koniag people have not been explored.

You did make reference to the "Alaska Heritage Resource Survey Index, a reference source unfamiliar to us. We would appreciate any information pertaining to acquiring this reference.

Sincerely, KODIAK

Charles Naughton

Charles Naughton
Assistant Field Director
KONIAG, INC.

CN/mu



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 • TEL. 202- 381-5151

February 20, 1975

Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Gentlemen:

Dr. Charles O. Handley, Jr., to whom you addressed one of your recent requests for information on sites along the proposed natural gas pipeline routes described by the El Paso Alaska Company, is presently in Panama for a month of field work on Barro Colorado Island. He cannot, therefore, reply to your letter by your deadline date of February 27, 1975. If he has any information that would be useful to you and you could use it after the above date, please let him know.

Sincerely,

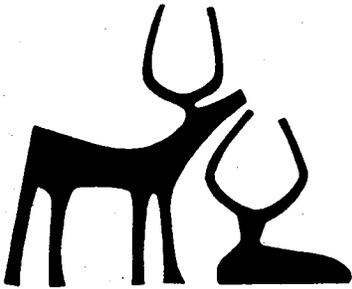
Helen J. Hutchinson

Helen J. Hutchinson
Secretary
Division of Mammals

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FEB 21 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE



Alaska State Council on the Arts

360 "K" Street, Suite 240 • Anchorage, Alaska 99501 • (907) 272-5342 or 279-3824

February 18, 1975

Robert L. Humphrey, Ph. D.
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia 22044

Dear Dr. Humphrey:

Unfortunately, the Alaska State Council on the Arts does not have information relating to your inquiry. While I am sure you have contacted them, the Division of State Parks and the Historical Commission would seem to be the best sources of information.

Sincerely,

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FEB 21 1975

Roy H. Helms
Executive Director

/rhh

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Columbia University in the City of New York | New York, N.Y. 10027

DEPARTMENT OF ANTHROPOLOGY

Schermerhorn Hall

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Feb. 17

FEB 20 1975

Dr. Robert L. Humphrey
6201 Leesburg Pike
Falls Church, Va.

THE ARCTIC COMPANY, LTD.
IRSOQUI'S RESEARCH INSTITUTE

Dear Bob,

Thanks for your letter of Feb. 13th regarding pipeline routes in Alaska.

To your question, I can say that we are definitely interested in what will happen to the archaeology in the area of our concern.

It looks to me like the El Paso Alaska Co. will pass its line directly past our Franklin Bluffs sites on the Sagavanirktok River (see our report, "Archaeological Reconnaissances" 1973, map 1). This is at Lat. $69^{\circ} 50'$ and Long. $148^{\circ} 35'$. We'd like to see the area to the south of this for the archaeology.

I noted that the proposed route of the Arctic Gas Co. in n.e. Alaska will cut right across our Katakturuk area, which I had hoped to return to with a crew for another season. This is also detailed in the same report as above.

I'd like to know what the developments of the proposed pipe line work will be.

Sincerely,

Ralph
Ralph Solecki, Prof.

P.S. Bob, I still have your dissertation--I have not read all of it--do you need it back soon?

BRYN MAWR COLLEGE
BRYN MAWR
PENNSYLVANIA 19010

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FEB 20 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

DEPARTMENT OF ANTHROPOLOGY
DALTON HALL

February 18, 1975

Robert L Humphrey, PhD
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls, Church,
Virginia 22044

Dear DR. Humphrey:

I view with horror the proposed oil and gas pipeline routes from Prudoe Bay across Alaska to the coast. Of the gasoline routes, the ~~only~~ only one that would not do irreparable to historic and scenic areas (valuable in dollars and cents if you have any interest in tourism and understand its importance to Alaska) is the route proposed on March 21, 1974 "Arctic Gas Proposed Prime Route" along the Arctic coast to the Mackenzie. All the other routes to the coast are bound to run through areas of prehistoric and historic value.

The route from Delta Junction (proposed Sept 24 1974) would ~~be~~ follow one of the prehistoric-historic trade and prospecting routes across the Alaska Range into the Copper River Valley. There are old roadhouses from pioneer days, important fish lakes, and reported ancient Indian sites close to the Isabel Pass. Farther down, the Copper River is involved, with many Indian sites and sites of pioneer camps. As I understand it, ~~this~~ this route was chosen for the oil pipeline, despite the importance of the Copper River as an important salmon stream, and the grandeur of the scenery, and despite too the continual slumping of frozen soils in parts and the known history of the area for severe and frequent earthquakes.

The lower part of the Copper River, which you note as an alternate, runs through the prehistoric homeland of the Eyak Indians, an area which has never been explored archeologically, but which is known to have contained settlements of natives. To end the pipeline at Hawkins Island or Gravina Bay is to take it straight into the heart of known Chugach Eskimo ("Aleut") sites. The Copper River route, now that the old Railroad is abandoned, might become a road of great scenic value into the interior. In any case, the value of the Copper River salmon should not be put in jeopardy. To turn the route aside to go over the pass (Thompson Pass) past Tiekel, and bring it down into Jackpot Bay, again makes the terminus at one of the most important archeological sites in the area ("Jack Bay"). All of the proposed terminals in Prince William Sound have, furthermore, ignored the dangers of navigation: numerous shoals, strong and sudden ~~storms~~ storms, major tides, etc. The old Alaska Steamship Company took every precaution in navigating these waters. Today's over-long, carelessly built and handled supertankers will certainly rip ~~their~~ their bottoms, and goodbye the salmon of Prince William Sound.

The alternative routes via the Susitna Valley, ~~pass~~ no matter how they end, are bound to pass through important historical sites. The route to the Driest River terminal goes right through Old Knik, nearby Indian sites and Kustatan site. Even worse is the pipeline proposed to run along the north shore of Kachik Bay, or out to Anchor Point, where archeological sites of value exist. A terminus at Seward is probably one that would do the least damage, and would present the fewest dangers of navigation. To go to Whittier is again to involve the known navigational dangers of Prince William Sound.

Your other alternative route to cross the Yukon near the mouth of the Porcupine and thence to Dawson and Whitehorse, is certain to run past old Indian village sites and sites of early trading posts along the Yukon, but at least it avoids marine dangers. I cannot determine the relative merits of the Interior Arctic Gas, the March 1921 Arctic Gas or the Offshore alternative route is the best. I would, ~~perhaps~~ however be inclined to eliminate the last, because of the fact that it places it runs close along the coast, and therefore in Eskimo archeological areas.

If the Alyaska Oil Pipeline actually does go through as planned, probably you had better hitch your gas line to it. At least there will be concentrated one area of pollution and spoiling of the environment. Otherwise, get it out of Alaska.

I don't know why no one has learned the lessons of messing up our own country better, and has treated Alaska, not as a land to despoil for quick, ephemeral profits, but as a reservoir to be treasured. The oil and gas should be part of a Naval Reserve, ~~untouched~~ untouched until some national emergency makes it necessary to tap them. Now we are sacrificing Alaska to save a foundering way of life, to buy a little time for all the gas and oil ~~which~~ are enough only to run the automobiles of the USA for three years, and light a few gas stoves.

Sincerely,

Federica de Laguna
Professor of Anthropology

I have navigated Prince William Sound and Cook Inlet in small boats in the 1930s, have traveled up and down the Copper River and from there to Fairbanks and to Haines in the 1950-60s, so I am writing about country that I know personally.

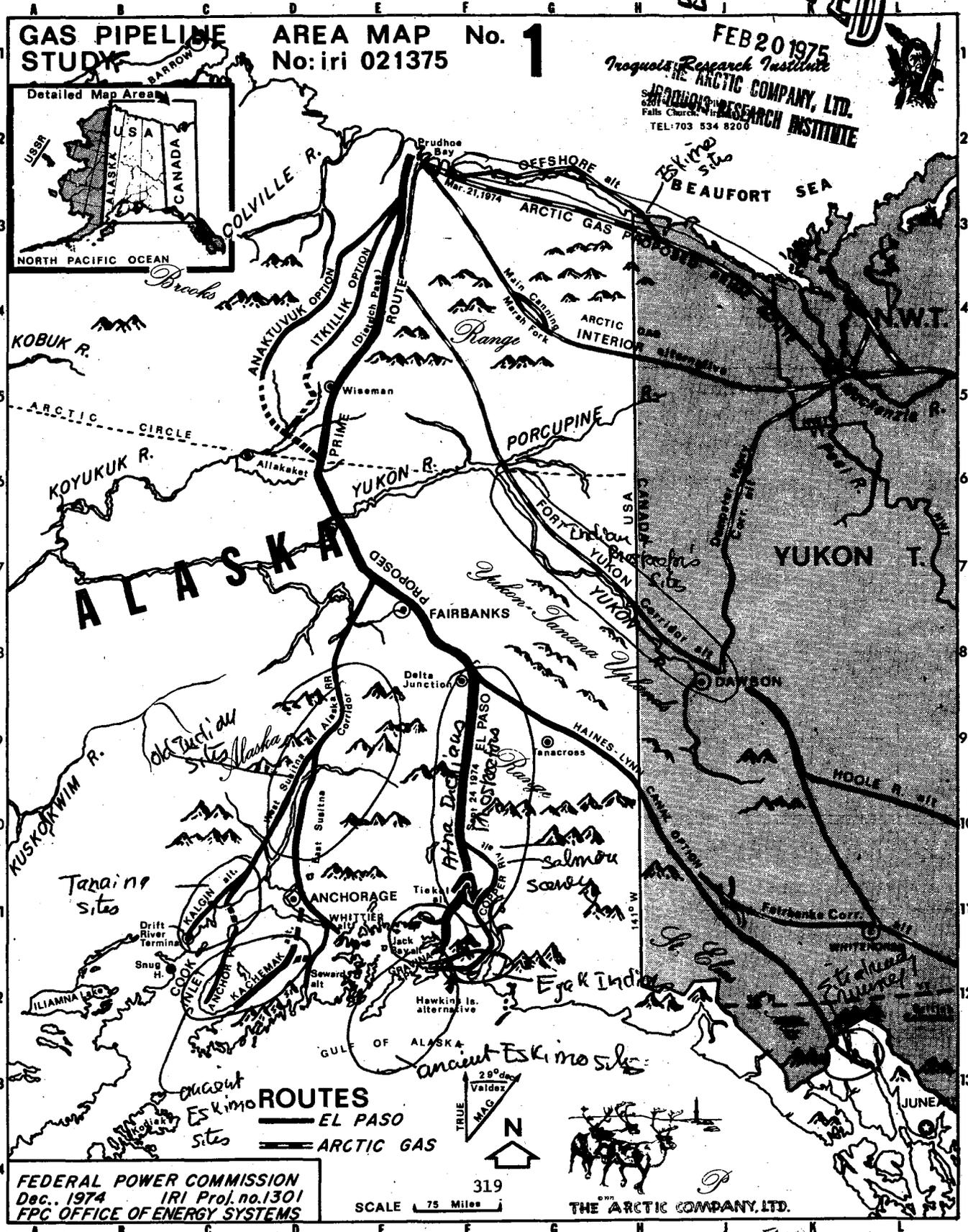
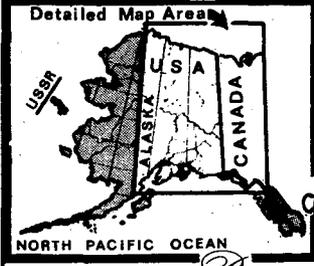
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GAS PIPELINE AREA MAP No. 1

No: iri 021375

FEB 20 1975

Ingolet Research Institute
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TEL: 703 534 8200



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MAR 19 1975

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CITY OF ANCHORAGE



ALASKA

ANCHORAGE HISTORICAL AND FINE ARTS MUSEUM

121 - 7th Avenue
Anchorage, Alaska 99501

March 17, 1975

Dr. Robert L. Humphrey
Chief Project Scientist
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, VA 22044

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MAR 20 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

Dear Dr. Humphrey:

Your inquiry of February 13 addressed to the Anchorage City Council has been forwarded to me. I am sorry for the delay.

This institution is not engaged in field research to any substantial degree, nor is any other department of the City of Anchorage. We are interested, of course, in the preservation of Alaska's cultural and artistic heritage in general; but site preservation would be of concern mainly in relation to well known historic buildings and their contents.

Obviously, you are already in contact with relevant state and federal agencies, and with archaeologists such as John Cook at the University of Alaska and William Workman at Alaska Methodist University. If you need other names and addresses, we shall be glad to provide what information we can.

Sincerely,

R. L. Shalkop
R. L. Shalkop
Director

RLS/vlk



Village
laska

SSA

Federal-State
Land Use Planning Commission
For Alaska

733 W. FOURTH AVENUE, SUITE 400
ANCHORAGE, ALASKA 99501

March 20, 1975

Gentlemen:

In response to your correspondence of February 13, 1975 and the accompanying memorandum of Mr. Alan W. Anderson, Jr., Staff Counsel of the Federal Power Commission, I am enclosing material relating to the archeological and historical significance of certain lands encompassed within the transportation corridor proposed by El Paso Alaska Company. I understand from your letter that Iroquois Research Institute has already obtained certain information previously prepared by the Commission's Resource Planning Team. It is the feeling of our inventory manager that the enclosed data will supplement that which you have already received.

If we can provide any further assistance in your information gathering efforts, please let us know.

Sincerely,



John W. Katz
Counsel

Enclosures (3)

1. Inventory South Central Region
2. Inventory Yukon Region
3. Inventory Arctic Region

JWK:go

P.S. We apologize for our delay in responding. However, we did not receive your correspondence until just before the deadline referred to therein, and it has taken us some time to locate the material which is enclosed.

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MAR 24 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE



National Museum of Natural History · Smithsonian Institution

WASHINGTON, D.C. 20560 · TEL. 202- 381-5626

19 March 1975

Dr. Robert L. Humphrey
Iroquois Research Institute
Suite 215
6201 Leesburg Pike
Falls Church, Virginia
22044

Dear Bob,

I am enclosing some xerox copies of the sites we have listed for the fourth judicial division of Alaska. These include the bulk of the materials in the pipeline surveys indicated in your mailing but do not include the materials from the southwestern region for which we have many sites. This will give you some idea about the number of sites we have but, unfortunately, not very much about their precise location. I am appalled to learn that even today's accessions do not include latitude and longitude of sites.

I suggest you spend some time working with the catalogue files here for this would be more profitable than me xeroxing materials and sending them to you. George Phebus will be happy to work with you if you come down and look over the file materials. If you decide to come, please let us know a little ahead of your visit.

Sincerely yours,

Bill

William Fitzhugh
Chairman
Department of Anthropology

Enclosures.

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MAR 24 1975

THE ARCTIC COMPANY, LTD.
IROQUOIS RESEARCH INSTITUTE

**A SURVEY MAP FOR
HISTORIC PRESERVATION
ALASKA
MARCH, 1975 FOR
FEDERAL POWER
COMMISSION**



**ALTERNATIVE NATURAL GAS PIPELINE ROUTES
PROPOSED IN ALASKA** Docket No. CP 75-96 et al.

- EL PASO**
- Prime Route:
 - Alternates:
 - Aligned:
 - Unaligned:
- ARCTIC GAS**
- Prime Route:
 - Alternates:
 - Aligned Inland:
 - Offshore:

HAL = HISTORIC and ARCHAEOLOGICAL LOCALE

29 = ROUTE SEGMENT NUMBER



Rev. April 24, 1975