

# Historical Analysis

## Mckinley Park Road Jurisdiction and Ownership



Department of Transportation and Public Facilities

Revised  
September 13, 1993

# MEMORANDUM

# State of Alaska

Department of Transportation & Public Facilities  
Office of the Commissioner

TO: Charles E. Cole  
Attorney General  
Department of Law

DATE: September 28, 1993

TELEPHONE NO: 465-3901  
TEXT TELEPHONE: 465-3652  
FAX NUMBER: 586-8365

FROM: B.A. Campbell  
Commissioner

SUBJECT: ROW Interest



This department recently completed a historical review of the ownership of the McKinley Park Road. This was transmitted to you on September 13, 1993 (revised edition).

The conclusions we reached were included in this report and further outlined in my memorandum to you dated September 17, 1993 (copy attached).

I have, on this date, become aware of an opinion authored by Carolyn Jones and Rhonda Butterfield of your office concerning the type of right-of-way obtained by Alaska through the Quitclaim Deed issued by the U.S. Secretary of Commerce by the authority vested in him by the Alaska Statehood Act.

Our research does not support the conclusions reached by Jones and Butterfield in their opinion.

PLO 1613 (copy attached) was issued on April 7, 1958 which is approximately 1 1/2 years after the right-of-way withdrawals for "through roads" transferred to the Secretary of Commerce by the Secretary of Interior (9/16/56).

Executive Order 10355 is specific and does not allow the Secretary of Interior to issue PLO 1613 unless concurrence was given by the Secretary of Commerce or a person in Commerce appointed by the President and confirmed by the Senate.

No documentation of concurrence has been found. In addition, Section 10 of PLO 1613 tends to indicate that no such concurrence was ever given by the appropriate person designated in Executive Order 10355.

This being the case, PLO 1613 was not issued in conformance with Executive Order 10355 and hence has no effect on the right-of-ways created under PLO 601, PLO 757, DO 2665 (with two amendments). Since these orders specified withdrawals for the "through routes" in Alaska, it appears that a fee interest in these routes was Quitclaimed to the State in 1959. This Quitclaim includes the Denali Highway which in turn includes the road between Mt. McKinley Park Station and Kantishna.

PL 892 allows for the Secretary of Interior to revoke certain rights-of-way and further provides a method of disposal for revoked areas of land. Since revocation did not occur until 1 1/2 years after the right-of-ways were transferred to the Department of Commerce a valid existing right accrued to Commerce. Section 4 of PL 892 exempted valid existing rights.

If a letter of authorization from Commerce to Interior is found then we would agree that only an easement interest passed to the State, not a withdrawal for "through roads."

Please have your office review this matter and issue a revised opinion if necessary.

This item is important because of requests to install pipelines in highway rights-of-way and other utilities in our right-of-ways. The ownership of the underlying fee is hence of major importance.

Attachments: 9/17/93 Memorandum  
Executive Order 10355  
PL 892  
PLO 1613  
2/19/93 AG opinion

cc: Cheri L. Jacobus, Chief, Assistant Attorney General, Department of Law

# MEMORANDUM

# State of Alaska

Department of Transportation & Public Facilities  
Office of the Commissioner

**TO:** B.A. Campbell  
Commissioner

**DATE:** September 21, 1993

**FILE NO:**

**TELEPHONE NO:** 465-6973

**TEXT TELEPHONE:** 465-3652

**FAX NUMBER:** 586-8365

**FROM:** Dick Chitty  
Deputy Commissioner

**SUBJECT:** Denali Highway

I have reviewed the various Public Land Orders (PLO) and Secretarial Orders (SO) and amendments pertaining to the Denali Highway, specifically within the McKinley Park boundary.

As you know, I was deeply involved in interpreting these orders when I was in charge of the Right-Of-Way Division of the Department of Highways during the formative years of the 1960s.

My observations are as follows:

1. Public Land Order 601, dated August 10, 1949, withdrew and reserved for highway purposes lands lying within 100' either side of center line of McKinley Park Road.
2. Public Land Order 757, dated October 16, 1951, amended Public Land Order 601 by canceling withdrawals for feeder and local roads but stated, "Easements having been established on the lands released by this order...." Easements were established by Secretarial Order 2665.
3. Secretarial Order 2665, also dated October 16, 1951, fixed the right-of-way width as a local road of 50' on each side of center line. This applies only between "North Park Boundary" and "McKinley Park Road." [I don't know where "McKinley Park Road" started.]
4. Amendment No. 2 to Secretarial Order 2665, dated September 15, 1956, added (among others) the "Denali Highway" to the list of through roads and reserved a right-of-way 300' wide 150' on each side of the center line.

5. The Memorandum of Agreement between the Department of the Interior (DOI) and the Department of Commerce (DOC) transferred jurisdiction from DOI to DOC, effective September 16, 1956. Jurisdiction of the R/W 300' wide for the entire length of the Denali Highway was transferred to the DOC.

In summary, PLO 601 reserved a 200' right-of-way for McKinley Park Road. PLO 757 canceled the reservation and, by concurrent SO 2665, established a 100' right-of-way between North Park Boundary and the beginning of McKinley Park Road (wherever that was). Amendment No. 2 of SO 2665 reserved a 300' right-of-way for the entire Denali Highway, defined as Paxon to Kantishna. Then the memorandum of agreement transferred jurisdiction from the DOI to the DOC. PLO 1613 only applies to lands under jurisdiction of the DOI, unless the other department has given its consent.

I was not a federal employee during this period; however, I was a territorial employee during 1955-1957 with the Public Works and Highways Department.

The Feds had all the money and controlled the construction program. The Alaska Road Commission (DOI) considered the Bureau of Public Roads (DOC) as latecomers to the highway program in Alaska, with little love lost between the two agencies. It is obvious that Amendment No. 2 was made effective one day in advance of the Memorandum of Agreement so the Alaska Road Commission could tidy up all the roads it had built and maintained over the years before jurisdiction passed to the interlopers (Bureau of Public Roads).

We, who worked for the Territory with practically zero road building funds, made great sport of the two Federal agencies wrestling down in the mud. Little did we know that in a few short years we, as the new State of Alaska Highway Department, would become the new kids on the block and replace the Bureau of Public Roads as Alaska's road builders.

# MEMORANDUM

# State of Alaska

Department of Transportation & Public Facilities  
Office of the Commissioner

TO: Charles E. Cole  
Attorney General  
Department of Law

DATE: September 17, 1993

TELEPHONE NO: 465-3901  
TEXT TELEPHONE: 465-3652  
FAX NUMBER: 586-8365

FROM: B. A. Campbell  
Commissioner

SUBJECT: McKinley Park Station  
and Kantishna

I have reviewed the historical analysis prepared by the Department of Transportation and Public Facilities (DOT&PF) staff concerning the jurisdiction and/or ownership of the road between McKinley Park Station and Kantishna.

I personally have considerably more background information about this matter than anyone else that I am aware of. I came to work for the ARC (Alaska Road Commission) in June 1952 as a civil engineer. I was involved in the transfer of the Alaska Road Commission to the Bureau of Public Roads (BPR) in the fall of 1956.

In 1959, I was the only BPR staff member that transferred to the new State of Alaska Department of Public Works, Division of Highways.

I stayed with the Division of Highways and was successor of the Department of Highways until 1967. I returned as Commissioner of Highways between 1971-1975.

I have personal knowledge of some of the events that transpired during these periods. In addition, I was assigned to work in the Cantwell-McKinley Park area in 1954 through 1957. I was not in Alaska during the period of May-August 1957.

During the 1950's the Alaska Railroad (ARR), Alaska Road Commission and the National Park Service (NPS) were all within the U.S. Department of Interior and, in effect, bed fellows.

During the 1940's and 1950's the accent was on opening the country up to economic development which included tourism. As you are probably aware, the original Mt. McKinley Park hotel constructed at the Park entrance was not owned by the Park Service but by the ARR. Operation of the hotel was transferred to the Park Service in 1954 (my first year in the area). The hotel in question burned down several years ago. In the early days, the ARR was more interested in tourism than the Park Service for obvious economic reasons.



In the late 1940's, the ARR was adamant that no highway be constructed parallel to the ARR to serve McKinley Park. The reason being that the ARR felt that any road from either Fairbanks or Anchorage parallel to the railroad would siphon business from them to their economic disadvantage. This is the main reason a road was conceived from Paxson to Cantwell to McKinley Park. Obviously a road paralleling the ARR from Fairbanks would have been shorter, easier and cheaper to construct, serve more people, easier to maintain on a year around basis, and serve more areas with the potential for economic development.

If one will look at the Paxson-Cantwell-McKinley road one will see that at the time it was conceived (circa 1946), the 168 miles from Paxson to Cantwell and the 28 miles from Cantwell to McKinley Park Station serviced only Valdez Creek (a mine) and not a single other economic enterprise. Even today, 40 years later, the road is open for only five months out of the year and receives little traffic, and serves few people.

Some activity has occurred around Tangle Lakes, about 20 miles from Paxson, but that is essentially the extent of any meaningful development since the road opened in 1957. The road was conceived and built essentially for a single purpose and a single purpose only -- to connect the road and trail systems in the McKinley-Kantishna Hills area to the rest of the North American road system.

The cost of this 196 miles of road was funded 100% by the Alaska Road Commission including the six miles within the National Park boundaries from the Nenana River #2 crossing to McKinley Park Station.

One question is obvious, "Why would the ARC spend a substantial portion of its appropriation on a road that served practically no one along its route?" The answer is simple: it was constructed as a connector to the existing system in the McKinley area. If the system in the McKinley area was solely for the benefit of the NPS this expenditure of scarce funds by the ARC would have been a pure gift to the NPS. Obviously the ARC had some other reason for expending these funds. The only possible reason was that it considered the existing road and trail system in the McKinley area as an important part of a commercial road system that had economic development possibilities.

It is true that a substantial amount (but not all) of the funds used to construct the road through McKinley Park were appropriated to the NPS. However, one must look at the overall picture from the viewpoint of the U.S. Interior Department and the Office of Territories, remembering that the ARC, ARR and NPS were all agencies of the Interior Department, as was the Territorial Government which operated under the Office of Territories also an Interior Department agency.

The U.S. Congress appropriated funds to the Interior Department and its agencies. In those days, expenditures and budget balances were of concern at least to some of the Congress. (I know this is hard to believe by today's Congressional standards, but it was true.)

Since the Interior Department wanted to see Alaska develop economically, it recognized that transportation facilities were of the utmost importance to achieve that goal.

Funds to achieve that goal could be placed in various agencies and hence disguise the overall amount being appropriated for roads. Hence, funds were included not only in the ARC budget but also in the NPS budget for maintenance and construction, in the Territories budget through dedication of taxes, and to some degree in the ARR budget (hotel construction, operation and maintenance).

The highway between Paxson and McKinley Park Station, although paid for by the ARC, was of prime benefit for the NPS. Also, the fact that the NPS funded a substantial portion of the cost of the McKinley Park road it was a benefit to the ARC. The entire road system from Paxson to Kantishna when viewed as a unit was funded by both the NPS and ARC, with the ARC shouldering its fair share and perhaps more.

Much ado has been created by NPS legal councils concerning the fact that NPS funded construction and maintenance of the road through the Park. As pointed out in the Historical Analysis, the NPS did not fund the entire amount of the direct costs.

It is true that direct labor and equipment costs were funded substantially from NPS appropriations for work accomplished between the McKinley Park Station and the N.W. Boundary, but it is also true that support costs were funded by the ARC.

A major depot was constructed at Cantwell for the sole purpose of supporting the Denali Highway between Paxson and Kantishna.

This facility consisted of:

- 1) A large shop w/complete tools;
- 2) Electric Power Plants;
- 3) Supply Building;
- 4) Bunkhouse and Cookhouse;
- 5) Cold storage facilities;
- 6) Tank farm at Cantwell;
- 7) Superintendent's residence;
- 8) Service and fueling facilities;
- 9) Radio and phone communication system.



Without this extensive base facility, much of which still exists, construction and maintenance operations within the Park boundaries would have been substantially more expensive. So in effect, the ARC contributed substantially to the overall cost of maintenance and construction inside the Park in the 1950's.

The NPS is of the opinion that the Park road was never under the jurisdiction of the BPR (Department of Commerce) therefore, nothing was transferred with the Quitclaim Deed processed at statehood.

That opinion is not consistent with the facts.

Documentation of the contemporaneous events reveal that in 1948, road right-of-ways become an issue with the Department of Interior. That issue included McKinley Park as well as other areas.

The Secretary appointed a committee to handle that and other issues. This committee apparently consisted of members from all Interior agencies in Alaska, including the Office of Territories and the Territorial Governor. The NPS and the ARC were also represented. Several meetings were held and eventually a special committee was appointed by the Secretary of Interior to deal specifically with the road right-of-way problems (see letter October 9, 1948, Tab 19 of the Historical Analysis).

The results of the committee's actions and recommendations were formalized on March 24, 1949 when the Assistant Secretary of Interior issued a decision in the form of a policy letter and directed that the ARC was responsible for all roads up to 150' from center line. The policy letter also addressed right-of-way widths for various functional systems.

With that decision made, the Secretary commenced implementation of the decision by issuing PLO's and S.O.'s (Public Land Orders and Secretarial Orders).

The first PLO, 601 dated August 10, 1949, described the McKinley Park road as a "feeder" road and established a 200' corridor (100' each side of center line) which was withdrawn from all forms of appropriation under public land laws and reserved the corridor for highway purposes.

PLO 757, dated October 16, 1951, amended PLO 601 by retaining certain withdrawals and releasing others. The McKinley Park road was one that was released.

S.O. 2665 was issued concurrently with PLO 757 (October 16, 1951) and established right-of-way easement (not withdrawals) widths for certain roads. This order listed the Paxson to McKinley Park road and the North Boundary of the Park to Kantishna as feeders but did not list the road within the Park boundary. Hence, that portion of the McKinley road, in accordance with S.O. 2665, must have been classified as a "local" road with a 100' right-of-way.

This order went on to explain that PLO 601 removed "through roads" from all appropriations under public land laws. A right-of-way easement was created for all other roads (feeder and local). A procedure for establishing rights-of-ways was also included in S.O. 2665.

Amendment #2 to S.O. 2665 was issued on September 15, 1956, and added several roads to the designated "through roads" in accordance with the specified procedure. This included the "Denali Highway." Since the Secretary of Interior designated the entire route between Paxson and Kantishna as the Denali Highway, this action included the road through the Park as a "through highway" with a 150' corridor each side of center line (i.e. 300' wide), which was under the jurisdiction of the ARC by virtue of the Secretary's March 24, 1949 letter.

This action, in effect through S.O. 2665, added the Denali Highway to the PLO 757 and PLO 601 and hence the 300' corridor was a withdrawal, not a right-of-way easement.

ARC order #40 dated January 3, 1955, listed the Denali Highway as Route 8 and as a road under the jurisdiction of the ARC. (Page 2 of Order #40, Tab 24).

The Federal Highway Act of 1956, Section 107, required the road system in Alaska be approved by the Governor, Territorial Highway Engineer, and the Secretary of Commerce. Approval was given by representatives of those agencies in February and March of 1957. FAP 52, the Denali Highway from Paxson to Kantishna, was included on the approved system.

This same Federal-Aid Act of 1956 effected the transfer of the highway functions from the Department of the Interior to the Department of Commerce. The transfer became effective on September 16, 1956, as provided in a memorandum of Agreement between Interior and Commerce. This agreement transferred all "activities" and "agreements," as well as all personnel and property. The Department of Commerce took over all of the ARC's rights, agreement, and obligations.

This transfer certainly included the road system and the ARC responsibilities for it, especially the responsibilities contained in the Secretary's policy decision contained in his March 24, 1949 letter. This transfer hence included the corridor through which the Denali Highway traversed. Since the corridor was a withdrawal, and not a right-of-way easement, fee title must have been transferred from Interior to Commerce. Future Department of Interior public land orders such as PLO 1613 would not apply because title had transferred to Commerce and hence Interior had no continuing jurisdiction and could not issue a PLO effecting lands it no longer controlled.

There can be no doubt that the highway system included in ARC Order #40, and also approved by the Governor, Highway Engineer and the BPR in February and March 1957, was an integral part of this transfer.

The Quitclaim Deed hence transferred fee title to FAP 52, the Denali Highway corridor, to the State of Alaska on June 30, 1959.

It should be noted that the description contained in the Quitclaim Deed is identical to the description contained in the system approved by the Secretary of Commerce, the Governor and the Highway Engineer (February-March 1957).

Since the Denali Highway FAP 52 was transferred to the State by virtue of the Quitclaim Deed dated June 30, 1959, the NPS has been a volunteer for many years and maintained the road, but ownership and jurisdiction remained with the State.

Someone in the U.S. Government was aware that a 300' State owned corridor existed because the designation of the original Park as a wilderness area exempted a 300' strip along the entire road.

As an employee of the BPR at the time the transfer to the state was made in 1959 I have some knowledge of the events.

In 1959, I was in charge of the Design Section for the BPR and all the maps which were a part of the system description were made under my supervision. There was no doubt that the Denali Highway went from Paxson to Kantishna and that it was part of the system being transferred to the State of Alaska. The documents used to prepare the Quitclaim Deed were prepared by the BPR (Department of Commerce), not the State, hence any ambiguity, if such existed, must be resolved in the favor of the State.

I have reviewed the assertions of various NPS and State representatives, which are included at Tabs 2, 3, 4, 5, 7, 8 and 9 in the Historical Analysis. Most of the discussions are based on either incorrect assumptions, misinterpretations of the facts, or lack of facts. The Coatney letter of July 8, 1988 is particularly incorrect.

The above analysis constitutes my opinion based on a review of the available documents and personal knowledge acquired at the time.

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**Attachments**

## Summary of Findings

### I. JURISDICTION

The State of Alaska should pursue jurisdiction<sup>1</sup> over the use of the McKinley Park Road based on two theories.

The first theory of jurisdiction over the use of McKinley Park Road originates from a 1922 agreement between the Alaska Road Commission and the National Park Service to jointly develop a road to serve both of their purposes. The National Park Service wanted a road to access the park for scenic viewing and park administration, while the Alaska Road Commission wanted a road to tie an extensive system of commercial commerce trails, stretching from the Kuskokwim River and forming a natural intersection at Kantishna to the Alaska Railroad. This agreement is clearly documented and was never extinguished. As a result of this agreement, the State of Alaska was transferred, by the Quitclaim Deed, jurisdiction over the commercial use of the McKinley Park Road to Kantishna and beyond.

The second theory stems from the fact that a system of highways was conveyed to the State of Alaska at statehood. This system, known before inclusion in the federal aid program as the Alaska Highway System, was carefully and purposefully developed over the years preceding statehood by the Alaska Road Commission as an integrated system of roads. In fact, in 1957 only two years before being conveyed by the Quitclaim Deed, the agency which passed jurisdiction over the system to the State of Alaska said the McKinley Park Road was an "integral part" of it. The road is an integral part of the system both for its utilization as a scenic highway and for its connection to the commercial network of trails beyond Kantishna.

A highway system, by definition, can be traversed freely from one point on the system to another unless legally restricted by the entity having jurisdiction over the system. At statehood, jurisdiction over the Alaska Highway System transferred to the State of Alaska without any conditions for restricting travel on any part of the system. But, in 1972 the National Park Service, one land-owner along the highway system, unilaterally restricted a branch of the system extending to Kantishna and beyond even though the State highway department, under Alaska Statute 19.05.010, had jurisdiction.

### II. OWNERSHIP

The State of Alaska should pursue an ownership<sup>2</sup> interest in the McKinley Park Road based on two theories.

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<sup>1</sup> Generally, jurisdiction means the authority or power to make decisions [about the road]. In this case, jurisdiction must also be further separated into jurisdiction over the physical property and jurisdiction over the use of the property. With regard to the McKinley Park Road, the interest discussed is use jurisdiction.

<sup>2</sup> Generally, ownership means a proprietary right [in the road] is vested in an entity.

The first theory of ownership is based on an independent right-of-way authority, RS 2477. RS 2477 establishes a highway right-of-way over unreserved federal land if an access route was intended for public travel. In Alaska, an RS 2477 can be established by either public use or by an act of an appropriate public official.

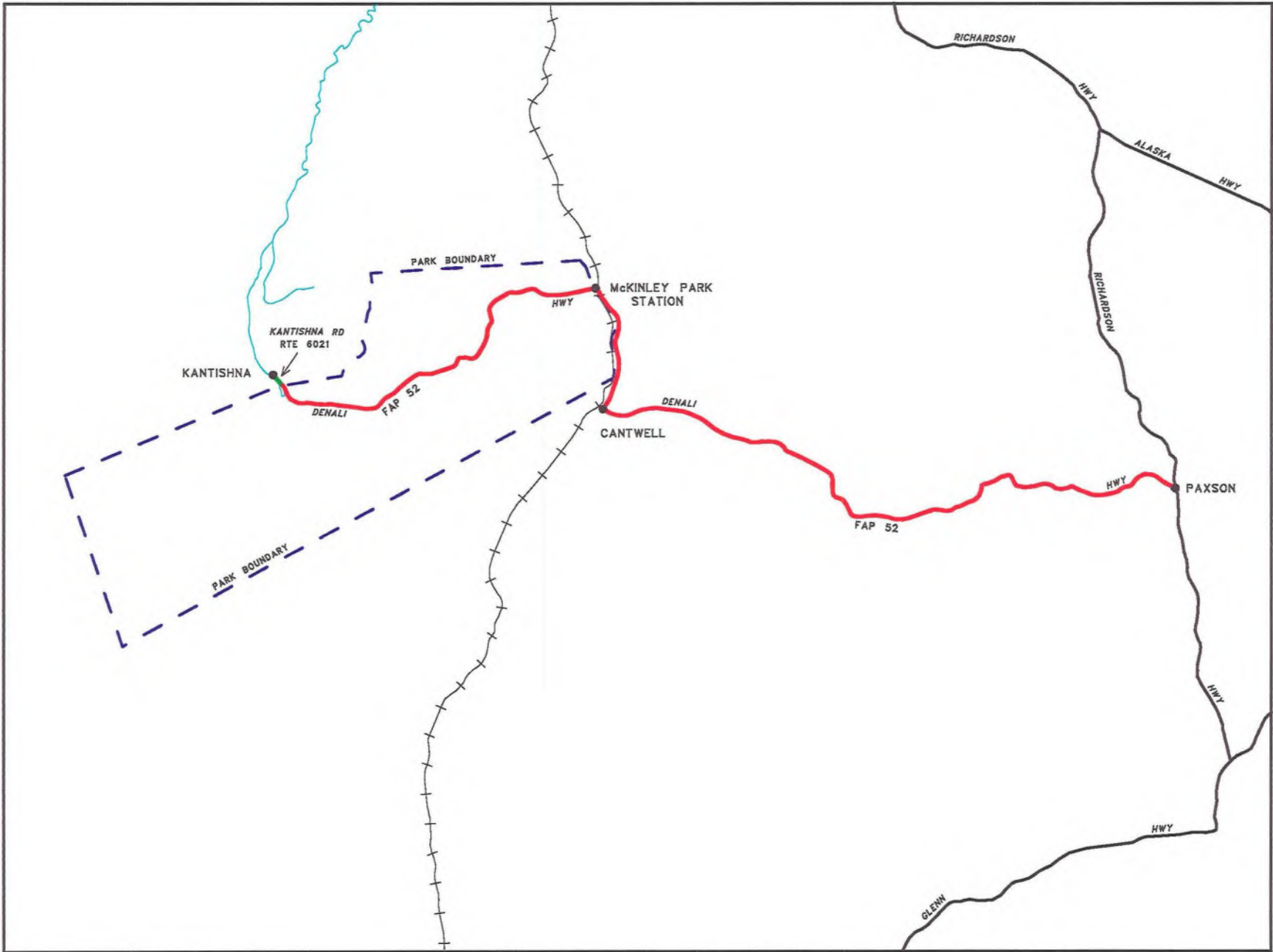
There are two theories for the establishment of an ownership interest in the McKinley Park Road based on RS 2477. The first theory is based on public use of the access route to the trail system beginning at Kantishna along the present highway corridor prior to the land being reserved for the park. Evidence is available that a well used trail existed prior to the formation of the park.

The second theory for asserting an ownership interest in the McKinley Park Road, based on RS 2477, relies both on the public use of the access route to Kantishna and an act of an appropriate public official in designating the route for access to the commercial trail network which began at Kantishna. Under this theory, the part of the route that traverses the original park, as established in 1917, would not be part of the assertion. However, road activity occurred between 1917 and 1922 outside of the original park boundaries between the Alaska Railroad and the east park boundary and between the original west park boundary and Kantishna which predates two subsequent expansions of the park in these areas. This activity would have created an RS 2477 right-of-way on about 16 miles of the current highway on the east side of the park and about 7 miles of the current highway on the west side of the park. This ownership interest is independent of the Quitclaim Deed.

The second theory of ownership is based on the creation of highway right-of-way while the road was under federal ownership. Although the record of the creation of the right-of-way is subject to varied interpretations, there are two interpretations of the record that would create an ownership interest in the road in favor of the State of Alaska.

The first interpretation of the record favorable to an ownership interest starts with the naming of the McKinley Park Road as the subject of a right-of-way withdrawal. Although this withdrawal was subsequently amended, the amending instrument also mentions that an easement was established on the released lands. One interpretation of the 1951 amendment is that a 200-foot highway right-of-way easement survived and was transferred to the State of Alaska by the Quitclaim Deed.

The second interpretation of the right-of-way record favorable to an ownership interest stems from a 1956 amendment of the highway easements to include a Through road simply called the the "Denali Highway." Documentation clearly establishes that "Denali Highway" includes the McKinley Park Road. This means that the 1956 amendment withdrew a 300-foot highway right-of-way over the existing McKinley Park Road which was transferred to the State of Alaska by the Quitclaim Deed.





**Historical Analysis**  
**McKinley Park Road**  
**Jurisdiction**  
**and**  
**Ownership**

Revised September 13, 1993

This report summarizes available historical documentation on the interest the State of Alaska received in the road through Denali National Park. This interest was conveyed to the State as a result of Section 21 (a) of the Alaska Omnibus Act:

The Secretary of Commerce shall transfer to the State of Alaska by appropriate conveyance without compensation, but upon such terms and conditions as he may deem desirable, all lands or interests in lands, including buildings and fixtures, all personal property, including machinery, office equipment, and supplies, and all records pertaining to roads in Alaska, which are owned, held, administered by, or used by the Secretary in connection with activities of the Bureau of Public Roads in Alaska.<sup>1</sup>

To execute Section 21 (a), the Department of Commerce issued a Quitclaim Deed in favor of the State of Alaska on June 30, 1959 in which the Department of Commerce devised, released, and quitclaimed:

... unto the State of Alaska, Grantee, its successors and assigns, subject to the conditions set forth below,<sup>2</sup> all rights, title, and interest of the Department of Commerce in and to all of the real properties listed in Schedule A, B, and C, attached hereto and made parts hereof, which properties are now owned, held, administered, or used by the Department of Commerce in connection with the activities of the Bureau of Public Roads in Alaska...<sup>3</sup>

One of the roads quitclaimed to the State of Alaska and one of the roads on the approved Federal-aid System, FAP<sup>4</sup> 52, was described as; "From FAP

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<sup>1</sup> 73 Stat. 141, at 145; Alaska Omnibus Act (June 25, 1959).

<sup>2</sup> The conditions are: "...subject, however, to the condition that if the said Grantor or the head of any other Federal agency examines and publishes notice thereof in the Federal Register within 120 days next following the date of this deed that all or any part of the above premises or any interests therein are needed for continued retention in Federal ownership for purposes other than or in addition to road purposes, the Grantor may enter and terminate the estate hereby quitclaimed in those portions of the premises concerning which said determinations are made, by notifying the Governor of the State of Alaska of such termination by registered letter or letters mailed one year next following the date of this deed."

These conditions are relevant to this discussion since there is no record that the National Park Service or the Department of Interior published notice or notified the Governor within the timeframe required that the road through the park was needed for continued retention in Federal ownership. Consequently, one must assume that any interest conveyed to the State of Alaska by the Quitclaim Deed of 1959 must have been conveyed intentionally and unconditionally.

<sup>3</sup> Department of Commerce Quit Claim Deed, June 30, 1959 recorded in Anchorage Recording District at Book 391, Page 12 and Juneau Recording District, Book 90, Page 243. **Tab #1.** Schedule A consisted of 60 pages of highways including a title page (page 5) that specifically conveyed the "APPROVED FEDERAL-AID SYSTEM." Schedule B consisted of 54 pages of improved real property and Schedule C consisted of 62 pages of unimproved real property.

<sup>4</sup> FAP is an acronym for Federal Aid Primary.

Route 71 at Paxson via Cantwell through Mt. McKinley National Park to North Park Boundary."<sup>5</sup>

The plain reading of the Quitclaim Deed, of course, is that the road through the park was transferred to the State of Alaska on June 30, 1959 as part of the approved Federal-aid System. However, the meaning of this apparent conveyance of the road through the park is still disputed.<sup>6</sup>

**BASIS OF THE DISPUTE**

Inholders within the park and others have long advocated that the State of Alaska should assert ownership of the park road based on the transfer of title to the state through the Quitclaim Deed at statehood. The National Park Service (NPS) maintains that no ownership interest or jurisdiction passed to the State of Alaska under the Quitclaim Deed.

The Denali Park Road is exclusively owned by the United States, and is exclusively managed by the National Park Service. Although this road and many other roads were listed in a Quitclaim Deed in 1959, signed by the Secretary of Commerce (grantee: State of Alaska), no conveyance of the Denali Park Road occurred because the Secretary of Commerce held no property interest in the subject road.<sup>7</sup>

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<sup>5</sup> Department of Commerce Quit Claim Deed, Schedule A at page 5. It should also be noted that the road continues from the northern park boundary into Kantishna proper. This segment of the road is quitclaimed separately as Route Number 6021, Kantishna Road, described as: From North Boundary of McKinley Park at end of FAP Route 52, northwesterly to Kantishna Airfield. (*Schedule A at page 23*)

<sup>6</sup> In addition, some confusion exists with regard to whether Section 11 (a) of the Statehood Act impacts the ownership issue. It reads: "Nothing in this Act shall affect the establishment, or the right, ownership, and authority of the United States in Mount McKinley National Park, as now or hereafter constituted: but exclusive jurisdiction, in all cases, shall be exercised by the United States for the national park, as now or hereafter constituted; saving, however, to the State of Alaska the right to serve civil or criminal process within the limits of the aforesaid park in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed in said State, but outside of said park; and, saving further to the said State the right to tax persons and corporations, their franchises and property on the lands included in said park; and, saving also to the persons residing now or hereafter in such area the right to vote at all elections held within the respective political subdivisions of their residence in which the park is situated."

A review of the legal opinions that have been written about the application of this section reveal that it is confined to the issue of **legislative jurisdiction**. (*Defined in the legal opinions as the federal exercise of state police power as derived from Article I, sec. 8, cl. 17 of the U.S. Constitution.*) See memorandum of March 4, 1981 from Office of the Regional Solicitor, Alaska, United States Department of the Interior to Director, Alaska Regional Office, National Park Service. **Tab #2**. Also see memorandum of March 18, 1982 from Wilson L. Condon, Attorney General, State of Alaska, to Colonel T. R. Anderson, Director, Division of State Troopers, Department of Public Safety, regarding traffic enforcement in McKinley Park (**Tab #2**.) and a response to it again by the Office of the Regional Solicitor and addressed to the Regional Director of the National Park Service dated February 7, 1983. **Tab #3**. Consequently, for purposes of this report, Section 11 (a) will be treated as inapplicable to the issue of jurisdiction over the right-of-way for highway purposes.

<sup>7</sup> Letter of August 29, 1988 from Boyd Evison, Regional Director, NPS, to Senator Frank H. Murkowski. **Tab #4**. See also a June 29, 1988 letter to the Fairbanks Daily News-Miner

The NPS bases its decree of exclusive ownership<sup>8</sup> and exclusive management on the assertion that the road was paid for exclusively with NPS funds<sup>9</sup> and that the Secretary of the Interior was given "exclusive control over the construction and improvement of roads in national parks on April 9, 1924."<sup>10</sup>

The State of Alaska has not been as straightforward in its declarations regarding the interest it acquired in the park road. There are two official state documents that specifically address the issue of whether or not the State of Alaska received a property interest in the park road at statehood. The first document, a legal opinion dated September 23, 1982, said:

There may be some limitations on the right to federal government's legal control over access via the McKinley Park Road, based on a written or implied easement, but the legal remedy is unclear. However, to determine the true status of the McKinley Park Road,

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from Robert C. Cunningham. **Tab #4.** Also see memorandum of July 8, 1988 from the Chief, Land Resources Division, National Park Service, to the Regional Director, Alaska Region on the subject of the 'Legal Status of the Denali Park Road.' Also at **Tab #4.** The conclusion on page 4 states: "The National Park Service has **exclusive control** over the Denali Park Road and all uses of this road. **No entity other than the National Park Service has ever held any legally defined interest in this road.** The Quit Claim Deed of 1959 conveyed no legally defined interest to the State of Alaska, because the grantor of the Quit Claim Deed, the Secretary of Commerce, **at no time held any interest in the road within the boundary of Mt. McKinley National Park,** as constituted in 1959." (*Emphasis added.*)

<sup>8</sup> One notable exception to the NPS's otherwise consistent claim of exclusive ownership is a Solicitor's memorandum on jurisdiction in Denali National Park. Although written in response to a question about the applicability of Section 11 (a) of the Statehood Act, (*See Footnote 6, Supra, for a further discussion of this issue.*) the memorandum recognizes that the state acquired a 300 feet highway right-of-way easement through the park to Wonder Lake by operation of the Quitclaim Deed. See memorandum of February 7, 1983 from Robert Charles Babson, Office of the Regional Solicitor, Alaska Region, to the Regional Director, Alaska Region, NPS, at page 6 including footnote 3. Found at **Tab #3.** In addition, the Bureau of Land Management has also admitted that the Quitclaim Deed conveyed an easement to the State of Alaska. See memorandum dated December 31, 1985 from Jules V. Tileston to Ric Davidge. **Tab #3.**

<sup>9</sup> This assertion is contrary to historical documentation. Most of the original work on the road between 1922 and 1925 was paid for with ARC funds. See the Annual Reports of the Alaska Road Commission for Fiscal Years 1924 and 1925. **Tab # 5.** Although a small dollar amount of the total construction cost, the early initiation of the road by the ARC was beneficial to the NPS because it wanted visitor facilities built as soon as possible. In addition to the start-up construction costs paid for by the ARC, the Territory of Alaska sent funding to the ARC for the maintenance of shelter cabins throughout the Territory. Although accounted for by District (*rather than by shelter*) and therefore it is difficult to trace this funding to the six shelters cabins that existed in the park, it is likely that some Territorial funding was used to support shelters on the park road during the 1920's and 1930's. Because of the extreme weather conditions and remoteness of most destinations, shelter cabins were an important feature of overland travel in pioneer Alaska. To the traveler, roads or trails were important additions to the country but shelter was critical if they were to be useful.

<sup>10</sup> See memorandum of October 30, 1989 from F. Christopher Bockmon, Attorney, Office of the Regional Solicitor, Alaska Region, to the Regional Director, Alaska Region, NPS, at page 2. **Tab #6.**

additional research into U.S. or territorial government archives will be necessary.<sup>11</sup>

The second State document that deals directly with the interest conveyed is likewise not definitive on the issue. This letter, while acknowledging that the road was included in the Quitclaim Deed, stated that:

We cannot explain how the Quitclaim Deed ended up referencing the McKinley Park Road since historical documents would not lend credibility to its inclusion. As a general rule, we would agree that the inclusion of a road in the Quitclaim Deed raises a presumption that responsibility for the road was transferred to the state. However, historical information we have reviewed<sup>12</sup> would cast doubt on this presumption and would instead raise a likelihood that the McKinley Park Road portion of FP 52 was inadvertently included in the Quitclaim Deed. In 1964 DOT&PF recognized this probability by dropping all references to the McKinley Park Road from the State Highway System. As stated previously, we have never had any known control or responsibility for the road. Again, we remain open to new evidence being presented to us that would shed additional light on the issue.<sup>13</sup>

Although both relevant state documents on the ownership issue seem to indicate the state did not receive an interest in the park road as a result of the Quitclaim Deed, both were based on either incorrect factual information or they acknowledged that their view was based on incomplete historical information. Either way, both documents acknowledged that further historical research was needed to fully understand the ownership issue and neither can be read to relinquish any claim the state may have in the park road.<sup>14</sup> This report, therefore, is in response to the lack of clear historical

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- <sup>11</sup> Memorandum from Linda Walton, Assistant Attorney General, to Robert Venusti, Director, Planning and Programming, DOT&PF. **Tab #7.** The holding of this opinion should be viewed with some suspicion as key factual information is erroneous. For example, the opinion begins by saying "The Quitclaim Deed covers the road **only** from the northern park boundary to Kantishna airfield and is 200 feet wide by authority of PLO 2665 where it is mentioned as a "feeder road." (*Emphasis added.*) There are two factual problems with this statement which should change the outcome of the opinion. First, there is a factual misrepresentation that only that part of the road outside of the old park boundary is included in the Quitclaim Deed. In fact, the entire park road is included. (*Supra*, at footnote 5.) Secondly, there is an omission of two other key facts: that the park road was the subject of a highway easement placed on the roads in the 1940's and 1950's and was part of the highway system conveyed to the State of Alaska. These points are examined more thoroughly later in this report.
- <sup>12</sup> This reference is to documentation of actions taken by the Division of Highways which removed the McKinley Park Road from the Federal Aid Primary System in 1963. (*Personal conversation with Mark S. Hickey, July 1, 1993.*) This activity is discussed more fully at page 25.
- <sup>13</sup> Letter of April 29, 1988 from Commissioner of DOT&PF Mark S. Hickey to Stan Leaphart, Executive Director, Citizen's Advisory Commission on Federal Areas. **Tab #8.**
- <sup>14</sup> In his letter to Senator Frank H. Murkowski, Boyd Evison cited Commissioner Hickey's letter as evidence that the "State of Alaska has recently acknowledged it holds no interest

information needed to determine with some clarity what the facts were as they relate to the inclusion of the road in the Quitclaim Deed to the State of Alaska.

The narrow issue raised by the positions of the NPS and the opposing view is: did the Department of Commerce, on June 30, 1959, 'own, hold, administer or use land, or an interest in land' in the road through the park which was transferred to the State of Alaska by operation of the Quitclaim Deed? The practical effect of this question is that it calls into question the NPS's claim to exclusive ownership and exclusive jurisdiction over the McKinley Park Road.

**HISTORICAL SETTING: The Pioneering Era**

Although this report will focus mostly on the interest transferred by the Quitclaim Deed, no historical account of the McKinley Park Road should ignore the activity that occurred in the area that does not fall within this narrow area of inquiry. This is especially important for this discussion because additional rights to the road were created by independent legal authority that do not rely on the Quitclaim Deed for conveyance to the State of Alaska. In particular, a 1866 law known simply as Revised Statute 2477<sup>15</sup> granted rights-of-way over unappropriated federal lands wherever roads, trails, paths or other common routes existed. There are several accounts of a trail through the existing road corridor that predates the creation of the park and therefore Revised Statute 2477 comes into play.<sup>16</sup>

Moreover, a close review of the establishment of the park reveals that work had begun on the road before the park was expanded in 1922 and 1932 thus making the road within these new areas<sup>17</sup> a candidate for RS 2477. In addition to actual road construction activity, the road reconnaissance survey

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in the Denali Park Road." (*Letter of August 29, 1988 from Boyd Evison, Regional Director, NPS, to Senator Frank H. Murkowski. Also in footnote 7, Supra. Found at Tab #4.*) A plain reading of Commissioner Hickey's letter does not support this conclusion. While it is true that Commissioner Hickey was honest in his assessment of the available evidence, one must ignore his qualifying statements on the lack of clear historical information to twist his words into such a bold proclamation.

<sup>15</sup> The law reads: "The right-of-way for the construction of highways over public lands, not reserved for public uses, is hereby granted." 43 USC 932.

<sup>16</sup> One account written in 1917 (published in 1919) about his 1916 trip into the Kantishna area before the formation of the park says that "travel by pack train is now easy" on the current highway route. See *The Kantishna Region Alaska*, by Stephen R. Capps, Department of the Interior, United States Geological Survey, Bulletin 687, Government Printing Office, Washington, D.C., 1919, at page 19. **Tab #9.**

In addition in 1915, in anticipation of the development of the Alaska Railroad, Maurice Moreno built a roadhouse at about the location of the park visitor access center today. According to an account by Grant Pearson, some of the clients for Moreno's business were coming from or destined for Kantishna which would have meant they most likely traveled on the same trail as Capps referenced. See *A History of Mount McKinley National Park*, Grant H. Pearson, United States Department of the Interior, National Park Service, 1953, at page 37.

<sup>17</sup> See maps of the 1922 (*Map 1*) and 1932 (*Map 2*) expansions. **Tab #9.**

done by Hawley W. Sterling for the ARC was conducted in 1920.<sup>18</sup> This survey, for a commercial road to Kantishna, predates the expansion of the park on both the east boundary and the west boundary which is also strong evidence for an RS 2477 at both locations. On the eastern side of the park the expansion beyond the original boundary is approximately 16 miles of road and the western side the park was expanded to include about 7 miles of the road.

McKinley National Park was established by Congress in 1917 to protect the great abundance of wildlife that existed in the area. During this same era, Alaskan leaders, Congressional leaders, and the national Administration viewed Alaska as a land to be tamed and made available for settlement. Almost universally everyone recognized that for development to happen, roads needed to be constructed. It was in the early 1900's that roads began to be developed with the largest project being the Richardson Highway to open up the eastern sector of Alaska.

At the same time, interest was developing for a rail line to provide for heavy hauls of ore and coal out of the country and heavy commodities into the country. By 1912 the Taft Commission recommended that the federal government investigate construction of a railroad to open up the Territory and Congress followed suit in 1914 by granting authorization for the President to study the issue. The Department of the Interior was tasked with gathering information to present to Congress on the technical issues related to the development of the railroad. The Department established a Commission to do the survey and the Commission reported its findings to Congress on February 11, 1915.

The Commission avoided the issue of a specific alignment for the railroad because it knew the decision contained many broad policy questions beyond its authority. Specifically, they knew that the choice of alignment would lead to faster development in the region chosen and that meant others would be unhappy. The Administration and Congress deliberated on the choice of alignment based on the best development opportunities for minerals, coal, and agriculture. On April 10, 1915 the President issued an Executive Order selecting what was known as the western or Susitna Route, commencing at the town of Seward on Resurrection Bay, up the Susitna Valley, over Broad Pass, on along the Nenana River and the drainage system of the Tanana River to Fairbanks in the interior for a total of 470.3 miles. The line was to compliment the Richardson Highway by opening up the great interior or the western sector of Alaska.

Local leaders applauded the decision and looked forward to the day when the great resources of the country could be transported to tidewater and supplies could be transported into the country. Governor Strong made transport advantages of the railroad a point in his message to the legislature

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<sup>18</sup> See memorandum of February 11, 1946 from Hawley Sterling to Mr. Smith recounting the survey. **Tab #10.**



in 1917 when he said; "The completion of the Government railroad to the interior should greatly stimulate mining operations, both lode and placer, especially in the interior of Alaska and in the regions tributary to the line of the railroad".<sup>19</sup> Likewise, the railroad knew that its success depended on getting miners to their line. This belief was clearly stated in the first report to the Secretary of the Interior: "If the Engineering Commission lays down a pair of rails from Seward to Fairbanks it will help the country - but very slowly, for the country will still be wilderness. That pair of rails has got to be supplemented by feeder lines - mostly wagon roads to every substantial mining district."<sup>20</sup>

Actual construction of the line began in May of 1915. As a result of its beginning, transportation in Alaska moved to a higher level of sophistication. With the railroad opening up the western sector of Alaska and the Richardson highway opening up the eastern sector, Alaska was finally seeing real progress toward viable transportation. The idea in both sectors was to develop a main artery traversing the heart of the region with feeder roads running out to mining and agricultural developments. For the western sector with its expensive railroad construction, feeder roads to the railroad became a rallying call for the people needing access to its shipping capacity. Also, feeder roads were seen as necessary for the railroad so that it could begin to show a revenue stream. Building a railroad in far off Alaska was not a popular idea on the banks of the Potomac. Having a railroad in Alaska that had no revenue was even worse. Feeder roads were a conscience strategy for the federal government meant to make the line more palatable for eastern politicians.

So began the pioneering era for transportation in Alaska. In the western sector, roads were not seen as ends unto themselves; they were an important part of the railroad strategy.<sup>21</sup> In the eastern sector, the Richardson Highway, which provided the same arterial support for other feeder roads, continued to be developed without fanfare and little national interest. Feeder roads for the two transportation arteries also received differing levels of attention, with the western sector feeder roads receiving more of the spotlight because of their importance to the railroad strategy.

One of the reasons the western route was chosen for the railroad was that it provided a way of getting access to some of the most promising mineral deposit districts in the state. One such area was the Kantishna hills just

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<sup>19</sup> Message of the Governor [J.F.A. Strong] to the Alaska legislative Assembly, 3rd session 1917. National Archives - Pacific NW Region, RG 322, Box 117938, File 034.8 Alaska Legislative authority to maintain Bureau of Publicity 1917-1918.

<sup>20</sup> Report to the Secretary of the Interior on the Alaska Railways, October 1, 1916 by Joseph P. Cotton at page 41. National Archives - Pacific NW Region, RG 322, Box 146489, File Monthly and Calendar Year Reports.

<sup>21</sup> Even President Harding got into the act on his way back from Alaska in 1923, after commemorating the completion of the railroad, when he declared the necessity to provide feeder roads for the railroad because they were needed to make the investment in the railroad pay off. (*Speech of President Harding in Seattle, July 27, 1923 portions of which are printed in the 1925 ARC annual Report.*)

west of the area soon to be established as the McKinley National Park. In fact, the railroad was a great booster of the Kantishna area's mining potential because it hoped the area would help them with their cash flow. In a 1923 press release, this hope was clearly expressed; "About 60 miles west of the railroad lies the Kantishna district, where placer mining in a small way has long been going on. Here, some promising gold and silver lodes have been found, and only the completion of a wagon road is needed to assure their development."<sup>22</sup> The historical record leaves little room for debate about the importance of a connection between the government's railroad development strategy and the eventual construction of the road to Kantishna for access to points north and west.

It was in this context that the park was formed in 1917. Development of Alaska was the goal of most officials, and the Kantishna region with its proximity to the railroad was an attractive opportunity. In this setting, when Congress established the McKinley National Park it created an institution imbued with conflict and controversy. For, on the one hand, conservationists viewed the park as a way to preserve the wilderness characteristics of a region while on the other hand, Congress, mindful of the railroads interest and responding to the general development fervor, allowed and expected mining to continue both in the designated park and in the surrounding area.<sup>23</sup>

To build the roads needed for developing the country, both in the eastern sector and the feeder roads for the railroad in the western sector, Congress provided for the establishment of a Board of Road Commissioners (BRC), the predecessor to the Alaska Road Commission (ARC), on January 27, 1905. The BRC was to be appointed by and under the general supervision of the Secretary of War:

The said board (of road commissioners) shall have the power, and it shall be their duty, upon their own motion or upon petition, to locate, lay out, construct, and maintain wagon roads and pack trails from any point on Navigable Waters of said district to any town, mining or other industrial camp or settlement, or between any such town, camps, or settlements therein. If, in his judgement, such roads, trails, or bridges are needed and will be of permanent value for the development of Alaska.<sup>24</sup>

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<sup>22</sup> Mining Along Alaska Railroad ARR Press Release. #15639, July 9, 1923. Record Group 322, National Archives, Sand Point, Wash., Box 117942.

<sup>23</sup> Mineral entry and development were allowed within the park until repealed by Congress in 1976. (See *U.S. Congress Report #1273, 64th Congress, 2nd Session [January 10, 1917].*) Also, miners were allowed to subsistence hunt in the park until repealed by Congress in 1938. (For a further discussion on both of these issues see *Denali: The Story Behind the Scenery*, By Steve Buskirk, KC Publications, Box 14883, Las Vegas, NV 89114, 1978 at page 45. And, see, *A History of the Denali-Mt. McKinley Region: Historic Resource Study of Denali National Park and Preserve, Volume 1 - Historical Narrative*, William E. Brown, National Park Service, Southwest Regional Office, Sante Fe, New Mexico, 1991 at page 93.)

<sup>24</sup> 33 Stat. 616. **Tab #31.**

Under the Department of War the BRC<sup>25</sup> was given its many duties and powers which were later inherited by the ARC and which the ARC carried through-out its existence until it merged with the Bureau of Public Roads (BPR).<sup>26</sup> It is obvious from the enabling legislation that the ARC was established to be an agent for the development of Alaska. To accomplish this goal with its limited resources, it focused on constructing wagon roads for the railroad in the western sector and the Richardson highway with feeder roads in the eastern sector. As discussed earlier, in the western sector, its mission was compatible and complimentary to the mission of the railroad. For without the ARC, the railroad would be inaccessible to most mining areas unless direct water transportation was available.

**DEVELOPMENT OF A DUAL-PURPOSE ROAD: The Pioneering Era Legacy**

In the early 1920's, miners in the Kantishna hills were spread out along almost every creek and river drainage in the surrounding area, but the heaviest concentration of people and activities was in the gold mining town of Kantishna just west of the new McKinley National Park. As a result, plans for gaining access to the mining area almost always included Kantishna as a terminus. However, Kantishna was only a connecting point for other communities located in the Kantishna hills. An extensive trail system, which included shelter cabins erected and maintained by the Territorial government, connected these communities to Kantishna.<sup>27</sup> Even though it was generally agreed that the main connecting community would be Kantishna, each miner seemed to think the trail most convenient to his mining claim was the best route to Kantishna. With its mission to provide for the development of the Territory, the ARC was petitioned to sort out the competing options and decide on the best route for a road to "relieve" the miners and that would serve as a feeder road to the railroad.

As a result, in the summer of 1920, three years after the park was established, Hawley W. Sterling was dispatched by the ARC to do a

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<sup>25</sup> Early on the BRC began to operate as the ARC although the official name of the organization was not changed until after it was transferred to the Department of Interior in 1932. On December 3, 1932, with Secretarial Order number 605, the Secretary of the Interior officially changed the name of the Bureau of Road Commissioners to the Alaska Road Commission. However, in recognition of the board's preferred identification, this report will use ARC throughout.

<sup>26</sup> Created in 1917, the BPR was one of two other agencies (*the other was the Forest Service*), in addition to the ARC, that built roads in Alaska. The BPR and the Forest Service only built roads in the National Forest. In addition, the Territorial Board of Road Commissioners, although they had no independent work force, contracted with all federal agencies to build local roads and airports.

The BPR was originally created in the Department of Agriculture, briefly transferred to the Public Works Administration in the early 1930's, but was finally transferred to the Department of Commerce where it merged with the ARC in 1956. (*See page 24.*)

<sup>27</sup> See ARC map of Mount McKinley District, 1923. **Tab #10** This map shows the extensive system of trails that the ARC was attempting to connect with the Alaska Railroad. Not only did this trail system connect communities such as Roosevelt and Glacier to Kantishna but it also acted as a connecting system to the Kuskokwim River which connected the entire southwestern part of Alaska.

reconnaissance survey for the "purpose of selecting the most favorable wagon road route to Kantishna from the railroad."<sup>28</sup> The first route he surveyed was called the Lignite route, so called because it departed the rail line at a development called Lignite. This route traversed various creek drainages entirely outside of the then existing park boundaries arriving at Kantishna from the north.

The second route of his survey was almost completely within the existing park boundaries leaving the rail line at mile 347 along a route he called Riley Creek. This second route arrived at Kantishna from the east. Although Sterling had anticipated surveying several branches of the Lignite route, he became convinced during his work that the Riley Creek route was so superior that he abandoned further work on the Lignite route and recommended the development of the Riley Creek route.<sup>29</sup>

Also during this time period, McKinley National Park was becoming an attractive tourist destination and the NPS was increasingly pressured to open up the park by potential concessioners seeking to provide visitors services.<sup>30</sup> However, the park administration was in the early stages of organization and hardly in a position to take on additional responsibility. But pressure was building from the miners in Kantishna, potential concessioners and the railroad to access the park and Kantishna. And, since the ARC had already completed a reconnaissance survey on an access route to Kantishna which suggested that the best route was through the park, an agreement was reached with the ARC to develop a road that would serve the needs of all parties. This agreement, documented in a letter proposing the project from Col. James Steese, President of the ARC to Stephen F. Mather, Director of the NPS,<sup>31</sup> was the basis of a joint project to satisfy the demands for commercial access and park access with one facility.

Proof that the ARC thought they had performed their responsibility and duty to open up the Kantishna region for mining purposes lies in their response to miners seeking a different access point into the park. For even after construction of the road had begun, miners continued to advocate their

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<sup>28</sup> See memorandum of February 11, 1946 from Hawley Sterling to Mr. Smith recounting the survey. **Tab #10.** The Riley Creek route follows the current road alignment.

<sup>29</sup> See memorandum from Hawley W. Sterling to the Board of Road Commissioners dated November 16, 1920 subject: Kantishna and Valdez Creek Reconnaissance Surveys at sheet 4 and 5. **Tab #10.**

<sup>30</sup> *Supra*, Brown, note 23, at page 141.

<sup>31</sup> See letter of April 10, 1922, from Jas. G. Steese to Stephen F. Mather, Director, NPS. And, see telegraph of April 26, 1922 from Arno B. Cammerer to Jas. G. Steese's replying to his proposal. Also see letter of May 11, 1922 from Jas. G. Steese, President, ARC to Arno B. Cammerer, Assistant Director, NPS. In the May 11th letter, Col. Steese references both pieces of correspondence and indicates work is underway. **Tab #11.** The agreement called for the ARC to provide the construction expertise with the NPS providing funding. As discussed in footnote 9, it took a few years for the NPS to live up to their end of the bargain because they needed to get a Congressional appropriation. But eventually Congress did provide funding to develop the road and both parties assumed roles as defined by the agreement.

favorite trail into the area. One such exchange is documented by a reply to a petition sent to the ARC for a different access point into the park. In reply, Col. Steese of the ARC said:

So far as Cantwell being the logical entrance to Mt. McKinley National Park is concerned, you know that McKinley Station, mile 348, the Alaska Railroad, was selected by the National Park Service and the Alaska Railroad as the official entrance to the park. This decision was made after examinations and reports covering several years, during which time everybody in the Territory interested had ample opportunity to make representations. An excellent winter and summer trail from McKinley Station through Mt. McKinley National Park to the Kantishna Mining District has been in service now for two years. Last year the improvement of this trail to road standard was begun at the railroad end and this construction is being aggressively pushed at the present time by the Alaska Road Commission. No other entrance to Mt. McKinley National Park will be considered for many years.<sup>32</sup>

Clearly the ARC thought they had meet their duty to aid in the development of the Territory while, at the same time, the NPS got a road to open up the park. Thus, the road as developed by the agreement between the ARC and the NPS served two purposes: it served the ARC's commerce interest (including its support role for the railroad) and it served the NPS interest to have a road in the park for visitors. By the agreement between the ARC and the NPS a right to use the road through the park for commercial purposes was established. The ARC accepted this agreement on face value and ceased any further attempts to seek additional access into the mining area even though it had a duty to do so. By its action, the ARC clearly thought it had constructed a road for commercial purposes into the mining region surrounding Kantishna.

Although the commercial purpose of the road through the park was established to fulfil the duties of the ARC, the true benefactor of this agreement was the government built railroad. For it was the railroad that stood to benefit most both from the potential commerce from mining and from the visitor access to the park. Their interest in the agreement is nicely summarized in a letter from the engineer-in-charge of the railroad, F.D. Browne, to the railroad's chairman, Colonel Mears.<sup>33</sup>

Browne's description of the impact of the agreement on the railroad's operation illustrates the tripartite beneficial effect of new road through the park. However, it also points to a problem which more than likely resulted in the commercial aspect of the road not being protected by its chief beneficiary. With the decline in mining activity in the Kantishna region during the 1940's, caused partly because of market forces and partly because

<sup>32</sup> See letter of June 5, 1924 from Col. Steese to Peter Boline. **Tab #12.**

<sup>33</sup> *Supra*, Brown, footnote 23 at pages 106 & 107, for a partial reprint of the letter. (*Attempts to retrieve a copy of the cited letter were unsuccessful.*)

of NPS's regulatory restrictions, commercial activity failed to live up to its original billing. As a result, the railroad lost interest in the commercial aspect of the road and instead joined forces with the NPS to profit from the park's visitor trade. This collaboration eventually overshadowed the railroad's initial reason for supporting the road, and the miners, for whom the road route was originally studied by the ARC, lost their powerful advocate for road access. However, in the eyes of the ARC, the road remained a feeder road to the transportation artery of the western sector as it anticipated during its development.

**TRANSITION PERIOD: The Caretaker Era**

By the 1930's federal agencies had developed a substantial interest in the Territory of Alaska and inter-agency conflict, including between the railroad and the ARC, became a problem. Agencies sustained their operations but little activity occurred that moved the development of Alaska forward in any meaningful way. Development was slow and expensive and Congress was tired of the inter-agency competition. The nation was consumed by its internal problems and far off Alaska was one more problem to deal with that detracted from their solution. As a result, Congress decided to consolidate governmental function in Alaska to get better coordination. One of the changes made was that Congress transferred the ARC to the Department of the Interior to join the railroad and consolidate transportation. With passage of the 1932 act, the three parties with interest in the road through the park became sister agencies in the Department of the Interior. The 1932 act provided:

That from and after the passage of this Act the duties authorized and authority conferred by law upon the board of road commissioners in the Territory of Alaska, and upon the Secretary of War, as provided for in the Act of January 27, 1905 (as amended) are hereby transferred to the Department of Interior, and shall hereafter be administered by the Secretary of the Interior, or under his direction, by such officer, or officers, as may be designated by him.<sup>34</sup>

One of the activities transferred to the Department of the Interior was the agreement to build a dual-purpose road through the park and into Kantishna. The ARC continued constructing the road with the NPS providing the funding as agreed. The agreement served both parties well, and by 1938 the road was completed and operating as a dual-purpose road. Although the NPS tried to back out of the agreement after the ARC had completed its end of the bargain, they were reminded of their obligation and "miners began hauling equipment and ore between that district and the railroad, as contemplated in the 1922 agreement between ARC President James Steese and NPS Director Stephen T. Mather."<sup>35</sup> Although transferred to the Department of the Interior, the road still retained its commercial purpose<sup>36</sup>

<sup>34</sup> 47 Stat. 446. **Tab #31.**

<sup>35</sup> *Supra*, Brown, footnote 22 at page 206.

<sup>36</sup> Continuation of the commercial purpose after the transfer to the Department of the Interior is authenticated by letter of December 5, 1938 from Harry J. Leik, Superintendent, Mount

created as part of the duties of the ARC to develop the country.

Throughout the 1930's and early 1940's the ARC, in the Department of Interior, assumed a caretaker role over the roads in Alaska. Because of overshadowing national events, there was little development activity. But the end of World War II ended the caretaker era and ushered in an era of rapid growth and increased sophistication for the ARC. Anticipating this rapid growth and new responsibility, the Department of the Interior reorganized the ARC to better respond to its new more important role. In addition to its traditional development role in the Department of War, the ARC became more of a manager of the entire highway system under the Department of Interior. This transformation of the ARC from a bit player to a full fledged participant in policy decisions, is an important change that directly effected the interests held by the the ARC in the road through the park. One illustration of this change is that the ARC guided the transition from disconnected pioneer roads to an integrated highway system.

**POST WAR BOOM: The System Development Era**

The overall impact of this change was nicely summarized by Claus M. Naske in his book on the history of roads in Alaska. He said:

The year of 1949 also was a turning point for the ARC. With the infusion of millions of dollars, it quickly ceased to be the pioneer road constructing agency it had been for all of its existence since 1905 and rapidly developed into a modern highway construction and maintenance agency.<sup>37</sup>

If the 1940's ushered in a new era, the opening of the Glenn highway from Palmer to Glennallen is symbolic of the new era. This symbolic beginning was called by Governor Gruening the beginning of a true highway system<sup>38</sup> since it linked for the first time the two arteries that had opened-up the country. This was an era of profound change for highway transport in Alaska. The new leadership structure for the ARC became a dominate and innovative force for the consolidation of road powers under one central power in the Department of Interior.

On October 4, 1948 the Acting Secretary of the Interior, William Warne, issued a notice concerning the establishment and organization of the Alaska Road Commission. The effect of the order was to end the commission form of leadership for the ARC in favor of a single decision-maker. For the first

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McKinley National Park to the Director. **TAB #13.** This letter also clearly states the commercial purpose was expected by the miners of Kantishna because the ARC told them the road was built with a dual-purpose in mind. In the early 1940's, the NPS began regulating commercial traffic in the park. However, where the park road was the only practical route, the regulation was meant to generate revenue for maintenance of the road **not limit access.** See July 3, 1941 memorandum for the Superintendent, Mount McKinley National Park from A.E. Demaray, Acting Director. **TAB #13.**

<sup>37</sup> Paving Alaska's Trails: The Work of the Alaska Road Commission, by Claus M. Naske, University Press of America, 4720 Boston Way, Lanham, MD 20706, at page 239.

<sup>38</sup> The State of Alaska, Ernest Gruening, Random House: New York, 1954, at p. 316.



time, decisions concerning roads in Alaska were made by a single individual in charge, the Commissioner of Roads, who exercised the powers of the Secretary of the Interior. The first Commissioner of Roads, Colonel John R. Noyes, used the new position to forge a stronger role for the agency vis-vis other Interior agencies. Under Colonel Noyes' leadership, the ARC became a strong advocate for highways in Alaska.

Congress had recognized the need for the consolidation of federal powers in Alaska and the restructured ARC under Colonial Noyes responded with military-like efficiency. From the late forties until statehood the ARC organized roads in Alaska into an integrated highway system that was progressively refined over the decade. For now, the roads were beginning to form a true highway system much like in the lower-48 and development pressures were forcing the ARC to become more formalized in their approach to management.

The Assistant Secretary who was delegated the authority over Interior's operations in Alaska, including road authority outside of the National Forest, was William E. Warne. Many Statehood advocates, including Governor Gruening, considered Warne too powerful and a symbol of the Department of Interior's pervasive control of Alaska's affairs. Governor Gruening caustically referred to Warne as the man Secretary Julius Krug had placed in charge of Alaska.<sup>39</sup> Warne "ruled Alaska" as a bureaucratic fiefdom leaving a legacy of institutionalized and compartmentalized decisions. He was a bureaucrat's bureaucrat. For the ARC, Colonial Noyes was the perfect counter-balance to have in place during Warne's rule because his military background prepared him well for Warne's bureaucratic style. Using his military experience, Noyes was able to tap into Warne's desire to institutionalize and compartmentalize decisions and use it to forge a strong role for the ARC.

To help him run Alaska, Warne created a committee made up of all of the Directors of the primary divisions under his control in Alaska.<sup>40</sup> The committee, known as the Alaska Field Committee (AFC), was to make recommendations to him on specific policy issues facing each Interior division in Alaska. One of the first issues they dealt with was an issue they called the 'road right-of-way problem.' The problem resulted from the large influx of settlers after World War II. Alaska was a military focal point after World War II and people followed the increased military spending. But the increased population conflicted with the increased road building so desired by the military strategists. Homesteaders and miners were staking land claims close to the existing roads for the convenience of travel and resupply

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<sup>39</sup> Id, at page 449.

<sup>40</sup> The committee included representatives of the National Park Service; Fish and Wildlife Service; Bureau of Land Management; Bureau of Mines; Geological Survey; Alaska Railroad; Alaska Native Service; Alaska Road Commission; Bureau of Reclamation and the Governor's Office attended at its own calling. The committee appears to have operated on an informal basis with everyone present, including representatives of the Governor's Office, given a vote. As could be expected of a good bureaucratic decision-making process, the committee left good records, including published minutes, of its decisions.

thereby making realignment or development more costly and difficult.<sup>41</sup> A conflict developed between federal land managers who wanted wide rights-of-way to contain settlers and Statehood advocates who wanted narrower rights-of-way so settlers could take advantage of the proximity of the road. Ironically, the ARC, even though it had responsibility for all road building activity outside of the National Forest, sided with the Statehood advocates. Because the conflict pitted Interior divisions against each other, the AFC was asked to make recommendations on how the issue should be resolved.

The first meeting of the AFC was August 14, 1948 at which time a subcommittee was appointed by Assistant Secretary Warne to "study the matter of road classification, right-of-ways (sic), signs and other problems."<sup>42</sup> Subcommittee members were Lowell M. Puckett, Regional Administrator, BLM, Alfred Kuehl, Region IV, NPS, and Colonel John R. Noyes, Commissioner of Roads for Alaska, ARC.

Puckett and Kuehl met independently soon after the first meeting and developed the first round of recommendations. Their recommendation was to create 400 foot rights-of-way for class 1 roads and 200 foot rights-of-way for class 2 roads and 100 foot rights-of-way for class 3 roads.<sup>43</sup> Puckett and Kuehl submitted this report without Noyes' concurrence even though they had been specifically instructed to consult with him first on all matters involving roads. Puckett and Kuehl favored wider rights-of-way<sup>44</sup> while Noyes favored narrower rights-of-way. However, in an interesting tactical move showing his bureaucratic adeptness, Noyes objected to the Puckett/Kuehl report at first not because of the right-of-way width they choose but because they also made a recommendation that diluted the authority of the ARC. This recommendation, to have the ARC, the Territorial Highway Commission, and the Public Roads Administration "assume the responsibility of designating a Territorial Highway System, this system to be broken down into roads of primary, secondary, and roads of lower classification based on probable traffic flow, importance of route and population trends," was the first official recognition that roads needed to be consolidated into a formal highway system.<sup>45</sup> Noyes objected because it was his opinion that setting up the Alaska Highway System was the sole purview

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<sup>41</sup> Congress had dealt with this issue for property conveyed after 1947 by amending ARC's statutes to include a road right-of-way set aside in all subsequent land patents. (61 Stat. 418) What remained as an issue was the road system that existed prior to 1947. Since mining was allowed in McKinley National Park until 1976, this problem also effected the park road.

<sup>42</sup> Letter of October 13, 1949 from Kenneth J. Kadow, Director of the Alaska Field Staff, to James P. Davis, Director, Division of Territories and Island Possessions. **Tab #14.**

<sup>43</sup> Letter of September 22, 1948 From Lowell M. Puckett, BLM and Alfred Kuehl, NPS reporting on the decisions of the Sub-Committee. **Tab #15.**

<sup>44</sup> In fact the NPS put the first right-of-way width on the table in July of 1948 to be a minimum of 400 feet. See telegram from Lowell M. Puckett to Ike Taylor of the ARC dated July 29, 1948 and letter of August 3, 1948 from Lowell M. Puckett, BLM to Ike Taylor, ARC. **Tab #16.**

<sup>45</sup> Memorandum of September 22, 1948 from Lowell M. Puckett, BLM and Alfred Kuehl, NPS reporting on the decisions of the Sub-Committee. **Tab #17.**

of the ARC.<sup>46</sup> Noyes' leadership in consolidating the road powers of the Department of Interior under the ARC is a critical factor in the development of the Alaska Highway System, which later turned into the Approved Federal-aid System and was transferred to the State of Alaska at statehood.

Finally the full subcommittee got together to develop their consensus report which was issued on October 9, 1948 and signed by all three men.<sup>47</sup> Prior to the meeting, Noyes out maneuvered the BLM/NPS coalition by asserting ARC's sole authority to administer the development of a formal highway system by ordering his own agency to develop a highway classification system on their own.<sup>48</sup> Since a classified system was presented to the BLM/NPS coalition at the meeting as a done deal, their report ignored the issue of which agency or agencies should set up the highway system. Having won his jurisdiction battle with the BLM/NPS coalition, Noyes went on to object to the right-of-way widths favored by them by submitting a minority report to the Sub-Committee's report. In a memorandum to his file, Col. Noyes explained the reasons for his objection to the larger widths favored by the BLM/NPS coalition. His reasons were consistent with Statehood advocates like Governor Gruening. His memorandum includes these points:

1. In general, these widths are not needed for the construction of the roads or for any structures connected therewith.
2. Excessive widths require special use permits and are, therefore, difficult to administer.
3. Excessive widths impede settlement by increasing costs (require construction of access roads) and diminishing ease of access (houses have to be set way back in the woods).

In addition to the above consideration, it is considered unnecessary to have a wide right-of-way to take over re-location because any re-location of a major nature will probably follow a new route anyway.<sup>49</sup>

The BLM/NPS coalition held fast to their independently developed width recommendation except that they accepted the ARC's nomenclature for the road categories. Consequently, the report to the full Committee recommended 400 foot rights-of-way for Through roads, 200 foot rights-of-way for Feeder roads and 100 foot rights-of-way for Local roads. After a verbal report from the Sub-Committee and much discussion, the full Committee rejected the BLM/NPS coalition's recommendation in favor of a

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<sup>46</sup> Memorandum of October 6, 1948 from Robert Coote, Acting Chief, Division of Land Planning, BLM to the Chief of the Alaska Branch, Division of Territories & Island Possessions. **Tab #18.**

<sup>47</sup> Report to the Alaska Field Committee by the Road Right-of-way Sub-Committee dated October 9, 1948. **Tab #19.**

<sup>48</sup> Supra, Kadow letter footnote 42. **Tab #14.** The ARC had classified the roads as Through, Feeder, or Local. The subcommittee adopted this as a recommendation, and this classification stayed with the system until Alaska's Federal-aid system was adopted in 1957.

<sup>49</sup> Memorandum of October 9, 1948, subject: Reasons for Opposing Wide Right-of-Way in Alaska by John R. Noyes, Commissioner of Roads for Alaska. **Tab #20.**

designation more in line with Noyes' recommendation. The full Committee's recommendation to the Secretary's office was for 200 foot rights-of-way on Through and Feeder roads and 100 foot on Local roads.<sup>50</sup>

However, the land managers views proved to strong for Noyes and his Statehood allies at the higher levels of the Department of the Interior. On the morning of December 6, 1948, in Assistant Secretary Warne's office, a decision was made to reject the Committee's recommendation and instead create rights-of-way closer to the BLM/NPS coalition recommendation. These right-of-way widths were 600 foot on the Alaska Highway, 300 foot for Through roads, 200 foot for Feeder roads, and 100 foot for Local roads.<sup>51</sup> The decision of Assistant Secretary Warne initiated a system of dedicating road rights-of-way in Alaska that exists even today. The decision was the basis of the right-of-way withdrawals in Public Land Order 601 issued on August 10, 1949.

On February 15, 1949 the Alaska Field Committee met again at which time the decision of the Assistant Secretary was discussed. By this time Governor Ernest Gruening had become involved and attended the meeting. Governor Gruening was disappointed, not only because of his disagreement over the width of the rights-of-way,<sup>52</sup> but also because "the Washington Office had not followed the Field Committee's recommendation"<sup>53</sup> since they were viewed as being more in touch with Alaska's unique situations. Although clearly unhappy with the decision by Washington, the Committee was powerless to do more than complain.

Even Congressional Delegate Bartlett had little sway with the Secretary of the Interior on this issue. Although he wrote an impassioned letter to the Secretary stating his opposition to the decision,<sup>54</sup> he was summarily ignored and the decision stood.

With the width of the rights-of-way now decided, the Alaska Field Committee took up the jurisdiction question directly at their second meeting. Although its unclear from the record why they felt compelled to get involved, their recommendation to the Secretary's office was clearly designed to formalize the consolidation of Interior's road powers under the

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<sup>50</sup> Supra, Kadow letter footnote 42. **Tab #14.**

<sup>51</sup> Memorandum of December 6, 1948 from the Associate Director of BLM to Mr. Coote, Acting Chief, Division of Land Planning, BLM, subject: Alaska right-of-way withdrawals. **Tab #21.**

<sup>52</sup> Supra, Gruening, footnote 38, at pages 448 and 449.

<sup>53</sup> Minutes of the Alaska Field Committee for February 15, 16, and 17, 1949. **Tab #21.**

<sup>54</sup> "If adopted, it would push the would-be settler back as if he were not wanted in Alaska. It would, in many cases, push him up a mountain, over a cliff, or into a stream or lake. It would multiply the difficulties which, for him, are very considerable already. It would present problems in driveway construction, maintenance, snow clearance, and in the obtaining of driveway permits through your right-of-way in the first place." See letter February 22, 1949 from Delegate E. L. Bartlett to Julius A. Krug, Secretary of the Interior. **Tab #21.** Note also the hand written notation on this letter which says: "No reply will be made other than simple acknowledgment."

ARC as Noyes favored. Their recommendation to the Secretaries' Office was to give the Alaska Road Commission:

... complete jurisdiction over all Alaska highways<sup>55</sup> controlled by the Interior Department up to 150 feet on each side of the center line, the additional 300 feet on the Alaska Highway being subject to lease, should be controlled by the Bureau of Land Management and all leases made by them.<sup>56</sup> (*Emphasis added.*)

By memorandum to the AFC, Assistant Secretary Warne accepted their recommendation and delegated to the ARC responsibility for the "administration and care of all roads, up to 150 foot from centerline" and gave BLM administrative authority over rights-of-way beyond the 150 foot mark.<sup>57</sup> He also stated in his concluding paragraph that this action "should be regarded as department policy and, consequently, the agencies involved should notify their field organizations and take any other steps that are necessary to bring about proper and immediate action."<sup>58</sup> (*Emphasis added.*) With this action, the ARC now had jurisdiction over all the roads controlled by the Department of the Interior with a total right-of-way width of 300 foot or less.

This marked the official beginning of the ARC's complete jurisdiction over the Alaska Highway System. This included the road through the park which is documented by numerous ARC and AFC records after this date. For example, the ARC Order No. 40 which was a continuing order used to keep a running tally of the highway system, always stated that the routes included where under the jurisdiction of the ARC. The McKinley Park Road was always one of the roads listed. In fact, the revision issued January 3, 1955 less than a year before the transfer from Interior to Commerce, stated the purpose for the order as: A. To set forth the system of numbering individual roads, groups of roads and primary system. B. to provide a complete tabulation of all roads under the jurisdiction of the Alaska Road Commission by number, name, total mileage and winter mileage.<sup>59</sup> (*Emphasis added.*)

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<sup>55</sup> It should be noted that this jurisdiction did not extend into the National Forest areas where the BPR retained jurisdiction. When they talked of 'complete jurisdiction' at this time they only meant over roads controlled by the Department of the Interior. It wasn't until the ARC and the BPR merged in the Department of Commerce that highways built in the National Forests joined roads under the jurisdiction of the ARC to form the Alaska Highway System. See ARC Order No. 40, Revised January 31, 1957. **Tab #22.**

<sup>56</sup> Minutes of the Alaska Field Committee for February 15, 16, and 17, 1949. **Tab #21.**

<sup>57</sup> Only one highway, the Alaska Highway, had a right-of-way greater than 150 feet from the centerline. The effect of this provision was to put BLM in charge of leasing along the Alaska Highway for lands outside of the 150 foot right-of-way.

<sup>58</sup> Memorandum of March 24, 1949, Subject: Alaska Road Right-of-way Problems, to the Directors of the BLM, NPS, the AFC staff and the Commissioner of Territories and Island Possessions. **Tab #23.**

<sup>59</sup> See ARC Order No. 40, Revised January 3, 1955. **Tab #24.** Consistent with other correspondence issued by the Alaska Road Commission and later the Bureau of Public Roads, this order includes on page 8 the notation "Constructed and maintained by National Park Service funds." At first blush this notation appears to contradict the earlier statement that the road is under the jurisdiction of the Alaska Road Commission.

Moreover, the revision of ARC Order No. 40 dated January 31, 1957, 5 months after the ARC was transferred from Interior to Commerce, when BPR roads and ARC roads combined, says specifically: "Your attention is invited to the fact that Forest Highways and Forest Service Roads, administered by the Alaska District, Region 8, prior to establishment of Region 10; roads administered by the former Alaska Road Commission; and roads administered by the Territory of Alaska have been incorporated into this tabulation. In addition, certain routes which are an integral part of the Territory's road system, such as McKinley National Park roads, are included."<sup>60</sup> (*Emphasis added.*)

Under the direction of the Secretary's office the ARC created a formal system of highways called the Alaska Highway System which was later converted into the Federal-aid System and was entirely transferred to the State of Alaska at statehood.<sup>61</sup> The development of this system was an achievement of noteworthy importance. For, since the very beginning of road building in Alaska, each succeeding road authority in Alaska and each Territorial Legislature, made a point of raising the development of an integrated highway network as their goal. In fact, the 1956 Annual Report of the ARC in hailing the passage of the 1956 act allowing Alaska to participate in the Federal-aid program summed up the campaign this way:

The 1905 plea of the first Board of Road Commissioners for an integrated highway network - a plea repeated by every Territorial Legislature since they first convened in 1913 - is another step nearer to reality.<sup>62</sup>

Included on this system throughout its development and when converted to the Federal-aid System, was the McKinley Park Road. In fact, the entire system was broken down into nine sub-systems of which the Denali Highway, from Paxson to Kantishna, was designated as sub-system number eight.

Important changes were taking place as a result of these two actions carried out under the guidance of the AFC (*which included the participation of the*

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However, in the context of this order, it is clear that the road forms part of the Alaska Highway System and it is in this context that jurisdiction over the road vested in the Alaska Road Commission.

In fact, jurisdiction in some instances may have gone so far as to include redirecting funding intended for the McKinley Park Road to other roads on the system. In this regard, it is reported by Governor Gruening that the ARC transferred \$2,400,000 from the McKinley Park Road to the Copper River Highway in 1954. (*Supra, Gruening, footnote 38, at page 450.*) Although the Copper River Highway account for 1954 shows an increase in funding that appears to coincide to this number, no independent documentation was found.

<sup>60</sup> See ARC Order No. 40, Revised January 31, 1957 **Tab #22.**

<sup>61</sup> See page 5 of the Quitclaim Deed found in **Tab #1** and discussed in footnote 3. Schedule A, part of the conveyance of property, consisted of 60 pages of highways including a title page (*page 5*) that specifically conveyed the "APPROVED FEDERAL-AID SYSTEM."

<sup>62</sup> 1956 Annual Report of the Alaska Road Commission, at page 4.

NPS). Highways in Alaska were now managed by one entity, the Alaska Road Commission, and all roads under the jurisdiction of the ARC had been classified according to their function as part of a system of highways as either Through roads, Feeder roads, or Local roads. Although the classification of the highways was originally developed to institute right-of-way protections against settlers, it also meant that the Alaska Highway System began to be officially inventoried under the jurisdiction of the ARC. To put settlers on notice of these new restrictions, the Department of the Interior published a public land order withdrawing highway rights-of-way on all roads corresponding with the ARC classification.

Nine months after the decision was made on the width of highway rights-of-way in Alaska, Public Land Order 601<sup>63</sup> was issued. PLO 601 established the widths as had been decided and followed the classification scheme the ARC had established. PLO 601 named the Through roads and Feeder roads with the road through the park identified as the McKinley Park Road and listed as a Feeder road. Important to this discussion, this action meant three things. First, it meant that the road through the park had a right-of-way withdrawal placed over it,<sup>64</sup> and secondly, it meant that the ARC was given jurisdiction over the highway right-of-way<sup>65</sup> through the park of 200 foot and, by virtue of the road's classification, the road was placed on the Alaska Highway System.

PLO 601 was not popular with Territorial advocates. They argued that withdrawals, like fee interests, created serious land management problems that, worked against settlement of the country. Their concern was that by withdrawing land on either side of the centerline of each road, the federal government had in effect created trespassers, without title and without a chance to purchase it, of those settlers who had made improvements next to a highway. The backlash against PLO 601 resulted in PLO 757<sup>66</sup> being issued to revoke the withdrawal on most roads (*except for Through roads*) and replace it with a highway easement.

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<sup>63</sup> Dated August 10, 1949. **Tab #25**. The reference to an event nine months earlier is to the meeting discussed at footnote 51, *Supra*.

<sup>64</sup> This distinction is important to note because it renders the NPS's assertion of ownership based on having paid for the road's construction meaningless. Although it is true that most of the money (*However, see footnote 9.*) flowed through the NPS's budget for the construction of the road, it was **after** it was constructed that the road right-of-way was imposed and delegated to the ARC as part of the Alaska Highway System. (*I.e., the facility was paid for and constructed before this interest in favor of the ARC was established.*)

<sup>65</sup> I.e., the right-of-way **vested in the ARC**. See page 18 and memorandum dated March 24, 1949 at footnote 58. **Tab #23**.

<sup>66</sup> Dated October 16, 1951. **Tab #25**.



Also include in PLO 757 is the following clause:

Easements having been established on lands released by this order, such lands are not open to appropriation under the public land laws except as a part of a legal subdivision, if surveyed, or an adjacent area, if unsurveyed, and subject to the pertinent easement.<sup>67</sup> (*Emphasis added.*)

"Lands released by this order" were all Feeder roads and all unnamed Local roads. Although it is difficult to determine from the face of it, one possible interpretation of this clause is that it impressed a right-of-way easement for highway purposes on all Feeder roads named in PLO 601 (*Named roads including the McKinley Park Road.*) and all unnamed Local roads.

On the same day that PLO 757 was issued, Secretarial Order 2665 was issued which named highways according to ARC's highway classification and changed the interest held in Feeder roads and Local roads to a "right-of-way or easement for highway purposes." But SO 2665 also began a confusing name game involving the road through the park which is really the genesis of much of the confusion about what interest was held by the Department of Commerce when it quitclaimed the Federal-aid System to the State of Alaska.

By the late 1940's, overlapping the period of time rights-of-way were being debated, planning had begun to connect McKinley Park Road with the Richardson Highway. For the ARC the new road was a continuation of the road system including a connection with a system of roads and trails through the park and beyond to Kantishna with branches to all points west. However, the anticipated development of the new road connecting with the park road also created new issues for policy makers to resolve. One of the issues raised was the relationship of the new road to the existing park road. Historical records show a great deal of confusion about whether the roads should be considered as separate or be treated as one continuous road. For, although the new road stretched 160 miles east of the park, its main purpose was to connect the park,<sup>68</sup> and the points beyond, to the existing road system. It was, in effect, an extension of the existing Feeder road but instead of feeding and receiving traffic for the railroad, fed and received traffic for the Richardson Highway.

Unfortunately, this confusion spilled over into the right-of-way debate because both issues were being worked by the same people at the same time. Clearly most decision-makers working both issues were most focused

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<sup>67</sup> PLO 757, last paragraph. **Tab #25.**

<sup>68</sup> See letter of January 5, 1946 from Ike P. Taylor, Chief Engineer, to M. C. Edmunds, Superintendent, ARC and B. D. Stewart, Jr., Superintendent, ARC. **Tab #26.** The attached report gives the purpose of the proposed road as: "First, to provide access to Mt. McKinley National Park by automobile from other parts of Alaska; second, to provide cheaper transportation for mining activities at Valdez Creek and third to open new lands which have mineral bearing possibilities." (*At page 1.*)

on the status of the new road and appear, at least in hindsight, to have ignored the status of the McKinley Park Road. As a result, SO 2665 dropped a direct reference to the McKinley Park Road, used in PLO 601, and instead used the name Paxson to McKinley Park Road<sup>69</sup> as a designation for the Feeder road protected by the highway easement. Thus, although the ARC still continued to carry the McKinley Park Road as a Feeder road on its inventory of roads under its jurisdiction, it appears as if SO 2665 does not include a 200 foot highway easement over the McKinley Park Road and that a decision had been made to treat it and the new road as separate roads.

But, it wasn't long after the issuance of SO 2665 that this decision was revisited. Ironically, once again the issue was driven by a focus on the new road which forced an evaluation of how the two roads interrelated. The issue of the treatment of the two roads came up again after the new road was named in March of 1953. With the approval of the Assistant Secretary, the ARC issued an order naming the new road still under construction as the Denali Highway.<sup>70</sup> Once again, the roads had been treated as separate roads; McKinley Park Road through the park and Denali Highway from the park entrance to Paxson. However, later that year both the NPS and the ARC began to have second thoughts about this decision. Lead by the ARC, the decision to name only the new road Denali Highway was reevaluated because it didn't make sense to them to end a road named after a mountain 90 miles before it reached the mountain.<sup>71</sup> Consequently, after deliberation with all interested parties, including the NPS, the name Denali Highway was applied to the entire road,<sup>72</sup> from Paxson to the North Park Boundary, and the two roads began to be treated as one road.

Contemporaneous with the discussion about the naming of both highways, an other debate ensued concerning the appropriate width of the highway right-of-way. The NPS argued that since it (*the newly constructed highway*) was the main access to Mount McKinley National Park its scenic value should be protected and the right-of-way increased from the existing 100 foot on either side of the centerline to 150 foot.<sup>73</sup> The ARC agreed and initiated

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<sup>69</sup> The spur to Kantishna was also listed separately in SO 2665 for the first time as the North Park Boundary to Kantishna Road.

<sup>70</sup> See ARC Memorandum No. 102-1, dated March 27, 1953. **Tab #26.**

<sup>71</sup> Letter of November 19, 1953 from A.F. Ghiglione, Commissioner of Roads, ARC, to William C. Strand, Director, Office of the Territories. **Tab #26.** It is also significant to note that it was the ARC that named the road through the park - not the NPS. Although the NPS was consulted, consistent with the ARC's jurisdiction over the road, they deferred to the ARC for official action. See letter of October 9, 1953 from the Regional Director, NPS to A.F. Ghiglione, Commissioner of Roads, ARC. **Tab #26.**

<sup>72</sup> See memorandum of November 27, 1953 from Anthony T. Lausi, Acting Director of Territories to Secretary McKay. **Tab #27.** And see letter of December 21, 1953 from Anthony T. Lausi, Acting Director of Territories to A. F. Ghiglione, Commissioner of Roads, ARC. **Tab #27.**

<sup>73</sup> See letter of December 7, 1953 from George L. Collins, Chief, State and Territorial Recreation Division, NPS, to A. F. Ghiglione, Commissioner of Roads, ARC. **Tab #28.** And see letter of December 15, 1953 from A.F. Ghiglione, Commissioner of Roads, ARC to Anthony T. Lausi, Acting Director of Territories. **Tab #28.**

action to change the right-of-way width for the Denali Highway (*which by now included the McKinley Park Road*).

Consequently, as a result of both the discussion concerning the appropriate name for the McKinley Park Road and the discussion concerning the appropriate width of the newly constructed highway right-of-way, SO 2665 was amended<sup>74</sup> and the phrase "Paxson to McKinley Park Road" was deleted from the Feeder road classification and the term "Denali Highway" was instead added to the Through road classification.<sup>75</sup> The end result of this action is that the McKinley Park Road is once again clearly impressed with a designated highway right-of-way but instead of a 100 foot right-of-way on either side of the centerline, it now has a 150 foot highway right-of-way withdrawal over it. This highway right-of-way, the same as all other major highways listed in the Quitclaim Deed, passed to the State of Alaska at statehood. Perhaps as a recognition of this fact, it is noteworthy that the wilderness suitability review, conducted in anticipation of the old park area being named as a wilderness area in 1980, identified a 300 foot corridor following the road through the park as "inconsistent with a wilderness designation" because it was existing development.

**Preparation for Statehood: The Federal-aid Era**

By the mid 1950's statehood was fast becoming an achievable goal. One of the major issues being debated was whether the proposed State of Alaska could make it on its own. Part of this debate revolved around the adequacy of the existing transportation system and whether the new state could afford constructing a transportation system to support the necessary development for a self supporting economy. State advocates argued that had Alaska been allowed to participate in the Federal-aid program from its inception, the ARC could have built up to three times the road miles it had built from 1916

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<sup>74</sup> Amendment #2, issued September 15, 1956. **Tab #25.** (*Amendment #1, issued July 17, 1952 was specific to Otis Lake Road so is not discussed herein. Tab #25.*)

<sup>75</sup> A careful reader will take note that the correspondence related to the inclusion of the McKinley Park Road was written in the latter part of 1953 while Amendment #2 was not issued until late in 1956. This leaves a gap of three years in which, one could argue, the name may have again changed. However, ARC correspondence dated February 13, 1957, five months after the release of the amendment, makes it clear that the amendment included the McKinley Park Road as part of the designated Denali Highway. See ARC Cross Reference Sheet of February 13, 1957 from W. J. Niemi to District Engineers, Anchorage, Valdez and Fairbanks, Subject: McKinley Park Road. **Tab #22.**

Although inconsistent with all correspondence cited, ARC Order No. 40 Revised, January 31, 1957 issued only 4 months after Amendment #2 to SO 2665, revised the highway system by changing the road from Paxson to McKinley Park Station to a Through road but left the road through the park as a Feeder road. **Tab #22.** No other documentation surfaced during this research to clarify this inconsistency. However, it should be noted that a pattern of inconsistency exists which seems to indicate a lack of communication between the Alaska field personnel and decision-makers in Washington, D.C. Clearly Washington had made the decision to include McKinley Park road in the name Denali Highway but it is also clear that Alaska personnel at times continued to separate the two roads by name. (*I.e., McKinley Park Road through the park and Denali Highway from Paxson to McKinley Park Station.*)

to 1950. To address these concerns, participation in the Federal-aid highway program became a part and parcel of the eventual statehood package.

As a result of this debate, passage of the Federal-aid Highway Act of 1956 did two important things in terms of the historical lineage for jurisdiction over roads and the Alaska Highway System. First, in preparation for statehood and entry into the Federal-aid program, it transferred to the Department of Commerce all existing Alaska road responsibilities exercised by the Department of Interior:

Effective not more than ninety days after the approval of this Act, the functions, duties, and authority pertaining to the construction, repair, and maintenance of roads, tramways, ferries, bridges, trails and other works in Alaska, conferred upon the Department of Interior and heretofore administered by the Secretary of the Interior under the Act of June 30, 1932 (47 Stat. 446; 48 U.S.C., sec. 321 a and following), are hereby transferred to the Department of Commerce, and thereafter shall be administered by the Secretary of Commerce, or under his direction, by such officer, or officers, as may be designated by him.<sup>76</sup>

The second action of Congress in the Federal-aid Highway Act of 1956<sup>77</sup> important to this discussion is that it provided a process whereby the Alaska Highway System, developed under the authority of the Department of Interior, became the Federal-aid System in Alaska (*including FAP 52*).

The system of roads on which Federal-aid apportionments to the Territory of Alaska shall be determined and agreed upon by the Governor of Alaska, the Territorial Highway Engineer of Alaska, and the Secretary of Commerce...<sup>78</sup>

The Alaska Federal-aid System, adopted by the Governor, the Highway Engineer and the Secretary of Commerce,<sup>79</sup> was not developed from scratch. Rather, the Alaska Highway System, the same system which had

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<sup>76</sup> 70 Stat. 374, Section 107 (b). **Tab #31.** The transfer of the ARC to the Department of Commerce was carried out by a Memorandum of Agreement between Secretary of Commerce, Sinclair Weeks, and Secretary of Interior, Fred A. Seaton, dated August 14, 1956. (*See 21 Fed. Reg. 6395-96, August 24, 1965.*) **Tab #31.**

<sup>77</sup> The Act also provided for apportionment of Federal-aid highway dollars to Alaska for the first time. (*70 Stat. 374, Section 107 [a]*)

<sup>78</sup> *Id.*, Section 107 (a).

<sup>79</sup> **Tab #29** contains a complete file of the correspondence adopting Alaska's first Federal-aid System. The file also lists each road - including FAP 52 - adopted by the Governor, the Highway Engineer and the Secretary of Commerce as part of Alaska's first Federal-aid System. See letter of March 1, 1957 from Waino E. Hendrickson, Acting Governor, Territory of Alaska, to Irving Reed, Highway Engineer, and, two letters of February 26, 1957 from F. C. Turner, Acting Federal Highway Administrator, to Waino E. Hendrickson, Acting Governor of Alaska, all transmitting the approved Federal-aid System documentation.

been developed and classified under the jurisdiction of the ARC while in the Department of Interior, was moved entirely into the new Federal-aid classification system. In fact, during this reclassification, the McKinley Park Road gained a higher level of classification by moving from the second tier in the old classification system (*Feeder road*) to the highest level in Alaska<sup>80</sup> for the new classification (*Federal Aid Primary*). This entire system of roads, including FAP 52 passed entirely to the State of Alaska by the Quitclaim Deed at statehood.

Events which occurred after statehood continued to fog the real interest the State of Alaska received in the McKinley Park Road. For example, the BPR, even though it had just quitclaimed the road to the State of Alaska, proceeded to make an agreement with the NPS for transfer of the maintenance function to NPS.<sup>81</sup> Although inconsistent with the Quitclaim Deed, the state Division of Highways did not challenge this action. The new state was in a financial bind right from the beginning and the Congressional agreement to use Federal-aid funding to maintain the highway system lasted only two years. As a result, any volunteers to help maintain the system were gladly accepted. Likewise, the Division of Highways proceeded shortly after statehood to remove the McKinley Park Road from the Federal-aid Primary system and instead placed it in a lower classification.<sup>82</sup> Although the documentation makes it clear that the action was taken to save general fund dollars for the new cash poor state by reducing its maintenance responsibility, the action confuses the jurisdiction and ownership issue.

### Conclusion

Although easily confused by the changes in names and agencies, neither this research, nor any other analysis reviewed, has disclosed any gaps in authority or any relinquishments of authority over any interest in land created in the McKinley Park Road in favor of the ARC. In fact, since all rights raised in this report were either created in the Department of Interior or confirmed to exist while the ARC was in the Department of Interior, the Memorandum of Agreement (MOU) between the Department of Interior and the Department of Commerce is the legal instrument to examine for their continuation. The MOU provides:

5. Any existing contract, lease, easement, license, permit, or agreement heretofore entered into by or granted by or to the Department of the Interior by and through the Alaska Road Commission shall remain in full force and effect and shall be transferred to the Department of Commerce and shall be binding upon that Department.<sup>83</sup>

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<sup>80</sup> In the rest of the United States, the Federal-aid system of classification included the Federal-aid Interstate, the Federal-aid Primary and the Federal-aid Secondary. In 1957 the Interstate classification was not yet available in Alaska.

<sup>81</sup> See **Tab #30**.

<sup>82</sup> See **Tab #30**.

<sup>83</sup> Memorandum of Agreement Between Department of Commerce and the Department of Interior with Respect to Transfer of the Alaska Road Commission From the Department of

However, rather than challenge the continuity of rights, the NPS has based their assertion of exclusive ownership and exclusive management authority, in spite of the transfer under the Quitclaim Deed, on the foundation that "no entity other than the National Park Service has ever held any legally defined interest in this road."<sup>84</sup> This claim by the NPS is not supported by the historical facts.

From the very beginning the road through the park was to serve a dual-purpose of which the park service's purpose to open up the park was an equal partner with the ARC's commercial purpose. To the ARC, the road was another one of the feeder roads it had a duty to build. The ARC wasn't interested in working for the NPS, they were interested in giving providing access to the territory beyond the park to the north and west. When the NPS entered into the agreement with the ARC, both sides received an interest in exchange: both got a road for their respective purpose. From 1922 to 1938 the ARC faithfully carried out its duties under the agreement. After the completion of the road in 1938 a right to use the road for commercial purposes vested in the ARC because it had fulfilled its duty in terms of the agreement with the NPS and in terms of its duty to provide for the development of Alaska. This is a legally definable right which was acknowledged to exist while the road was in the Department of Interior and is covered by the MOU issued when the ARC and BPR merged in the Department of Commerce.<sup>85</sup>

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the Interior to the Department of Commerce. August 15, 1993, 21 Fed. Reg. 6395-96 (August 24, 1956). **Tab #31.**

<sup>84</sup> An ancillary issue to this assertion is the NPS's claim that the Secretary of Interior had exclusive control over the construction of the road. (See footnote 7.) This research recognizes the statutory authority of the Secretary of Interior with regard to the management of the agencies within the Department of the Interior. However, in Alaska, as this research shows, the Secretary's jurisdiction over the Alaska Highway System, which included the McKinley Park Road, was delegated to the ARC.

A second ancillary issue to the NPS's claim is the premise that they paid for the road therefore they have exclusive ownership and exclusive management authority. Not only is this statement false (See footnote 9.) but it is also misleading and meaningless. It is misleading because the NPS agreed to pay for the road as a term of the agreement between the ARC and the NPS. The ARC would build the road, the NPS would pay for it, but both would use it. Further, on the issue of jurisdiction, the statement is meaningless because jurisdiction over the Alaska Highway System, including the Mckinley Park Road, was delegatēd to the ARC **after the road was constructed.** (See page 18.) Furthermore, if Alaska was deprived of all roads constructed with federal agency dollars prior to statehood, its highway system would be a checker board of varying jurisdiction. This was not the understanding of the state at statehood nor was it the intent of Congress.

<sup>85</sup> See page 18, memorandum of March 24, 1949, Subject: Alaska Road Right-of-way Problems, to the Directors of the BLM, NPS, the AFC staff and the Commissioner of Territories and Island Possessions. **Tab #23.**

Part of the difficulty in establishing the lineage of rights held by the ARC is a result of the unusualness of this merger. Despite its jurisdiction over all roads outside of the National Forest which gave it a more global view of the highway system and a record system to match it, the ARC lost its identity to the BPR with its limited jurisdiction and narrower world view. These differences in perceived mission translated into a much different

In addition, while the ARC was part of the Department of Interior, a right-of-way for highway purposes was created over the existing facility and jurisdiction over it vested in the ARC by the Secretary of Interior's delegated authority in Alaska.<sup>86</sup> Although the historical record reviewed is confusing, close examination discloses that a series of Department of Interior land orders define an ownership interest over the McKinley Park Road. A synopsis is as follows:

- PLO 601, dated August 10, 1949, established the McKinley Park Road as a Feeder road with a 200 foot wide corridor withdrawn.
- PLO 757, dated October 16, 1951, released the McKinley Park Road withdrawal (*may have replaced it with a 200 foot easement*).
- SO 2665, dated October 16, 1951, did not list the McKinley Park Road as either a Through road or a Feeder road (*may still retain the 200 foot easement or it would fall into the local road classification with a 100 foot easement*).

SO 2665 also contained a procedure to establish new rights-of-way. When a new road was staked, if it was classified a Through road there was a withdrawal of a highway right-of-way and if it was classified a Feeder road or a Local road there was an easement for highway purposes established.

- Amendment #2 to SO 2665, dated September 15, 1956, added several roads to the Through road category, one of which was the Denali Highway between Paxson and Kantishna. As a Through road, all lesser easements were replaced by a 300 foot withdrawal. This withdrawal was exclusively for highway purposes (*per PLO 601 and SO 2665*) and was, by Secretary of Interior policy letter of March 24, 1949, under the jurisdiction of the ARC. This is confirmed by ARC Order #40 dated January 3, 1955 which listed the Denali Highway under ARC's jurisdiction.
- On September 16, 1956, the functions and property of the ARC (*Department of Interior*) were transferred to the Secretary of Commerce by virtue of the agreement between the Secretaries dated August 14, 1956, effective September 16, 1956. This transaction

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construction philosophy with the ARC focused on getting as many roads built with its funding as was possible and the BPR focused on building roads that met the national road building standard. The animosity between the two agencies, stemming from their differing view of their mission, was legendary, spilling over into Territorial and National politics. Despite these divergent views of the world, Congress provided for their merger without so much as a committee debate on the merger process. The current configuration of the old BPR is the Federal Highway Administration which administers the Federal-aid program nation-wide.

<sup>86</sup> See footnote 58 and **Tab #23**. As a matter of Department of Interior policy, the ARC was delegated administration and care of roads, up to 150 feet from centerline on March 24, 1949 by Assistant Secretary of Interior William E. Warne.

transferred the 300 foot withdrawal for highway purposes on the Denali Highway to the Department of Commerce. This is tantamount to fee title and was the interest quitclaimed to the State of Alaska on June 30, 1959.<sup>87</sup>

Historical records show a clear pattern of the development of a formally classified system of roads stemming from the work of the Alaska Field Committee within the Department of the Interior from the late 1940's until 1956 when the entire system was transferred to the Department of Commerce. This system of roads, which always included the McKinley Park Road, was transformed in the Department of Commerce into the Alaska Federal-aid System. In large measure, the BPR with its connection to the Federal-aid process, became the conduit through which the Alaska Highway System, created by the ARC, passed to become the Federal-aid System. In other words, the BPR provided the federal system expertise while the ARC provided the network of roads to form Alaska's Federal-aid Highway System which was transferred to the State of Alaska at statehood. It was the Alaska Federal-aid System, which included Federal-aid Primary route 52, that was the subject of the Quitclaim Deed to the State of Alaska. The historical record is very clear: the system was transferred to the State of Alaska; McKinley Park Road was part of the system.

Finally, although beyond the scope of this research, an interesting legal theory is proposed in the memorandum of February 7, 1983 from Robert Charles Babson, Office of the Regional Solicitor, Alaska Region, to the Regional Director, Alaska Region, NPS.<sup>88</sup> This opinion interprets Section 103 (c) of the Alaska National Interest Lands Conservation Act (ANILCA) as excluding any conveyance of land to the State of Alaska within a conservation system unit from the boundaries of the of the unit. If this interpretation is confirmed by the Attorney General, it would mean the State's interest in the McKinley Park Road would be treated as if it were not in the park.<sup>89</sup>

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<sup>87</sup> While it is true that the Department of the Interior issued PLO 1613 on April 7, 1958, (Tab #25.) which purported to change the withdrawal to an easement, it was of no consequence because the Department of the Interior had already transferred its interest in the 300 foot corridor to the Department of Commerce on September 16, 1956. (Even if PLO 1613 had an effect, the State of Alaska obtained a 300 foot easement in lieu of a withdrawal.)

<sup>88</sup> See footnote 6, and Tab #3.

<sup>89</sup> Applying this as interpreted by the Regional Solicitor to the right to use the road for commercial purposes, for example, would mean that the park service could not even regulate (e.g., size of load, time of day, etc.) the commercial traffic.



## INDEX OF ATTACHMENTS

### Tab #1

Department of Commerce Quit Claim Deed, June 30, 1959 recorded in Anchorage Recording District at Book 391, Page 12 and Juneau Recording District, Book 90, Page 243.

### Tab #2

Memorandum of March 4, 1981 from Office of the Regional Solicitor, Alaska Region, United States Department of the Interior to Director, Alaska Region Office, National Park Service.

Memorandum of March 18, 1982 from Wilson L. Condon, Attorney General, State of Alaska, to Colonel T. R. Anderson, Director, Division of State Troopers, Department of Public Safety.

### Tab #3.

Memorandum of February 7, 1983 from Robert Charles Babson, Office of the Regional Solicitor, Alaska Region, to the Regional Director, Alaska Region Office, National Park Service.

Memorandum of December 31, 1985 from Jules V. Tileston to Ric Davidge, Chairman of the RS 2477 Task Force.

### Tab #4.

Letter of August 29, 1988 from Boyd Evison, Regional Director, National Park Service, to Senator Frank H. Murkowski.

Letter of June 29, 1988 from Robert C. Cunningham to Fairbanks Daily News-Miner.

Memorandum of July 8, 1988 from Chief, Land Resources Division, National Park Service, to Regional Director, Alaska Region Office, National Park Service.

### Tab #5.

Compilations of the Annual Reports of the Alaska Road Commission for Fiscal Years 1924 and 1925.

**Tab #6**

Memorandum of October 30, 1989 from F. Christopher Bockmon, Attorney, Office of the Regional Solicitor, Alaska Region Office, to Regional Director, Alaska Region, National Park Service.

**Tab #7**

Memorandum of September 23, 1982 from Linda Walton, Assistant Attorney General, to Robert Venusti, Director, Planning and Programming, Department of Transportation and Public Facilities.

**Tab #8.**

Letter of April 29, 1988 from the Commissioner of the Department of Transportation and Public Facilities, Mark S. Hickey, to Stan Leaphart, Executive Director, Citizen's Advisory Commission on Federal Areas.

**Tab #9.**

*The Kantishna Region Alaska*, by Stephen R. Capps, Department of the Interior, United States Geological Survey, Bulletin 687, Government Printing Office, Washington, D.C., 1919.

Map 1, Addition of 1922.

Map 2, Addition of 1932.

**Tab #10.**

Memorandum of February 11, 1946 from Hawley Sterling, Acting Chief Engineer to Mr. Smith.

Memorandum of November 16, 1920 from Hawley W. Sterling, to Board of Road Commissioners.

1923 map of Mt. McKinley District, Alaska Road Commission

**Tab #11.**

Letter of April 10, 1922 from Col. James Steese, President, Board of Road Commissioners to Stephen Mather, Director, National Park Service.

Telegraph of April 26, 1922 from Arno B. Cammerer, Assistant Director, National Park Service to James Steese, President, Alaska Railroad Commission [sic].

Letter of May 11, 1922 from Col. James Steese, President, Board of Road Commissioners to Arno B. Cammerer, Assistant Director, National Park Service.

**Tab #12.**

Letter of June 5, 1924 from Col. James Steese, President, Board of Road Commissioners to Peter Boline, et. al.

**Tab #13.**

Letter of December 5, 1939 from Harry J. Leik, Superintendent, Mount McKinley National Park to the Director.

Memorandum of July 3, 1941 from A.E. Demaray, Acting Director for the Superintendent, Mount McKinley National Park.

**Tab #14.**

Letter of October 13, 1949 from Kenneth J. Kadow, Director of the Alaska Field Staff, to James P. Davis, Director, Division of Territories and Island Possessions.

**Tab #15.**

Letter of September 22, 1948 from Lowell M. Puckett, Regional Administrator, Bureau of Land Management and Alfred Kuehl, National Park Service to Commissioner John Noyes, Alaska Road Commission.

**Tab #16.**

Telegram of July 29, 1948 from Lowell M. Puckett, Regional Administrator, Bureau of Land Management to Ike Taylor, Chief Engineer, Alaska Road Commission.

Letter of August 3, 1948 from Lowell M. Puckett, Regional Administrator, Bureau of Land Management to Ike Taylor, Chief Engineer, Alaska Road Commission.

**Tab #17.**

Memorandum of September 22, 1948 from from Lowell M. Puckett, Regional Administrator, Bureau of Land Management and Alfred Kuehl, National Park Service to Director, Bureau of Land Management.

**Tab #18.**

Memorandum of October 6, 1948 from Robert Coote, Acting Chief, Division of Land Planning, BLM to Chief of the Alaska Branch, Division of Territories & Island Possessions.

**Tab #19.**

Letter of October 9, 1948 from the Road Right-of-way Subcommittee to the Alaska Field Committee.

**Tab #20.**

Memorandum of October 9, 1948 from John R. Noyes, Commissioner of Roads for Alaska to File.

**Tab #21.**

Memorandum of December 6, 1948 from the Associate Director of Bureau of Land Management to Mr. Coote, Acting Chief, Division of Land Planning, Bureau of Land Management.

Minutes of the Alaska Field Committee for February 15, 16, and 17, 1949.

Letter of February 22, 1949 from Alaska Congressional Delegate E. L. Bartlett to Julius A. Krug, Secretary of the Interior.

**Tab #22.**

Alaska Road Commission Cross Reference Sheet, February 13, 1957.

Alaska Road Commission Order No. 40, Revised January 31, 1957.

**Tab #23.**

Memorandum of March 24, 1949 from Assistant Secretary of Interior, William E. Warne to the Directors of the Bureau of Land Management, National Park Service, the Alaska Field Committee staff and the Commissioner of Territories and Island Possessions.

**Tab #24.**

Alaska Road Commission Order No. 40 revised January 3, 1955.

**Tab #25.**

Public Land Order No. 601

Public Land Order No. 757

Secretary Order No. 2665

Amendment No. 1 to Secretary Order No. 2665

Amendment No. 2 to Secretary Order No. 2665

Public Land Order No. 1613

**Tab #26.**

Letter of January 5, 1946 from Ike P. Taylor, Chief Engineer, to M. C. Edunds, Superintendent, ARC and B. D. Stewart, Jr., Superintendent, ARC.

March 27, 1953 Alaska Road Commission Memorandum No. 102-1.

Letter of November 19, 1953 from A.F. Ghiglione, Commissioner of Roads, ARC to William C. Strand, Director office of Territories

Letter of October 9, 1953 from Lawrence C. Merriam, Regional Director, NPS to A.F. Ghiglione, Commissioner of Roads, ARC.

**Tab #27.**

Memorandum of November 27, 1953 from Anthony T. Lausi, Acting Director, Office of the Territories to Secretary McKay.

Letter of December 21, 1953 from Anthony T. Lausi, Acting Director, Office of the Territories to A.F. Ghiglione, Commissioner of Roads, ARC.

**Tab #28.**

Letter of December 7, 1953 from George L. Collins, Chief, State and Territorial Recreation Division to A.F. Ghiglione, Commissioner of Roads, ARC.

Letter of December 15, 1953 from A.F. Ghiglione, Commissioner of Roads, ARC to Anthony T. Lausi, Acting Director, Office of the Territories.

**Tab #29.**

Letter of March 1, 1957 from Waino E. Hendrickson, Acting Governor, Territory of Alaska, to Irving Reed, Highway Engineer.

Letter of February 26, 1957 from F. C. Turner, Acting Federal Highway Administrator, to Waino E. Hendrickson, Acting Governor of Alaska

Letter of February 26, 1957 from F. C. Turner, Acting Federal Highway Administrator, to Waino E. Hendrickson, Acting Governor of Alaska

**Tab #30.**

Memorandum of September 15, 1959 from Duane D. Jacobs, Superintendent, Mount McKinley National Park to Regional Director, Region Four, National Park Service.

Letter of December 10, 1959 from William J. Niemi, Regional Engineer, Bureau of Public Roads to Lawrence C. Merriam, Regional Director, Region Four, National Park Service.

Letter of December 15, 1959 from Lawrence C. Merriam, Regional Director, Region Four, National Park Service to William J. Niemi, Regional Engineer, Bureau of Public Roads.

Memorandum of January 31, 1961 from T.D. Sherard, Director of Highways and Chief Engineer, Department of Public Works, Division of Highways to Richard A. Downing, Commissioner.

**Tab #31.**

33 Stat. 616 - Creating the Board of Road Commissioners in the Department of War.

47 Stat. 446 - Transferring the Board of Road Commissioners to the Department of the Interior.

70 Stat. 374 - Transferring the Alaska Road Commission to the Department of Commerce.

Memorandum of Agreement between the Department of Commerce and the Department of Interior, August 24, 1956.

QUIT CLAIM DEED

U.S. DEPARTMENT OF COMMERCE

to

STATE OF ALASKA

"OMNIBUS ACT" June 30, 1959

1111

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Rampart Recording District

BOOK 177 PAGE 2  
Nenana Recording District

BOOK 222 PAGE 173  
Fairbanks Recording District Deed

BOOK 2 PAGE 88  
Fort Gibbon Recording District  
QUITCLAIM DEED

Bethel Recording  
Book 90 Page  
Junction Recording Dist.

BOOK 391 PAGE 12  
Chitina Recording District

KNOW ALL MEN BY THESE PRESENTS that the Secretary of Commerce, United States Department of Commerce, Grantor, under and pursuant to the authority contained in Section 21 of the Act approved by the President on June 25, 1959 (73 Stat. 141), does hereby devise, release, and quitclaim unto the State of Alaska, Grantee, its successors and assigns, subject to the condition set forth below, all rights, title, and interest of the Department of Commerce in and to all of the real properties listed in Schedules A, B, and C, attached hereto and made parts hereof, which properties are now owned, held, administered, or used by the Department of Commerce in connection with the activities of the Bureau of Public Roads in Alaska, and which said Schedules are more fully identified as follows:

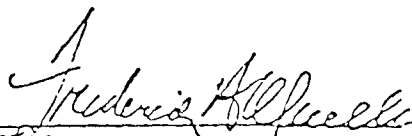
Schedule A--Highways, consisting of 60 pages.

Schedule B--Improved Real Property, consisting of 54 pages.

Schedule C--Unimproved Real Property, consisting of 62 pages.

TO HAVE AND TO HOLD the premises, together with all the hereditaments and appurtenances thereunto belonging or in any wise appertaining unto the said Grantee, its successors and assigns, forever, subject, however, to the condition that if the said Grantor or the head of any other Federal agency determines and publishes notice thereof in the Federal Register within 120 days next following the date of this deed that all or any part of the above premises or any interests therein are needed for continued retention in Federal ownership for purposes other than or in addition to road purposes, the Grantor may enter and terminate the estate hereby quitclaimed in those portions of the premises concerning which said determinations are made, by notifying the Governor of the State of Alaska of such termination by registered letter or letters mailed within one year next following the date of this deed. By acceptance of this deed, the Grantee agrees to the above condition without waiving any rights it may otherwise have to refer any dispute to the Claims Commission authorized by Section 46 of the Act approved by the President on June 25, 1959 (73 Stat. 141).

IN WITNESS WHEREOF the Grantor has herewith set his hand and seal this 30th day of June 1959.

  
ACTING Secretary of Commerce

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Manley Hot Springs Recording District

Serial No. 70-5  
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Nulato Recording District

BOOK 1 PAGE 291  
Mr. McKinley Recording District  
Kuskokwim Recording District



UNITED STATES OF AMERICA )  
DISTRICT OF COLUMBIA

I, E. H. Greaves, a Notary Public in and for the District of Columbia, do hereby certify that on this 30th day of June, 1959, before me personally appeared Frederick W. Muller, being to me personally well known and known by me to be the Secretary of Commerce, and acknowledged that the foregoing instrument bearing date of June 30, 1959, was executed by him in his official capacity and by authority in him vested by law, for the purposes and intents in said instrument described and set forth, and acknowledged the same to be his free act and deed as Secretary of Commerce.



Witness my hand and seal this 30th day of June, 1959.

E. H. Greaves  
Notary Public

My commission expires 1-14-61.

The foregoing property is hereby accepted by the State of Alaska, through its Governor, Honorable William A. Egan, State of Alaska

William A. Egan

STATE OF ALASKA

I, Hugh J. W. & Co., a Notary Public in and for the said State, hereby certify that W. A. Egan, whose name as Governor is signed to the foregoing conveyance and who is known to me, acknowledged before me on this day that, being informed of the contents of the conveyance, he, in his capacity as such Governor of Alaska, executed the same voluntarily on this day.

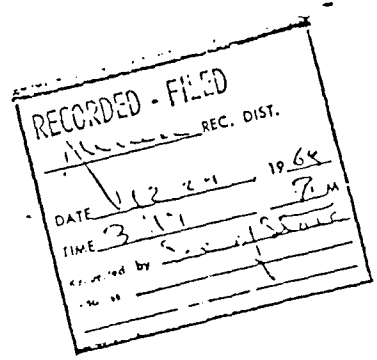
Given under my hand and seal of office this 2nd day of July, 1959.

Hugh J. W. & Co.  
Notary Public

(SEAL) My commission expires 4/23/63.

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Secondary "B"

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July 1, 1959

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BOOK 11 PAGE 1  
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BOOK 3 PAGE 76  
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Anchorage Recording District

ALASKA FEDERAL-AID NUMBERING SYSTEM

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Nome Recording District  
Primary System

BOOK 2 PAGE 92  
Fort Gibbon Recording District

Federal-Aid Primary Route numbers have been established as follows:

1. The primary system established consists of the principal highways, either existing or scheduled for early contract construction, and a projected ferry and highway system through the southeastern section.
2. Projected expansions of the system generally will be constructed and maintained as secondary roads until traffic volume dictates reclassification to a Primary Route.
3. Beginning in the southwest portion of the State, south-north routes were given odd numbers and west-east routes were given even numbers.

Secondary System

The Secondary System established consists of two classifications identified as follows:

- Class "A" - Principal secondary roads serving as main arteries and requiring improvements within the foreseeable future.
- Class "B" - Secondary roads of the type normally constructed and maintained by states or counties.

For ease in geographical location and assignment of secondary route numbers, the State has been divided into 9 zones, identified on a marked Alaska map E.

Class "A" routes were assigned 3-digit numbers, the first digit indicating the zone location. Odd numbers were assigned to south-north routes and even numbers to west-east routes.

Class "B" routes were assigned 4-digit numbers, the first digit indicating the zone location. South-north routes were assigned odd numbers; west-east routes assigned even numbers. A zero as the last digit indicates an isolated route not connected to any principal system.

As in the primary system, low numbers were assigned to the southern and western areas of each zone, progressing to the higher numbers in the northern and eastern areas.

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BOOK 113 PAGE 178  
Fairbanks Recording District

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STATE ALASKA

FEDERAL-AID PRIMARY HIGHWAY SYSTEM  
AS APPROVED FEBRUARY 25, 1957  
AND SUBSEQUENTLY AMENDED

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Anchorage Recording District

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Fort Gibbon Recording District

FAP Route Number	Description
11	From Kodiak Naval Air Station through Kodiak to the Coast Guard LORAN Station.
21	From the port of Homer via Ninilchik, Soldotna and Coopers Landing to FAP Route 31, and a spur from Soldotna through Kenai to Wildwood Station.
31	From the port of Seward via Moose Pass, Portage, Girdwood and Anchorage to Elmendorf Air Force Base, with a spur to Anchorage International Airport.
35	From FAP Route 42 at Palmer through Wasilla, Willow and Talkeetna to FAP Route 52 at Cantwell with spurs to Talkeetna and Summit Airfields.
37	From the junction of FAP Routes 61 and 62 at Fairbanks via Ester and Nenana to FAP Route 52 at McKinley Park Station with a spur to FAP Route 62, International Airport Spur.
42	From FAP Route 31 Spur at Anchorage International Airport via Spenard and Palmer to FAP Route 71 at Glennallen.
46	From FAP Route 71 at Gulkana Junction to FAP Route 62 at Tok Junction.

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BOOK 18 PAGE 78  
Rampart Recording District

BOOK 391 PAGE 18  
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BOOK 2 PAGE 41  
Fort Gibbon Recording District

FAP Route Number Description Fort Gibbon Recording District

52 From FAP Route 71 at Paxson via Cantwell through Mt. McKinley National Park to North Park Boundary.

61 From the junction of FAP Routes 37 and 62 at Fairbanks to Fox.

62 From the Alaska-Canada Border via Tok Junction and Big Delta to the junction of FAP Routes 37 and 61 at Fairbanks, with a spur to Fairbanks International Airport.

71 From the port of Valdez to FAP Route 62 at Big Delta Junction.

95 From Ketchikan via land and ferry routes through Wrangell, Petersburg, Juneau and Haines to the Alaska-Canada Border, with a spur from Haines to Lutak Inlet, a spur from Juneau to Douglas, and a spur to Juneau Airport.

97 From Haines to Skagway.

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Kuskokwim Recording District

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ALASKA AREA OFFICE			ANCHORAGE REGION
United States Department of the Interior			
OFFICE OF THE SOLICITOR			
401 L Street, Suite 403			
Anchorage, Alaska 99501			
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NAT'L PARK SERVICE  
ALASKA STATE OFFICE  
ANCHORAGE, ALASKA

March 4, 1981

W-30 DENA  
X W-1823

Memorandum

To: Director, Alaska Regional Office, NPS

From: Attorney, Office of the Regional Solicitor, Alaska

Subject: Jurisdictional Status of Denali National Park and Preserve

This responds to your opinion request, dated December 10, 1980, concerning the above-captioned matter. Briefly stated, the issue presented is whether the reservation of legislative jurisdiction in Mt. McKinley National Park "as now or hereafter constituted," contained in § 11(a) of the Alaska Statehood Act, July 7, 1958, 48 U.S.C. Prec. § 21, now extends to the Denali National Park and Preserve, created by § 202(3) of the Alaska National Interest Lands Conservation Act (ANILCA), December 2, 1980, 94 Stat. 2371 *et seq.* After review of the relevant statutory material and applicable caselaw, I have concluded that: (1) the reservation of partial legislative jurisdiction contained in § 11(a) of the Statehood Act does extend to the areas added to the Park and Preserve by ANILCA; (2) the reservation of such partial legislative jurisdiction for not only Mt. McKinley National Park as it existed on the date of the Statehood Act (July 7, 1958), but as it might be thereafter constituted, was and is constitutional; (3) although the reservation of such legislative jurisdiction applies, it does not become effective until such time as the cession is formally accepted by the United States; and (4) to date, the United States has not formally accepted the cession.

Introduction

The term "legislative jurisdiction," as it will be used in this memorandum, is derived from art. I, sec. 8, cl. 17 of the U.S. Constitution, which provides in pertinent part:

The Congress shall have Power \* \* \* To exercise exclusive Legislation in all Cases whatsoever, over such District (not exceeding ten Miles square) as may, by Cession of particular States, and the Acceptance of Congress, become the Seat of the Government of the United States, and to exercise like Authority over all Places purchased by the Consent of the Legislature of the State in which the Same shall be, for the Erection of Forts, Magazines, Arsenals, dock-Yards, and other needful Buildings. . . (Emphasis added.)

The "legislative jurisdiction" acquired by the federal government under clause 17, supra, refers to that type of jurisdiction which is normally exercised by state governments; i.e., the state police power. Silas Mason Co. v. Tax Comm. of Washington, 302 U.S. 186, 197 (1937). The prerequisite to acquisition of such jurisdiction involves the consent of the state affected and acceptance by Congress.

There are three types of legislative jurisdiction that can be acquired under clause 17: (1) exclusive, (2) concurrent, and (3) partial. They are defined as follows:

Exclusive legislative jurisdiction

. . . the term . . . is applied to situations wherein the Federal Government has received, by whatever method, all the authority of the State, with no reservation made to the State except of the right to serve process resulting from activities which occurred off the land involved.

\* \* \* \* \*

Concurrent legislative jurisdiction

. . . the term . . . is applied in those instances wherein in granting to the United States authority which would otherwise amount to exclusive legislative jurisdiction over an area the State concerned has reserved to itself the right to exercise, concurrently with the United States, all of the same authority.

Partial legislative jurisdiction

. . . the term . . . is applied in those instances wherein the Federal Government has been granted for exercise by it over an area in a State certain of the State's authority, but where the State concerned has reserved to itself the right to exercise, by itself or concurrently with the United States, other authority constituting more than the right to serve civil or criminal process in the area (e.g., the right to tax private property).

Jurisdiction Over Federal Areas Within the States, Report of the Inter-departmental Committee for the Study of Jurisdiction Over Federal Areas Within the States, Part II: A Text of the Law of Legislative Jurisdiction, CPO June 1957, at 10-11.

Over the years, three methods for the acquisition of legislative jurisdiction by the federal government have evolved: (1) by consent (wherein the state legislature consents by statute to the acquisition by the federal government of land within its boundaries); (2) by cession (wherein the state legislature cedes by statute jurisdiction over lands within



its boundaries to the federal government); and (3) by reservation (wherein jurisdiction over certain lands are reserved to the federal government in a Statehood Act).

See, Jurisdiction Over Federal Areas Within the States, Part II, supra at 3.

### Discussion

Section 11(a) of the Statehood Act, supra, provides:

(a) Nothing in this Act shall affect the establishment, or the right, ownership, and authority of the United States in Mount McKinley National Park as now or hereafter constituted; but exclusive jurisdiction, in all cases, shall be exercised by the United States for the national park, as now or hereafter constituted; saving, however, to the State of Alaska the right to serve civil or criminal process within the limits of the aforesaid park in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed in said State, but outside of said park; and saving further to the said State the right to tax persons and corporations their franchises and property on the lands included in said park; and saving also to the persons residing now or hereafter in such area the right to vote at all elections held within the respective political subdivisions of their residence in which the park is situated. (Emphasis added.)

As § 11(a) is contained in the Statehood Act, it constitutes a reservation of legislative jurisdiction, as discussed above. Although the language contained in the subsection refers to "exclusive jurisdiction," the type of legislative jurisdiction exercised by the federal government within the Park is more appropriately characterized as "partial," given the savings clause extending State taxation authority to persons and corporations within the park and extending the State voting franchise to persons residing within the Park. <sup>1/</sup>

The question raised is whether the reference to the Park "as now or hereafter constituted," which appears twice in the subsection (emphasized above), extends the reservation of partial legislative jurisdiction to those new areas added to the Park (both areas actually incorporated into the Park, and the Preserve) as a result of § 202(3) of ANILCA, supra. Applicable legislative history useful in resolving this question is

<sup>1/</sup> It is also possible that although § 11(a) reserved partial legislative jurisdiction for the Park, the federal government also retained the right to create exclusive legislative jurisdiction by affirmative act at any time in the future. Cf. Petition of Long, 200 F. Supp. 313 (D.C. Alaska 1962), interpreting § 11(b) of the Statehood Act, supra.

either non-existent (for § 11(a) of the Statehood Act), or not yet available (for § 202(3) of ANILCA). Resort must therefore be made to the actual statutory language used and applicable caselaw. As to the latter source, although I am aware of at least one other example of such language being contained in a reservation statute (§ 7 of the Oklahoma Statehood Act, June 16, 1906, 34 Stat. 267), judicial construction of such reservation statutes is also non-existent. However, the effect of such language has been construed by the courts on numerous occasions in relation to state cession statutes. Reference to such judicial construction of cession statutes would seem appropriate for two reasons. First, although the retention of legislative jurisdiction for Mt. McKinley Park as it existed on the date of Statehood was clearly a reservation (the residuary police power possessed by the federal government prior to Statehood never passed to the State upon its creation in the first instance), the extension of legislative jurisdiction to areas added to the Park subsequent to Statehood would more properly be termed a cession of such jurisdiction in that the residuary police power over such lands did in fact initially pass to the State upon Statehood and is only now being ceded back to the United States. Conceptually, this would seem correct even though the required State consent is contained in the Statehood Act itself. Secondly, regardless of whether one characterizes the "as now or hereafter constituted" language of § 11(a) as a reservation or a cession of legislative jurisdiction,

. . . the characteristics of a legislative jurisdiction status are the same no matter by which of the three means the Federal Government acquired such status. . . .

Jurisdiction Over Federal Areas Within the States, Part II, supra at 3.

The first issue which must be considered is whether the language of § 11(a) of the Statehood Act evidences an intent to extend partial legislative jurisdiction to those areas subsequently added to the Park. The statutory language itself would seem to clearly evidence such an intent. In addition, the U.S. Supreme Court has given just such an effect to the analogous language "territory which is now or may hereafter be included," contained in a California state cession statute concerning Yosemite National Park. Collins v. Yosemite Park and Curry Co., 304 U.S. 518, 525 n.9, 527 (1938).

The distinction contained in § 202(3) of ANILCA, supra, between areas added to the old Park and redesignated the Denali National Park, and the new areas designated as the Denali National Preserve, raises a separate issue of whether the language contained in § 11(a) of the Statehood Act, supra, is applicable to the Preserve. Given the fact that the Park and Preserve are treated as a single unit and are to be managed for precisely the same purposes (§§ 202(3)(a), 1313), the only distinction being that hunting is to be allowed in the Preserve (§§ 203, 1313), the language of § 11(a) of the Statehood Act would seem equally applicable to both the Park and Preserve.

The next issue raised, given the effect of the language of § 11(a) of the Statehood Act, supra, is whether that language constitutes a valid constitutional exercise of art. I, sec. 8, cl. 17. In construing the validity of the terms of cession statutes generally, the U.S. Supreme Court has held that the various states and the federal government are constitutionally free to work out the conditions of such cessions on whatever terms they find mutually acceptable, and the Court will not interject itself into that process. Fort Leavenworth R.R. Co. v. Lowe, 114 U.S. 525, 541-542 (1885); Benson v. U.S., 146 U.S. 325, 330-331 (1892); Collins v. Yosemite Park & Curry Co., supra at 528. Most importantly, the federal courts have specifically rejected a constitutional challenge to a cession statute which by its terms was applicable to lands subsequently added to a National Park. Yellowstone Park Transportation Co. v. Gallatin County, 31 F.2d 644, 645 (9th Cir. 1929). See also, U.S. v. Lovely, 319 F.2d 673, 678-679 (4th Cir. 1963), cert. den. 375 U.S. 913. 2/

The final issue to be considered is raised by the language contained in the act of February 1, 1940; 40 U.S.C. § 255, which provides in pertinent part:

Notwithstanding any other provision of law, the obtaining of exclusive jurisdiction in the United States over lands or interests therein which have been or shall hereafter be acquired by it shall not be required; but the head or other authorized officer of any department or independent establishment or agency of the Government may, in such cases and at such times as he may deem desirable, accept or secure from the State in which any lands or interests therein under his immediate jurisdiction, custody, or control are situated, consent to or cession of such jurisdiction, exclusive or partial, not theretofore obtained, over any such lands or interests as he may deem desirable and indicate acceptance of such jurisdiction on behalf of the United States by filing a notice of such acceptance with the Governor of such State or in such other manner as may be prescribed by the laws of the State where such lands are situated. Unless and until the United States has accepted jurisdiction over lands hereafter to be acquired as aforesaid, it shall be conclusively presumed that no such jurisdiction has been accepted. (Emphasis added.)

Prior to passage of this section, consent on the part of Congress to state grants of legislative jurisdiction was presumed absent affirmative

2/ A number of other cases have considered cession statutes which by their terms applied to lands acquired by the federal government subsequent to the passage of the statute. Although the constitutionality of this method of cession was not specifically challenged, in each of these cases the courts have routinely given them such effect without raising any constitutional objection. See, James v. Dravo Contracting Co., 302 U.S. 134 (1937); Silas Mason Co. v. Tax Comm. of Washington, supra; Collins v. Yosemite Park & Curry Co., supra; Bowen v. Johnston, 306 U.S. 19 (1938); DeKalb County, Ga. v. Henry C. Beck Co., 382 F.2d 992 (5th Cir. 1967).

action to the contrary by the federal government. Ft. Leavenworth R.R. Co. v. Lowe, supra. For acquisitions of such jurisdiction after 1940, however, formal acceptance by the federal government was thereafter required. Adams v. U.S., 319 U.S. 312 (1943); Paul v. U.S., 371 U.S. 245, 264 (1963); Markham v. U.S., 215 F.2d 56 (4th Cir. 1954), cert. den., 348 U.S. 939; DeKalb County, Ga. v. Henry C. Beck Co., 382 F.2d 992, 995 (5th Cir. 1967); U.S. v. Gliatta, 580 F.2d 156, 158 (5th Cir. 1978), cert. den. 439 U.S. 842. The form of acceptance must be as provided in the statute; that is, notice to the Governor of the State (wherein the lands are situated) expressing formal acceptance of the grant of legislative jurisdiction. Such notice must be given by the appropriate department or agency head. U.S. v. Lovely, supra at 678. The requirements of 40 U.S.C. § 255 are applicable regardless of the mode of acquisition (e.g., consent or cession). Paul v. U.S., supra at 305; U.S. v. Gliatta, supra at 158. The effect of a failure on the part of the federal government to formally accept a state grant of legislative jurisdiction is also clearly set out in the statute; there is a conclusive presumption against the existence of such jurisdiction. Adams v. U.S., supra; U.S. v. Gliatta, supra; DeKalb County, Ga. v. Henry C. Beck Co., supra.

Thus, even though the language of § 11(a) of the Statehood Act, supra, seems clearly applicable to the Denali National Park and Preserve, as enlarged and redesignated by § 202(3) of ANILCA, supra, until such time as the Secretary gives formal notice to the Governor of the State of Alaska of acceptance of the grant of partial legislative for these new areas, said grant remains without effect.

One last comment seems appropriate at this point. As the federal government is under no obligation to accept a grant of legislative jurisdiction offered by a state, the Secretary may, in his discretion, accept the grant in whole or in part, or may refuse to accept the grant entirely.

I hope this has adequately responded to your questions regarding this subject. If I can be of further assistance, please contact me.



Robert Charles Babson  
Attorney-Advisor

**Memorandum of March 18, 1982 from Wilson L. Condon,  
Attorney General, State of Alaska, to Colonel T. R.  
Anderson, Director, Division of State Troopers,  
Department of Public Safety.**

# MEMORANDUM

State of Alaska

TO Colonel T. R. Anderson  
Director  
Division of State Troopers  
Department of Public Safety

DATE: March 18, 1982

FILE NO J66-548-82

TELEPHONE NO. 465-3603

FROM WILSON L. CONDON  
ATTORNEY GENERAL

SUBJECT: Traffic Enforcement  
in McKinley Park

By: *W.F.C.*  
William F. Cummings  
Assistant Attorney General

I understand that recently officials of the National Park Service have raised questions regarding the authority of the state to police the roads within Mt. McKinley National Park. There seems to be little question that the state has the authority to exercise control over highways within the park. Below you will find my analysis which supports this conclusion.

Section 11 of the Alaska Statehood Act, P.L. 85-508, provides for the exclusive jurisdiction of the United States in all matters arising in Mt. McKinley National Park. The enforcement of traffic standards probably would fall within that jurisdiction in the absence of other statutory authority.

The Alaska Omnibus Act, P.L. 86-70, conferred significant rights upon the state and in many ways amended the Alaska Statehood Act. Section 21(a) of the Alaska Omnibus Act required the Secretary of Commerce to convey federal property within the state necessary for a functioning highway system. The statute required all roads were to be conveyed except ". . . such lands or interests in lands as he or the head of any other Federal agency may determine are needed for continued retention in federal ownership for purposes other than or in addition to road purposes."

Pursuant to the Omnibus Act, the Secretary of Commerce conveyed the highway system to the state by quit-claim deed. One of the highways conveyed was the Denali Highway. The deed described the Denali Highway in four segments which were: Paxson to the Susitna River, the Susitna River to the Nenana River at the eastern boundary, from the eastern boundary of Mt. McKinley National Park to the Toklat River, and from the Toklat River to the northern boundary of the park. Under the provisions of the Omnibus Act, the state was required to maintain the highways conveyed as long as they are needed for highway purposes.

March 18, 1982

Under the quitclaim deed, a total of 98.1 miles of highway within the park was conveyed to the state and the state has apparently continued to maintain the highway.

The fact that a state highway passes through a national park does not give the National Park Service the right to regulate the use of the highway. Where the state owns and maintains the highway, only the state may regulate the use of the highway, absent limitations imposed as a condition of the right-of-way grant. See State of Colorado v. Toll, 268 U.S. 228 (1925).

This analysis assumes that the National Park Service is questioning the state's ability to control highways conveyed pursuant to the Alaska Omnibus Act. If that is not the case, please inform me and I will do a further analysis of the facts and relevant law.

I understand that you are meeting with federal personnel regarding the state's traffic enforcement powers on March 23, 1982. It would be appreciated if you would inform me of the basis for the position taken by the federal government.

WFC/prm



United States Department of the Interior

OFFICE OF THE SOLICITOR  
ALASKA REGION

701 C Street, Box 34  
Anchorage, Alaska 99513

COPY  
IN REPLY REFER TO:

February 7, 1983

MEMORANDUM

To: Regional Director  
National Park Service  
Alaska Region

From: Attorney  
Office of the Regional Solicitor  
Alaska Region

Subject: Jurisdiction in Denali National Park

This responds to your opinion request, dated January 7, 1983, concerning jurisdiction over that portion of the Denali Highway which passes through Denali National Park. Your concerns were prompted by the issuance of an opinion by the State of Alaska Attorney General's Office (dated March 18, 1982) (attached) which concluded that the State acquired legislative jurisdiction over the highway pursuant to the provisions of § 21(a) of the Alaska Omnibus Act of June 25, 1959, 73 Stat. 141, 145, notwithstanding the reservation by the Federal Government of exclusive legislative jurisdiction in Mt. McKinley National Park in § 11(a) of the Alaska Statehood Act, July 7, 1958, 48 U.S.C. Prec. § 21.

I have reviewed the State AG opinion in question and find the reasoning contained therein singularly unpersuasive. However, I have also reviewed certain provisions of the Alaska National Interest Lands Conservation Act (ANILCA), December 2, 1980, 94 Stat. 2371 et seq., on which a better but still unpersuasive argument could be made that the State did acquire concurrent legislative jurisdiction over the highway upon passage of that Act.



### Introduction

Before proceeding further, some discussion of the nature of legislative jurisdiction seems in order. The term "legislative jurisdiction," as it will be used in this memorandum, is derived from art. I, sec. 8, cl. 17 of the U.S. Constitution. The "legislative jurisdiction" acquired by the Federal Government under clause 17, supra, refers to that type of jurisdiction which is normally exercised by state governments; i.e., the state police power. Silas Mason Co. v. Tax Comm. of Washington, 302 U.S. 186, 197 (1937). The prerequisite to acquisition of such jurisdiction involves the consent of the State affected and acceptance by Congress. After acquisition of legislative jurisdiction by the Federal Government, such jurisdiction cannot be affected by subsequent unilateral action of the State. Yellowstone Park Transportation Co. v. Gallatin County, 31 F.2d 644, 646 (9th Cir. 1929).

There are three types of legislative jurisdiction that can be acquired under clause 17: (1) exclusive, (2) concurrent,

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1/ The Congress shall have Power \* \* \* To exercise exclusive Legislation in all Cases whatsoever, over such District (not exceeding ten Miles square) as may, by Cession of particular States, and the Acceptance of Congress, become the Seat of the Government of the United States, and to exercise like Authority over all Places purchased by the Consent of the Legislature of the State in which the Same shall be, for the Erection of Forts, Magazines, Arsenals, dock-Yards, and other needful Buildings. . . . (Emphasis added.)

and (3) partial.<sup>2/</sup> Over the years, three methods for the acquisition of legislative jurisdiction by the Federal Government have evolved: (1) by consent (wherein the state legislature formally consents by statute to the acquisition by the Federal Government of land within its boundaries);

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2/ The three types of legislative jurisdiction are defined as:

Exclusive legislative jurisdiction

. . . the term . . . is applied to situations wherein the Federal Government has received, by whatever method, all the authority of the State, with no reservation made to the State except of the right to serve process resulting from activities which occurred off the land involved.

\* \* \* \*

Concurrent legislative jurisdiction

. . . the term . . . is applied in those instances wherein in granting to the United States authority which would otherwise amount to exclusive legislative jurisdiction over an area the State concerned has reserved to itself the right to exercise, concurrently with the United States, all of the same authority.

Partial legislative jurisdiction

. . . the term . . . is applied in those instances wherein the Federal Government has been granted for exercise by it over an area in a State certain of the State's authority, but where the State concerned has reserved to itself the right to exercise, by itself or concurrently with the United States, other authority constituting more than the right to serve civil or criminal process in the area (e.g., the right to tax private property).

Jurisdiction Over Federal Areas Within the States, Report of the Interdepartmental Committee for the Study of Jurisdiction Over Federal Areas Within the States, Part II: A Text of the Law of Legislative Jurisdiction, GPO June 1957, at 10-11.

(2) by cession (wherein the state legislature cedes by statute jurisdiction over lands within its boundaries to the Federal Government); and (3) by reservation (wherein jurisdiction over certain lands are reserved to the Federal Government in a Statehood Act). Jurisdiction Over Federal Areas Within the States, Report of the Interdepartmental Committee for the Study of Jurisdiction Over Federal Areas Within the States, Part II: A Text of the Law of Legislative Jurisdiction, GPO June 1957, at 3.

Section 11(a) of the Alaska Statehood Act, supra, provides:

(a) Nothing in this Act shall affect the establishment, or the right, ownership, and authority of the United States in Mount McKinley National Park as now or hereafter constituted; but exclusive jurisdiction, in all cases, shall be exercised by the United States for the national park, as now or hereafter constituted; saving, however, to the State of Alaska the right to serve civil or criminal process within the limits of the aforesaid park in suits or prosecutions for or on account of rights acquired, obligations incurred, or crimes committed in said State, but outside of said park; and saving further to the said State the right to tax persons and corporations their franchises and property on the lands included in said park; and saving also to the persons residing now or hereafter in such area the right to vote at all elections held within the respective political subdivisions of their residence in which the park is situated. (Emphasis added.)

As § 11(a) is contained in the Statehood Act, it constitutes a reservation of legislative jurisdiction, as discussed above. Although the language contained in the subsection refers to "exclusive jurisdiction," the type of legislative jurisdiction exercised by the Federal Government within the Park is more appropriately characterized as "partial," given the savings clause extending State taxation authority to persons and corporations within the Park and extending the State voting franchise to persons residing within the Park.

The State Attorney General's Opinion

The State AG's opinion begins by admitting that § 11 of the Statehood Act, supra, provided for exclusive Federal legislative jurisdiction in the Park. The opinion then goes on to cite the highway maintenance requirements of § 21(a) of the Omnibus Act, supra, as somehow amending § 11(a) of the Statehood Act. The opinion cites only Colorado v. Toll, 268 U.S. 228 (1925), in support of this proposition, a case which, by its very terms, is inapplicable to the present situation. The Supreme Court made it very clear that its decision was predicated upon the absence of a cession [or reservation] of legislative jurisdiction pursuant to art. 1, sec. 8, clause 17 of the U.S. Constitution, and that the outcome would have been quite different if such legislative jurisdiction had existed. In construing the legislation creating the park in question, the Court states:

There is no attempt to give exclusive jurisdiction to the United States, but, on the contrary, the rights of the state over the roads are left unaffected in terms. Apart from those terms the state denies the power of Congress to curtail its jurisdiction or rights without an act of cession from it and an acceptance by the national government. Ft. Leavenworth R. Co. v. Lowe, 114 U.S. 525, 29 L. ed. 264, 5 Sup. Ct. Rep. 995. The statute establishing the park would not be construed to attempt such a result. Leavenworth, L. & G. R. Co. v. United States, 92 U.S. 733, 23 L. ed. 634.

\* \* \* \*

It is said, although it does not appear in the record, that the decision below was based upon Robbins v. United States, 284 Fed. 39, in which these regulations were held to be justified by a cession from the state. But the alleged cession is not in this record, and the state denies it in the bill.  
(Emphasis added.)

Colorado v. Toll, supra at 231.

The answer to your question concerning the State AG opinion is, therefore, quite simple. The opinion is wrong. The complete inapplicability of State jurisdiction in areas wherein the Federal Government has acquired either exclusive or partial legislative jurisdiction is a well settled principle of constitutional law. Collins v. Yosemite Park and Curry Co., 304 U.S. 518 (1938). See also, Fort Leavenworth R.R. Co. v. Lowe, 114 U.S. 525 (1885); Benson v. U.S., 146 U.S. 325 (1892); Bowen v. Johnston, 306 U.S. 19 (1938); Paul v. U.S., 317 U.S. 245 (1963). As one federal court has succinctly stated:

. . . after the date of cession, the ceded territory was as much without the jurisdiction of the state making the cession as was any other foreign territory, except in so far as jurisdiction was expressly reserved.

Yellowstone Park Trans. Co. v. Gallatin County, supra at 645.

However, although not discussed in the State's opinion, you should be advised that certain provisions of ANILCA may have some bearing upon the continued existence of partial legislative jurisdiction over the highway.

#### Potential Effect of ANILCA

By Quit Claim Deed (dated June 30, 1959), the State acquired a right-of-way easement to the Denali Highway,<sup>3/</sup> including that portion of the highway which passes through the Park to Wonder Lake. The deed was issued by the Secretary of Commerce pursuant to the provisions of § 21(a) of the Alaska Omnibus Act, supra.

Normally, actual federal ownership of land over which a State cedes legislative jurisdiction is not required. Thus,

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<sup>3/</sup> In 1959 the Denali Highway went from Paxson Lake west to Cantwell, thence generally north to Riley Creek, thence west to Wonder Lake. In 1970 the Parks Highway was built between Anchorage and Fairbanks. It used the north-south stretch of the Denali Highway between Cantwell and Riley Creek.

the fact that there may be non-federal inholdings within the boundaries of an area over which the State has ceded its legislative jurisdiction does not change the fact that the Federal Government has jurisdiction thereafter over such inholdings. However, the reservation of legislative jurisdiction contained in § 11(a) of the Statehood Act applies to Mt. McKinley National Park "as now or hereafter constituted." This becomes significant when the language of § 103(c) of ANILCA is examined, which provides in pertinent part:

Only those lands within <sup>4/</sup>the boundaries of any conservation system unit<sup>4/</sup> which are public lands (as such term is defined in this Act) shall be deemed to be included as a portion of such unit.... (Emphasis added.)

94 Stat. 2377.

In order to understand the potential effect of § 103(c) on the Federal Government's legislative jurisdiction over the highway in Denali, one must first look at several of the definitions contained in § 102 of the Act. First, section 102(1) provides that:

[t]he term "land" means lands, waters, and interests therein.

Section 102(2) defines "Federal land" as

. . . lands [as defined above] the title to which is in the United States after the date of enactment of this Act. (Emphasis added).

Finally, "public lands," as used in § 103(c), above, is defined in § 102(3) of the Act as including all "Federal lands" (as defined above), with several listed exceptions, one of which is relevant to this discussion. Subsection (A) excludes from the definition of "public lands"

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<sup>4/</sup> "Conservation system unit" is a defined term in the Act and includes "any unit in Alaska of the National Park System . . . including existing units." § 102(4) of ANILCA.

land selections of the State of Alaska which have been tentatively approved or validly selected under the Alaska Statehood Act and lands which have been confirmed to, validly selected by, or granted to the Territory of Alaska or the State under any other provision of Federal law (Emphasis added.)

§ 103(3)(A). The net effect of these three definitions, as they relate to § 103(c) of the Act, is that: 1) all non-Federally owned fee interests are excluded from the boundaries of the Park by operation of the definition of "Federal lands" in § 102(2); and 2) less-than-fee interests granted to the State of Alaska are excluded by operation of the definition of "lands" contained in § 102(1), as that term is used in the exclusion to the definition of "public lands" contained in § 102(3)(A) of the Act.

The issue which these definitions raise is "does the exclusion of less-than-fee State interests affect legislative jurisdiction over the land?" I conclude that they do not.

Since under the Secretary of Commerce's deed, legal "title" remains in the Federal Government, the highway would remain "Federal lands" after passage of ANILCA under § 102(2) of the Act. The Federal interest in the highway would not be excluded from the boundaries of the Park by operation of § 103(c) and the Federal Government would retain legislative jurisdiction over the road pursuant to § 11(a) of the Statehood Act.

It seems clear, however, that the State's "interest" in the highway is excluded from the boundaries of the Park by operation of §§ 103(c) and 102(3)(A) of ANILCA, but this does not mean that the State would regain its police power over that "interest." Although that "interest" is no longer within Mt. McKinley National Park, the land it attaches to still is and therefore the State right of way is still subject to Federal legislative jurisdiction under § 11(a) of the Statehood Act, supra. To conclude otherwise would require the splitting of legislative jurisdiction between the various legal estates in the same tract of land. We view this concept as antithetical to the concept of exclusive or partial legislative jurisdiction. It is similar to what would have occurred had § 11(a) of the Statehood Act, supra, created concurrent legislative jurisdiction in the Park

instead of partial jurisdiction, at least insofar as the highway is concerned. But if that had been the intent of Congress, it should have done so directly, not through a convoluted maze of definitions.

CONCLUSION

As the State received a less-than-fee easement interest to the Denali Highway under the 1959 Secretary of Commerce's Quit Claim Deed, only that "interest" would be excluded from the Park by operation of §§ 102(3)(A) and 103(c) of ANILCA. The State would not regain its police power and authority over the right-of-way, the Federal Government would retain the legislative jurisdiction over the right-of-way reserved to it by § 11(a) of the Statehood Act.



Robert Charles Babson

Enclosure

cc: Associate Solicitor, Division of Conservation & Wildlife,  
Department of the Interior, Attention: Don Bauer,  
18th and C Streets, N.W., Washington, D.C., 20240  
(w/enclosure)



**Memorandum of December 31, 1985 from Jules V. Tileston to Ric  
Davidge, Chairman of the RS 2477 Task Force**



United States Department of the Interior

2802 (932)

BUREAU OF LAND MANAGEMENT

Alaska State Office  
701 C Street, Box 13  
Anchorage, Alaska 99513

December 31, 1985

Memorandum

To: Ric Davidge, Chairman  
R.S. 2477 - Task Force

From: Deputy State Director, Division of Lands and Renewable Resources

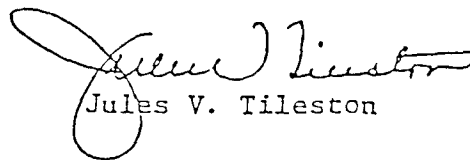
Subject: Your Memorandum of December 17, 1985 to R.S. 2477 - Task Force Members

I have reviewed the material which you sent to Sue Wolf as a member of the R.S. 2477 Task Force. As you are becoming aware, the whole issue of R.S. 2477's and other rights of access is a very complicated one.

While I agree that the R.S. 2477 assertions or claims must be reviewed in light of the Alaska Omnibus Bill quit claim deed, your memorandum contains a fundamental error. The quit claim deed conveys an easement interest for the listed roads not fee title. Public Land Orders No. 757 and 1613 revoked the prior withdrawals for the various roads and reserved only easements. That was the interest held by the Secretary of Commerce at the time the quit claim deed was issued. This has been the position of the Department of Interior for a number of years. See the enclosed Regional Solicitor's Opinion dated February 19, 1963 concerning "Leasing of oil and gas deposits under Glenn Highway right-of-way."

Applies  
to  
DEN  
rd.

Since your memorandum may have created some misconceptions, I am sending a copy of this memorandum to each member of the R.S. 2477 Task Force.

  
Jules V. Tileston

1 Enclosure

Encl. 1 - Regional Solicitor's Opinion (5 pages)

cc:

Each member of R.S. 2477 Task Force



# United States Department of the Interior

## NATIONAL PARK SERVICE

ALASKA REGIONAL OFFICE  
2525 Gambell Street, Room 107  
Anchorage, Alaska 99503 - 2892



IN REPLY REFER TO:

L3027 (ARO-OL)

29 AUG 1988

Honorable Frank H. Murkowski  
United States Senate  
Washington, DC 20510

Dear Senator Murkowski,

This letter responds to your request for information about the Denali Park Road. Your letter, dated July 22, 1988, was initially sent to the Department of Energy, and was not received in this office until August 17. Please reference File #28049.

### Denali Park Road Ownership

The Denali Park Road was constructed in the 1920s and 1930s by the Alaska Road Commission under the terms of a contractual agreement with the National Park Service. The road was subsequently maintained by the Alaska Road Commission, and later by the Bureau of Public Roads, for the National Park Service with National Park Service funding.

The Denali Park Road is exclusively owned by the United States, and is exclusively managed by the National Park Service. Although this road and many other roads were listed in a quit claim deed in 1959, signed by the Secretary of Commerce (grantee: State of Alaska), no conveyance of the Denali Park Road occurred because the Secretary of Commerce held no property interest in the subject road.

The State of Alaska has recently acknowledged it holds no interest in the Denali Park Road. Please see enclosed letter from the Alaska Department of Transportation and Public Facilities.

The Kantishna Road, a 4.5-mile-long road from the Wonder Lake area to the Kantishna Airstrip, and an associated right of way, is held by the State of Alaska. This road segment lies outside the old Mt. McKinley National Park boundary and was transferred to the State of Alaska via the 1959 quit claim deed from the Secretary of Commerce. This road was conveyed by the subject quit claim deed because in this case the Secretary of Commerce, through the Bureau of Public Roads, held a property interest in the road in 1959.

## Road Standards

The Denali Park Road is a restricted access road. All vehicle traffic on the road is strictly controlled. Private vehicle use of the road by the general public is prohibited beyond Savage River in most cases. An exception is made for visitors with campground reservations; they can drive their vehicles as far as the Teklanika Campground. The general public is not permitted to drive beyond Teklanika. Special use permits are issued to inholders, handicapped persons and limited numbers of other visitors to allow them to drive private vehicles on the park road. These restrictions on vehicles on the Denali Park Road have been shown to be necessary to prevent disruption of wildlife and to protect opportunities for visitors to view wildlife from the road corridor.

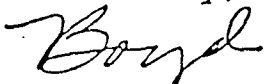
Buses constitute the primary traffic on the Denali Park Road. Drivers of the public transportation system buses and the concessionaire buses are trained to operate under the special circumstances that exist in the park.

The Denali Park Road conforms to park road standards. These road standards take into consideration a number of factors, including resource protection, and visitor enjoyment and safety. Given the restrictions on public use of the road and the requirements for resource protection, the road is considered adequate and appropriate for use and enjoyment of the park.

A reconstruction of the first segment of the road, to Savage River, is planned for next season. As indicated above, this segment of the road is open to the general public.

Thank you for your interest in the road at Denali National Park and Preserve. The road is used by most park visitors in viewing the mountain and seeing wildlife. Proper management of the road is crucial to continued visitor enjoyment of the park. If you require further information on this matter, please contact us.

Sincerely,



Boyd Evison  
Regional Director

Enclosure

**Letter of June 29, 1988 from Robert C. Cunningham to  
Fairbanks Daily News-Miner.**



# United States Department of the Interior

## NATIONAL PARK SERVICE

Denali National Park and Preserve

IN REPLY REFER TO:

Post Office Box 9

K34

Denali Park, Alaska 99755

June 29, 1988

Fairbanks Daily News-Miner  
Mr. Fred Pratt  
Fairbanks, Alaska 99707

Dear Mr. Pratt:

Having just returned to Denali National Park after a family trip outside, I have read your June 10th article on ownership of the park road. Very simply, the facts are these:

1. Mount McKinley National Park was established in 1917 with exclusive jurisdiction over the park lands. All subsequent boundary expansions (1922, 1932, and ANILCA in 1980) have retained exclusive jurisdiction within the original Mt. McKinley National Park.

2. The park road was built under the terms of a 1922 agreement between Director Stephen T. Mather of the National Park Service and President James G. Steese of the Alaska Road Commission, at that time an office of the U.S. War Department (and later an agency of the U.S. Department of the Interior). The agreement stated that the National Park Service (NPS) would provide appropriated funds and exercise control over road standards and general routing from McKinley Station on the Alaska Railroad to the park's north boundary near Wonder Lake; the Alaska Road Commission (ARC) would serve as engineering and road-building agent for the NPS. The agreement would further the missions of both agencies: NPS wanted visitor access into the park; ARC wanted to provide relief to Kantishna miners, and would fund the last few miles of road building beyond the north boundary (which was extended north of Wonder Lake in 1932).


Each year, the annual reports of the ARC cited the 1922 agreement as authority for the park road project. In the final years before Statehood, the Bureau of Public Roads (BPR) an agency of the U.S. Department of Commerce, took over the role of the ARC, which had been disbanded. BPR's relationship to the park road was precisely the same as that of the ARC: It served as road building and maintenance agent for the NPS, which funded and controlled these activities.

3. The 1959 quitclaim deed of the U.S. Department of Commerce conveyed to the new State of Alaska only what the

Department of Commerce owned. The department did not own the Mount McKinley park road and, therefore, could not convey it. The generic term, Denali Highway, used to describe the road from Paxson to Kantishna in the quitclaim deed, has bred much confusion about this ownership issue. This confusion has, in the past, been compounded by letters and opinions generated by various individuals unaware of the facts. The facts remain: The park road was funded and built by the NPS on federal park land under the exclusive jurisdiction of the National Park Service, an agency of the U.S. Department of the Interior.

NPS Alaska Regional Director Boyd Evison has sponsored a thorough study of this issue, including the historical documents above cited, to obviate this recurring misconception over park road ownership. I urge that you request a copy of the study, which is now in preparation, so that your future writings on this matter are informed by the facts of public record.

Sincerely,

  
Robert C. Cunningham

**Memorandum of July 8, 1988 from Chief, Land Resources  
Division, National Park Service, to Regional Director,  
Alaska Region Office, National Park Service.**



DENALI NATIONAL  
PARK & PRESERVE

JUL 12 1988

RECEIVED

L3027(ARO-OL)

JUL 8 1988

Memorandum

To: Regional Director, Alaska Region

Through: Associate Regional Director, Operations

COPY FOR YOUR  
INFORMATION

From: Chief, Land Resources Division

Subject: Legal Status of the Denali Park Road

The issue of ownership and jurisdiction of the Denali Park Road has gained a significantly higher profile in 1988. In the past few months there have been letters from various State agencies<sup>1</sup> addressing aspects of this matter, and two Freedom of Information Act requests<sup>2</sup> and a newspaper article on this subject<sup>3</sup>. Although there has been some preliminary work done on this issue by Departmental solicitors, and by park and regional office staff, to date no formal Park Service determination and policy has been developed. It is the intent of this memorandum to provide information for such a determination and policy regarding the legal status of the Denali Park Road.

It is maintained in this memorandum that the road traversing Denali National Park and Preserve, from its intersection with the George Park Highway to its intersection with the 1932 park boundary (one-half mile north of Wonder Lake) is exclusively owned by the United States, and is directly controlled and administered by the National Park Service. This assertion is based on five independent, but interrelated, sets of facts, which are listed and explained below.

Involvement of the Secretary of Commerce in the Park Road. During the construction and subsequent maintenance of park road, from its beginnings in 1924 to 1960, the Alaska Road Commission and the Bureau of Public Roads exercised only specific, limited

<sup>1</sup> Citizens Advisory Commission on Federal Areas, Alaska Department of Natural Resources, and the Alaska Department of Transportation and Public Facilities.

<sup>2</sup> Requests from Mr. Leo Mark Anthony, dated April 9 & 28, 1988.

<sup>3</sup> Fairbanks Daily News Miner, June 10, 1988. "Surprise, state owns the Denali Park Road".

responsibilities for construction and maintenance of the park road. In 1959 the Bureau of Public Roads was a branch of the U.S. Department of Commerce.

In 1922, at the request of the Director of the National Park Service, the President of the Alaska Road Commission presented a proposal for construction of the park road\*. The proposal became the basis of the relationship between the National Park Service and the Alaska Road Commission (later the Bureau of Public Roads) that existed until 1960. The arrangement called for the National Park Service to fund road construction and maintenance, and for the Alaska Road Commission to perform the work. The Alaska Road Commission agreed with the National Park Service to perform the work "...in cooperation with your Superintendent," and to "...submit full reports and comply fully with any of your requirements."\*

The Alaska Road Commission, and subsequently the Bureau of Public Roads, performed specific services for the National Park Service, who funded the project and exercised control over the standards and performance of the road project and the use of the road. This relationship is illustrated in numerous historic letters and memoranda currently in the possession of the National Park Service.

At the direction of and for the benefit of the National Park Service, the Bureau of Public Roads performed labor associated with the construction and maintenance of the subject road. Performance of such labor under the prevailing circumstances established no legal interest in the road on the part of the Bureau of Public Roads.

Quit Claim Deed. A quit claim deed was issued on June 30, 1959 from the Secretary of Commerce (grantor) to the State of Alaska (grantee), which conveyed certain interests from the United States to the State of Alaska. This quit claim deed was issued under authority of Section 21 of the Alaska Omnibus Act of June 25, 1959 (P.L. 86-70). The quit claim deed and the Alaska Omnibus Act contain nearly identical wording regarding the transfer to the State of Alaska of real property "...owned, held, administered, or used by the Department of Commerce in connection with the activities of the Bureau of Public Roads in Alaska..." (emphasis added).

---

\* Letter from James G. Steese, President of the Alaska Road Commission, to Stephen P. Mather, Director of the National Park Service; April 20, 1922.

\* Ibid.

A central component of both the Alaska Omnibus Act and the implementing Quit Claim Deed is the restriction that the Secretary of Commerce would only transfer the rights, title and interest of the Department of Commerce in property that was owned, held, administered or used by the Department of Commerce. As explained above, the Secretary of Commerce held no interest in the road within Mount McKinley National Park in 1959, and therefore could not convey any interest in it to the State of Alaska. The listing of the park road in the Quit Claim Deed (as Federal Aid Primary 52-3 and 52-4) conveyed no interest in this road to the State, as the Secretary of Commerce held no interest in the park road.

Exclusive Jurisdiction. The establishing legislation (39 Stat. 938) for the park specified that "executive control" of the park would be under the Secretary of the Interior. Administration of the park has been delegated to the National Park Service. This control of the park is "exclusive jurisdiction," i.e., the Secretary of the Interior and the National Park Service maintain near total control over the lands and waters within the park boundary. Except for certain provisions in the Alaska Statehood Act (P.L. 85-508), no jurisdiction or control of the park has ever passed from the Secretary of the Interior or the National Park Service to any other entity, including the State of Alaska.

Right of Way. Unlike other roads listed in the Quit Claim Deed of June 30, 1959, no right of way existed for the Denali Park Road. From 1942 through 1956 the Secretary of the Interior reserved lands for highway purposes and established numerous rights of way across the State by the issuance of various executive orders (EO), secretarial orders (SO), and public land orders (PLO). Rights of way were established during this period for the road from Paxson to the McKinley Park Road (at the eastern edge of the park), and for the road from the park's north boundary (one-half mile north of Wonder Lake) to Kantishna. In 1949 PLO 601 withdrew lands for highway purposes for many existing roads in Alaska, including the McKinley Park Road. The McKinley Park Road was classified as a "feeder road" in PLO 601. However, the withdrawal for the McKinley Park Road and certain

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The Alaska Statehood Act provided that "...exclusive jurisdiction, in all cases, shall be exercised by the United States for the national park, as now or hereafter constituted; saving, however to the State of Alaska the right to serve..." certain civil and criminal process within the park, and the right to tax individuals and corporations within the park.

E 9145 (1942); PLO 12 (1942); PLO 84 (1943); PLO 270 (1945); PLO 386 (1947); PLO 601 (1949); PLO 757 (1951); SO 2665 (1951); Amendment No. 1 to SO 2665 (1952); and, Amendment No. 2 to SO 2665 (1956).

other roads was revoked in 1951 by PLO 757, and no subsequent PLO addressed the McKinley Park Road. In 1959 there were rights of way on either end of the park road, but there was no right of way for the park road. Consequently, there was no right of way interest for the park road that could be conveyed to the State of Alaska in 1959.

Road Maintenance Since 1960. From 1924, when the Denali Park Road was first constructed, to 1960, road construction and maintenance was performed by the Alaska Road Commission, and later by the Bureau of Public Roads. During this period, control of these activities, as well as the use of the road, was exercised by the National Park Service. From 1960 to the present the National Park Service has continued to exclusively control use of the road, and has also independently maintained and upgraded the road.

Conclusion. The National Park Service has exclusive control over the Denali Park Road and all uses of this road. No entity other than the National Park Service has ever held any legally defined interest in this road. The Quit Claim Deed of 1959 conveyed no legally defined interest to the State of Alaska, because the grantor of the Quit Claim Deed, the Secretary of Commerce, at no time held any interest in the road within the boundary of Mt. McKinley National Park, as constituted in 1959.

/s/ Gary Coatney

cc:  
Supt., DENA  
Chief, OPR-ARO

CGilbert:6/30/88  
Revised:GCoatney:7/8/88  
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DEPARTMENT OF THE INTERIOR

FRANKLIN K. LANE, Secretary

UNITED STATES GEOLOGICAL SURVEY

GEORGE OTIS SMITH, Director

Bulletin 687

THE KANTISHNA REGION  
ALASKA

BY

STEPHEN R. CAPPS



WASHINGTON  
GOVERNMENT PRINTING OFFICE

1919

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# THE KANTISHNA REGION, ALASKA.

By **STEPHEN R. CAPPS.**

## INTRODUCTION.

### LOCATION AND AREA.

The Kantishna region as here defined is bordered on the south by the crest of the Alaska Range, on the north by Tanana River, on the east by Nenana River, and on the west by lower Kantishna River

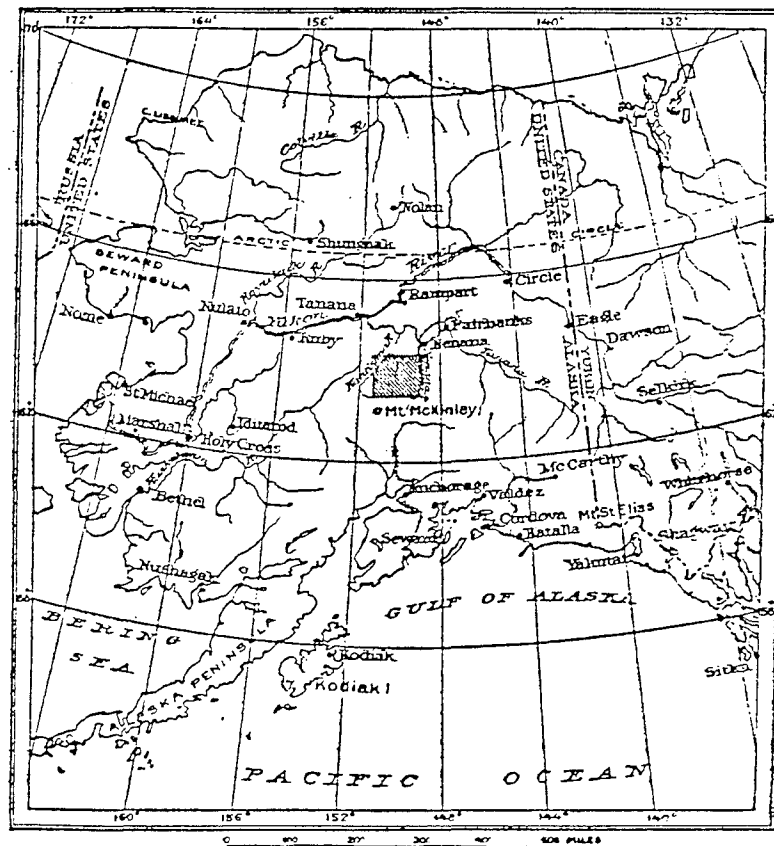


FIGURE 1.—Index map showing location of the Kantishna region.

and one of its main headward tributaries, McKinley Fork. (See fig. 1.) In a broader sense, the Kantishna region should include the



entire Tanana basin and part of the Yukon basin, but the present paper does not describe the part of the Nenana basin that lies east of the main range between Broad Pass and the Tanana, the part of the Alaska Range that lies south of a line drawn from the mouth of Hines Creek to the terminus of Muldrow Glacier, and the part of the Kantishna basin that lies west of McKinley Fork and west of the main river below the mouth of McKinley Fork. Furthermore, the lowland of Tanana River north of the outermost range of foothills was visited only along the courses of Kantishna and Nenana rivers. The area here considered lies between parallels 63° 25' and 65° north latitude and meridians 149° and 151° 10' west longitude. It includes about 4,500 square miles and comprises a part of the Alaska Range and its foothills and a part of the Tanana lowland.

#### PREVIOUS SURVEYS.

Historically this country is new. During the Russian occupation of Alaska the Russian traders established themselves on lower Yukon and Kuskokwim rivers and on Cook Inlet and made some journeys inland beyond their most advanced trading posts, but apparently they never penetrated as far as this region. In 1872, after the territory was ceded to the United States, several prospectors came into the Yukon basin from the east, and in 1878 two of them, Arthur Harper and A. Mayo, ascended the Tanana to about the present site of Fairbanks. In 1889 a number of prospectors crossed from the lower Tanana basin to the head of Kuskokwim River, thus skirting the northwest edge of this area.

In 1897 and 1898, after gold had been discovered in the Canadian Klondike and a horde of gold seekers had rushed to that region, a great demand arose for authentic and more detailed information about Alaska. In response to that demand a number of expeditions were sent out in 1898 by the United States Geological Survey and by the War Department. Among those that carried explorations toward this region were two United States Geological Survey parties, one conducted by G. H. Eldridge<sup>1</sup> and Robert Muldrow, who ascended Susitna River and crossed to the head of the Nenana, and another in charge of J. E. Spurr<sup>2</sup> and W. S. Post, who ascended to the head of Skwentna River, crossed the Alaska Range to the Kuskokwim, and descended that stream to its mouth. In 1898 also Sergt. William Yanert, a member of the War Department expedition in charge of Capt. E. F. Glenn, made a traverse up Susitna River to the

J. S. Herron<sup>3</sup> journeyed from Cook Inlet to the head of Skwentna River, a tributary of the Yentna, crossed the range through Simpson Pass, and proceeded northward through the lowlands of Kuskokwim and Kantishna rivers to the mouth of Tanana River. All these parties extended the geographic knowledge of surrounding areas, but none of them actually reached the region here described. The first accurate survey to be carried to the Kantishna region was made in 1902, when a Geological Survey party including A. H. Brooks,<sup>4</sup> D. L. Reaburn, and L. M. Prindle left Cook Inlet by pack train, ascended to the head of Skwentna River, and there crossed the Alaska Range into the Kuskokwim basin. Proceeding northeastward they traversed the northwest slope of the Alaska Range to Nenana River and followed that stream to its mouth. This expedition obtained the first authentic information concerning the geography and geology of the area here discussed. In 1906 Prindle made a hasty visit to the Kantishna placer district, then recently discovered, and published a brief account of its geology and gold placer deposits. Between 1903 and 1913 several mountaineering expeditions were organized to scale Mount McKinley from the north side, and a number of accounts of these expeditions<sup>5</sup> have been published. All these accounts contain valuable geographic material, although none of the mountaineering parties attempted to make accurate surveys. Charles Sheldon, a naturalist, spent some time in the headward basin of Toklat River but has not yet published the results of his studies.

In 1910 both topographic and geologic surveys were made in the region between Nenana and Delta rivers,<sup>6</sup> which borders the east side of the area here discussed. In 1915 construction work was begun on a Government railroad to extend from Seward, on the Pacific coast, to Fairbanks, in interior Alaska, by way of Susitna, Nenana, and Tanana valleys. The railroad surveys made before and since the choice of that route have given precise geographic information concerning a narrow strip along the line of the railroad but have added little to the knowledge of the country west of the line.

<sup>1</sup> Explorations in Alaska, 1899, for an all-American overland route from Cook Inlet, Pacific Ocean, to the Yukon: Adjutant General's Office, No. 31, pp. 1-77, 1901.

<sup>2</sup> Brooks, A. H., The Mount McKinley region, Alaska, with descriptions of the igneous rocks and of the Bonfield and Kantishna districts, by L. M. Prindle: U. S. Geol. Survey Prof. Paper 70, 1911.

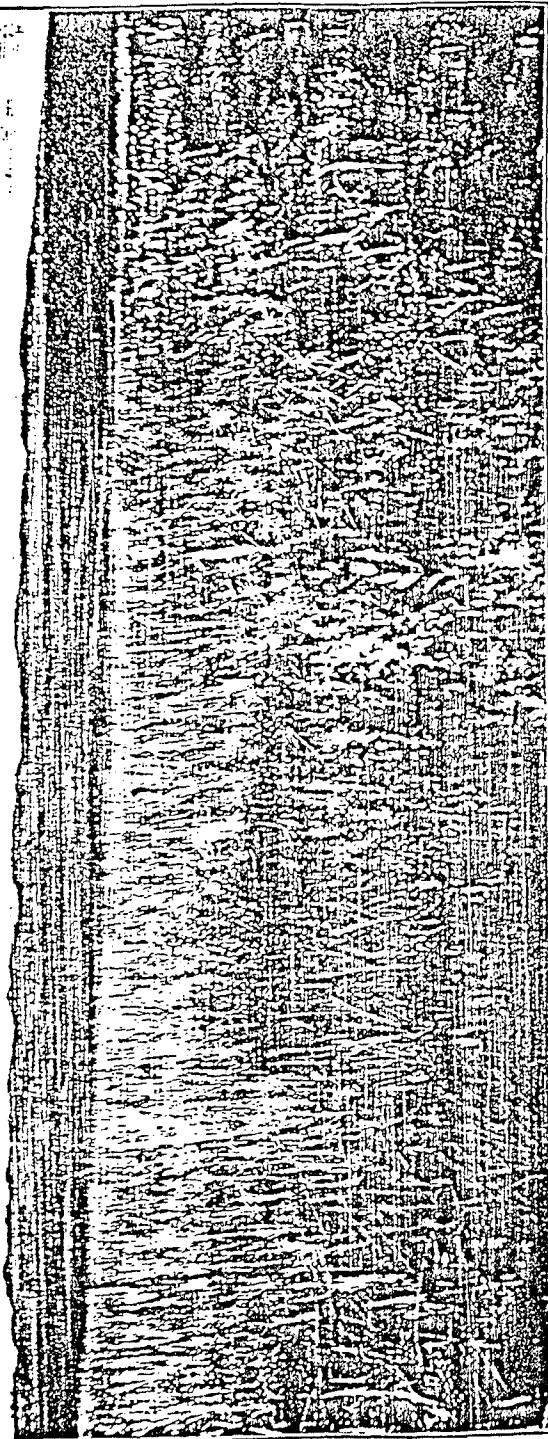
<sup>3</sup> Prindle, L. M., The Bonfield and Kantishna regions: U. S. Geol. Survey Bull. 314, pp. 205-226, 1907.

<sup>4</sup> Dunn, Robert, The shameless diary of an explorer, Outing Publishing Co., 1907; Cook, F. A., The top of the continent, Doubleday, Page & Co., 1908; Brown, Belmont, The conquest of Mount McKinley, G. P. Putnam's Sons, 1912; Struck, Hudson, The ascent of Denali, Charles Scribner's Sons, 1914.

<sup>5</sup> Capps, S. L., The Bonfield region, Alaska: U. S. Geol. Survey Bull. 501, 1912.

<sup>1</sup> A reconnaissance in the Susitna basin and adjacent territory, Alaska, in 1898: U. S. Geol. Survey Twentieth Ann. Rept., pt. 7, pp. 1-29, 1900.

<sup>2</sup> A reconnaissance in southwestern Alaska in 1898: *Idem*, pp. 31-264.



VIEW SOUTHWARD FROM VILLAGE OF GLACIER ACROSS THE KANTISHNA HILLS TO MOUNT MCKINLEY.

## RELIEF.

## TANANA LOWLAND.

In approaching this region from the north one must cross the broad Tanana lowland, which extends from Tanana River southward to the foothills. This lowland is of irregular width from north to south, for Tanana River flows in a winding course. Along Nenana River it is 25 miles wide, but from the mouth of the Kantishna southward to the foothills it is over 60 miles wide in a straight line. East of the Nenana it extends continuously along the north foot of the range, but west of the river it swings to the southwest, lying parallel to the range, and is continuous with the broad lowland at the head of the Kuskokwim. Within this great lowland, an area of many thousand square miles, the relief is very slight; the surface slopes gently northward from the base of the foothills to the Tanana, and is broken only by a few low hills. (See Pl. III.) The lowland is dotted with lakes and marshes and contains scattered groves of timber. In recent years beaver have so increased in number under protection of the game laws that they have further impounded the sluggish streams, making summer travel over much of the lowland impossible. The larger streams from the mountains maintain permanent and definite courses across the lowland, but many smaller streams sink out of sight in the gravels after they leave the hills. Even so large a stream as Toklat River is said to diminish noticeably in volume a short distance north of Chitsia Mountain, and Moose Creek is reported to disappear entirely for a stretch above Fish camp at times when the stream is flowing a large volume both above and below the dry area. The lowlands will probably be most useful for agriculture; no valuable mineral deposits have so far been found in them. They may contain coal, however, though none has yet been discovered.

## FOOTHILLS.

The Tanana lowland gives way, along its southern edge, to a range of foothills that runs westward from the Nenana to the Toklat, beyond which it increases in width toward the south to include the Kantishna Hills. A second foothill range lies south of this, and reaches from the vicinity of Nenana River to the East Fork of Toklat River, where it merges into the main Alaska Range. The foothills east of the Toklat have rounded and smooth slopes and summits that reach a maximum elevation of about 4,000 feet. The Kantishna Hills west of Toklat River and north of Bearpaw River and Crooked Creek are also rounded, but farther southwest they become more rugged and reach elevations of 4,000 to 5,000 feet. (See Pl. IV.) If this

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range were elsewhere, it would be called a mountain range, but lying as it does in sight of the loftiest peaks of the Alaska Range it appears less high than it actually is.

Lying between the foothill ranges and separating them from one another and from the higher mountains to the south are broad, eastward-trending structural basins of low relief. These basins have little relation to the present drainage, for they are crossed at right angles by many streams that enter and leave them through deep rock canyons, and they contain no large streams that flow through them longitudinally. The basins are floored by Tertiary unconsolidated deposits and by later gravels. (See Pl. XIII, p. 41.)

#### ALASKA RANGE.

The Alaska Range proper succeeds the foothills on the south. Between Nenana River and Muldrow Glacier the range is about 20 miles wide from its north front to its crest and consists of a number of rugged ridges, which extend from north to south and are separated by the valleys of closely spaced, northward-flowing streams. These ridges gradually become higher toward the crest of the range, and many peaks rise to elevations between 6,700 and 8,000 feet and are the gathering ground for glaciers. West of the big bend of Muldrow Glacier and south of the Kantishna mining district the range increases in height and scenic beauty and culminates in Mount McKinley and Mount Foraker at elevations of 20,300 and 17,000 feet, respectively. (See Pis. V, VI, and VII.) From this lofty part of the range glaciers push down the valleys to the mountain front and may be seen from the lowland, which there gives way abruptly to the snow-capped peaks of the mountains.

#### CLIMATE.

No accurate data concerning the precipitation and temperature of this region are available, but the climate here is much like that of the interior slope of the Alaska Range in general. In the interior of Alaska along Yukon and Tanana rivers, where records have been kept, the winters are cold and the summers are moderate. The annual precipitation is light, at Fairbanks ranging from 7.76 to 18.71 inches in the period from 1904 to 1910, but within the mountains and foothills of the Alaska Range it is probably higher. The winter snowfall is moderate, seldom sufficient to cover the surface irregularities and vegetation so as to afford good sledding until November. The mean annual temperature at Fairbanks for a seven-year period was 24.72° F., and during the same period the maximum recorded temperature was 86° and the minimum -65° F.

#### VEGETATION.

The Tanana lowland contains fair stands of spruce and cottonwood, especially along the courses of the larger streams and on the lower, well-drained slopes of the foothills, as well as some birch on the drier hillsides, and tamarack and scrubby spruce in the marshes. Spruce trees furnish the only logs from which merchantable lumber can be cut, and few of these exceed 24 inches in diameter at the base, so that the forests will probably never furnish lumber for other than local uses. (See Pl. VIII.) Tongues of timber extend from the lowland southward along the valleys of the main streams. (See

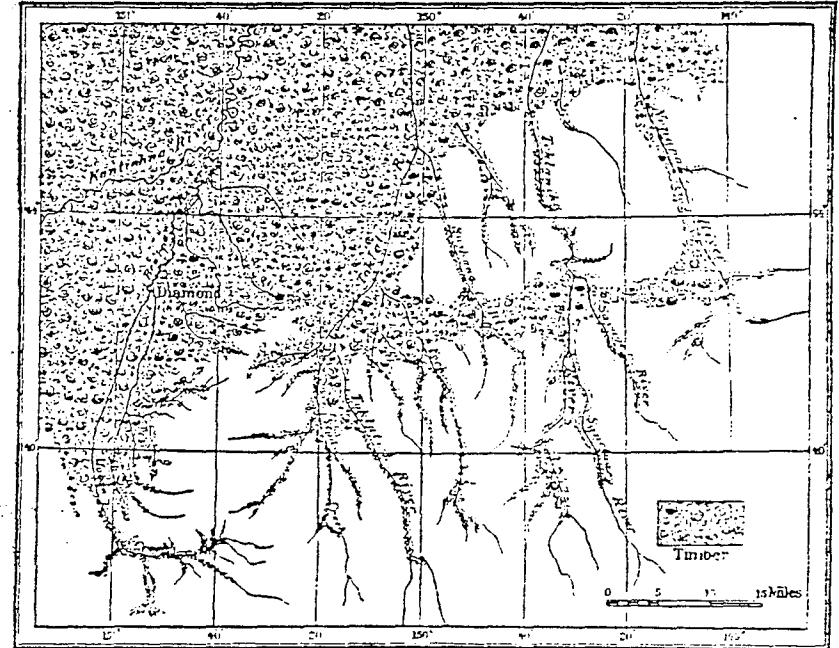


FIGURE 2.—Sketch map of the Kantishna region, showing areas in which timber occurs.

fig. 2.) Timber is limited to areas below 3,000 feet, though a few trees were seen as high as 3,700 feet, but not all the surface below 3,000 feet is forested. Even in the lowlands there are large swampy areas in which trees are sparse, or altogether lacking. In the Kantishna mining district there is little timber above 2,000 feet, and on Glacier and Caribou creeks it is not found above 1,400 feet. Lumber and fuel for firewood must be hauled to practically all the placer claims on which mining is in progress. In most valleys, however, willow bushes large enough to furnish tent poles and fuel for the camper may be found at elevations several hundred feet above timber line, and it is upon such brush that the prospector and explorer

must be in most of the valleys within the main Alaska Range. The upper 10 to 15 miles of each of the larger valleys is devoid even of brush.

Grass for horses may be found at almost any place where fuel can be had for the camp fire, and during the summer pack horses will do well if they have sufficient opportunity to graze. The principal herbage on which the horses feed are red-top grass, bunch grass, and a vetch locally called "pea vine." In autumn, however, heavy frosts cause most of the grasses to lose their nutritive value, and horses must be fed on hay and grain if they are expected to do heavy work.

Blueberries grow in exceptional profusion on the slopes above timber line, and furnish a welcome article of food during August and September. A small wild cranberry is also abundant locally and is most palatable. Raspberries and currants occur within timbered areas.

In the Kantishna mining district—the only locality where agriculture has been attempted—remarkable success has been attained in the cultivation of garden vegetables. Many of the miners plant garden patches at the town of Glacier, where an elevation of less than 1,000 feet gives a long frost-free growing season. The custom is to plant the gardens in spring, after which they are left unattended until early in July, when they are cultivated once and then left again until the mining season ends, early in September. A number of gardens were seen late in August that, in spite of scant attention, were fairly free of weeds and contained good crops of potatoes, turnips, cabbage, cauliflower, and peas. One exceptionally fine garden has been cultivated for several years on Glacier Creek, at an elevation of 1,900 feet, at least 600 feet above timber line in that valley. Cauliflower, cabbage, head lettuce, onions, potatoes, rutabagas, rhubarb, cucumbers, and many other early spring vegetables have been successfully grown there each season, a variety of berry tomato matures, and timothy and oats ripen. Garden flowers, including several varieties of poppies, pansies, and many native wild flowers bloom in profusion. The uniform success of vegetable and flower gardens through many successive seasons gives assurance for the future of agriculture in the favorably situated parts of this region.

#### GAME.

Probably no other part of North America is so well supplied with wild game, unprotected by game reserves, as the area on the north slope of the Alaska range west of Nenana River. This region has been so seldom visited by white men that the game herds have until recent years been little molested by hunters. White mountain

sheep are particularly abundant in the main Alaska range and in the more rugged foothills. Caribou are plentiful throughout the entire area and were seen in bands numbering hundreds. Moose are numerous in the lowlands and range over all the area in which timber occurs. Black bears may be seen in or near timbered lands, and grizzly bears range from the rugged mountains to the lowlands. Rabbits and ptarmigan are at times remarkably numerous, but they vary in abundance from year to year. In 1916 both rabbits and ptarmigan were scarce. Fur-bearing animals are taken each winter, notably fox, lynx, mink, and marten, and beaver are exceptionally abundant in the lowlands but are now protected by law.

During the last few years market hunters have visited the basins of Teklanika and Toklat rivers and have killed large numbers of mountain sheep for the Fairbanks market. With the establishment of a town at Nenana a market for wild meat is brought closer to the game ranges, and the completion of the railroad will make accessible to visitors a famous game country which has so far been preserved only by its inaccessible location. It was therefore imperative, if the great game herds were to be preserved, that some provision should be made by law to prohibit hunting in this region. With this end in view, a bill was passed by Congress in February, 1917, establishing a great reserve and game refuge—the Mount McKinley National Park. The enactment of this law insures the future safety of the game within the park boundaries.

#### POPULATION.

The natives have no permanent settlements in this area. As the Indians of interior Alaska depend principally on fish for their subsistence, their villages are all on fish streams, and they spend the summer season in catching and drying fish. The largest Indian villages in this general region are on Tanana and Yukon rivers, one just above the new railroad town of Nenana and the other at the junction of the Tanana with the Yukon. Smaller settlements are on Lake Minchumina and at Telida, in the upper Kuskokwim basin. From all of these settlements hunters and trappers sometimes make trips to the foothills and mountains of the area here considered, but moose, killed in the lowlands, furnish these men most of their fresh meat, as moose may be obtained nearer the settlements than either sheep or caribou. In the summer of 1916 the Geological Survey parties saw no Indians in the mountains and found evidence only of scattered temporary camping grounds.

The only permanent habitations in the region are those of the miners in the Kantishna district. The original discovery of gold placer deposits in 1905 brought about an influx of gold seekers and

Fully realizing that interest in the Kantishna area would increase greatly with the better transportation that the railroad is soon to afford, the United States Geological Survey considered it desirable to extend the geologic and topographic mapping westward from the line of the railroad into an area that would be directly benefited by it and to make a study of the mineral resources of the region. Two field parties were therefore organized, one in charge of C. E. Giffin, to extend the topographic mapping, and one in charge of the writer, to map the geology and to study the mineral deposits. The topographic party consisted of Mr. Giffin, his assistant, and three camp hands, with eight pack horses. The geologic party included the writer, two camp hands, and five horses. Both parties sailed from Seattle for Skagway on June 2, and, traveling down the Yukon and up the Tanana, arrived at Nenana on June 16. From Nenana a trail up Nenana River was followed to the foothills, where field work was begun on June 22 and was continued until August 29, on which date the parties reached the Tanana by small boat down Kantishna River. A topographic map of an area of about 4,500 square miles on a scale of 1:180,000 was completed (see Pl. I, in pocket), and the geologic mapping was carried over an area of about 3,200 square miles (see Pl. II, in pocket). In addition a special study of the geologic conditions in the vicinity of the placer mines was made and all the placer mines and most of the prospects, including placer gold deposits, and gold, silver, and antimony lodes, were examined.

At the same time that the work here described was in progress a geologic party in charge of G. C. Martin was engaged in a special study of the Nenana coal field, just east of Nenana River, a report on which is now in press as Bulletin 664.

## GEOGRAPHY.

### DRAINAGE.

#### GENERAL FEATURES.

The principal streams of the region here described are all tributaries of Tanana River and include Nenana River, on the eastern border of the area, and Kantishna River, with its tributaries Toklat and Bearpaw rivers and McKinley Fork. All these streams except Bearpaw River drain from the main Alaska Range and from the glaciers that lie in the valley heads and therefore are supplied in large part by waters that flow from melting ice fields. The glacial streams receive abundant rock detritus from the glaciers during the summer

silt. As the stream gradients are steepest toward the valley heads but diminish downstream the glacial streams display a marked tendency to build up extensive valley-floor deposits of gravel and sand and in general flow through many branching channels over deposits of their own making. (See Pl. II.) These characteristic valley-floor gravel deposits are coarsest upstream nearest the glaciers but become progressively finer downstream. Below the point at which most of the coarse material has been dropped each stream loses much of its tendency to split up and tends to flow in a single channel between banks of sand or silt. The glacial streams are subject to rapid changes of volume during the summer and are likely to become swollen after each day of warm sunshine and to diminish at night or on cold, cloudy days. The period of greatest run-off usually occurs early in summer, when the winter accumulation of snow is melting on the mountain slopes, but warm rains or a succession of bright, warm days quickly bring floods at any time during the summer. In winter, when melting ceases, the glaciers become inactive and the streams run clear or cease to flow. Within the higher mountains the northward-flowing streams occupy rather closely spaced, parallel valleys and, with the exception of Nenana River and McKinley Fork of Kantishna River, do not offer serious obstacles to the man on foot who wishes to cross them. At a greater distance from the crest of the range, where many smaller streams have united in a single valley, the rivers in summer become large enough to make fording difficult or impossible.

#### NENANA RIVER.

Nenana River receives most of its water from two large ice streams, Nenana and Yanert glaciers, that lie east of the area here described. These two glaciers are on the south flank of the Alaska Range, but their drainage, joining, flows northward directly across the range and borders this region on its eastern edge. In summer, when the ice is melting, Nenana River is a powerful stream. Its waters are turbid and swift, and in much of its course it flows between steep banks from which trees, undermined by the current, lean into the water and form "sweepers," which are so dangerous to boatmen. In even the ordinary stages of summer flow the river is too deep for horses to wade, and places at which they are able to swim the entire river in a single channel, with a shelving bank to land upon, are far apart. In its course through the mountains Nenana River receives no large tributaries from the west.

Teklanika River, the only large tributary of the Nenana from the west, joins that stream in the Tanana lowland at a point said to be

near the mouth of the Nenana. Within the mountains the Teklanika has three main branches, of which Savage River, the easternmost, is a clear stream, without large glaciers in its basin, which lies in the foothills. Sanctuary River, the central branch, and the main Teklanika both head among glaciers that lie along the crest of the range, and both carry muddy waters from the melting ice. The main Teklanika and its two principal branches are antecedent streams whose courses were established in earlier geologic time, before the present mountains were formed, for they leave the high mountains and flow northward across three distinct mountain ridges and the intervening basins, plunging into deep rock canyons cut through the ridges, although courses taken in an easterly direction would have avoided these ridges and given easier outlets to the Tanana basin.

#### KANTISHNA BASIN.

The streams within the region here discussed that lie west of Teklanika River are within the basin of Kantishna River, which includes all the northwest front of the Alaska Range to the basin of Kuskokwim River. Between the Teklanika and the crest of the Kantishna Hills several streams, among which are Sushana, East Fork of Toklat, and Toklat rivers, and Stony Creek, flow northward from the mountains and their waters, combined in the Toklat, reach the Kantishna 52 miles above its mouth. Sushana River heads in one of the outer ranges of mountains, has no glaciers within its basin, and carries clear water. East Fork of Toklat River and the main Toklat both drain from the summit of the Alaska Range and are fed by numerous glaciers. Their waters are therefore heavily charged with debris during the summer, and they are subject to the rapid fluctuations of volume that characterize glacial streams. Stony Creek receives only a small amount of glacial drainage and is only moderately turbid. Its tributaries from the west are all clear streams. Bearpaw River, which joins the Kantishna 103 miles above its mouth, is fed by the numerous creeks that drain the south and east slopes of the Kantishna Hills. Below the town of Diamond it is a sluggish, clear stream that follows a meandering course to its mouth. Kantishna River below the mouth of the Bearpaw is a large, muddy stream of moderate current. Its muddy waters come from McKinley Fork, which drains Muldrow and Peters glaciers, but it is fed also by the clear waters of Bearpaw River and Lake Minchumina. At high stages of water shallow-draft launches can ascend the Kantishna to Lake Minchumina and the Bearpaw to Diamond.



VIEW NORTHWARD FROM THE CREST OF THE KANTISHNA HILLS ACROSS THE LOWLANDS OF KANTISHNA RIVER.



in the fall of that year several thousand persons rushed in to share in the prosperity of the new camp. Many new log-cabin towns were built, among which the most important were Diamond, at the head of navigation on Bearpaw River; Glacier, on the same stream, at the mouth of Glacier Creek; and Roosevelt, on Kantishna River, 10 miles below the mouth of McKinley Fork. Each of these towns had at one time a population of several hundred, and from them the miners and prospectors traveled to the numerous creeks. During the winter of 1905 and the spring of 1906 it became apparent that the deposits of gold-bearing gravel were neither so widespread nor so rich as the prospectors had hoped, and most of them left the district. Some 40 or 50 men, however, including those who had obtained promising claims and those who believed that further prospecting was warranted, stayed in the district, and the population has remained rather constant ever since. Of the 36 people in the district during the summer of 1916 over half came to this camp during the first two years after its discovery.

The town of Roosevelt is now completely deserted and is seldom visited. Diamond is also deserted, though it is on the route of summer travel to the mines and is used as a storage place for such provisions as are brought in by boat and await freezing weather to be sledded to the mines. Glacier is also deserted in summer, though a number of cabins are kept in repair as winter quarters for miners who prefer to spend the cold months in the shelter of the timber, near their fuel supply.

#### ROUTES OF TRAVEL.

The Kantishna region lies well away from any commonly used route of travel in Alaska and is therefore visited only by persons whose business takes them to it. The headwater areas of Teklanika and Toklat rivers have no permanent habitations, and are seldom visited except by a few trappers and hunters. Travel in this region is confined almost entirely to routes leading to the mines in the Kantishna Hills. Until the summer of 1916 Fairbanks was the large settlement nearest the mines and was the point from which most of the provisions and equipment for the Kantishna region were obtained.

Two routes of travel from Fairbanks to the Kantishna basin are commonly followed. In summer, when the streams are open to navigation, Tanana River is followed to the mouth of the Kantishna, and small launches are taken up that stream to the mouth of Bearpaw River, and up the Bearpaw to the deserted village of Diamond, at the head of launch navigation, a total distance of 143 miles from Tanana River to Diamond. From Diamond an old trail led overland to the abandoned town of Glacier, but this trail has now become so much obstructed by beaver ponds that it is almost impassable even

to a man on foot, and is entirely impracticable for horses. The route follows Moose Creek up to Fish camp, a distance of 100 miles, and thence across dry gravel benches to Glacier. From Glacier indistinct trails lead up Glacier Creek and thence to the small mining communities.

For travel in winter, when much of the freighting to the placer camps is done, a different route is chosen. Tanana River is followed to Nenana, and Nenana River is ascended for 30 miles to the base of the foothills. From that point a trail leads westward along the south edge of the lowland to Knight's roadhouse on Toklat River, northwest of Mount Chitsia. Thence Toklat River and its tributary Clearwater Fork are followed to Myrtle Creek. The trail follows Myrtle Creek up to a point near its head, crosses a low pass into the head of Spruce Creek, and descends that stream and Moose Creek to the vicinity of the mines on Moose, Eldorado, and Friday creeks. The total distance along this route by sled from Fairbanks to Eureka Creek is about 165 miles.

No definite schedule of charges for winter freighting from Fairbanks to the mines has been established, for most of the supplies have been brought in by the miners themselves, and no large amount of contract freighting has been done. Small lots of freight have been carried for 15 cents a pound but by men who were making the journey for other purposes. Contracts for freighting larger amounts of supplies by dog sled from Fairbanks to the mouth of Eureka Creek could probably be let at 15 to 20 cents a pound. Perishable supplies that must not be frozen have been brought from Fairbanks to Diamond by way of Tanana, Kantishna, and Bearpaw rivers in small launches, at a charge of 4 to 6 cents a pound.

On the completion of the Government railway, which will traverse the valley of Nenana River, travel to the Kantishna region will be greatly facilitated. It will be possible to reach the eastern edge of the region in one day's journey from the coast at all seasons of the year. From Nenana River a splendid route, along which travel by pack train is now easy, extends from the mouth of Hines Creek, opposite the mouth of the Yanert Fork, westward across Teklanika and Toklat basins through a series of low divides that lead in a direct course to the head of McKinley River, at the base of Mount McKinley. In this region is the Mount McKinley National Park, which includes an area of about 2,200 square miles of the Alaska Range. To make this park accessible to visitors a road should be constructed from the railroad along the route just described, and such a road would be of great benefit to the miners of the Kantishna district.

In 1916 the town of Nenana was established at the mouth of Nenana River, and there construction work on the new Government

railroad from Seward to the interior was begun. It seems likely that in the future Nenana, which is 55 miles nearer than Fairbanks, will furnish much of the supplies used in the Kantishna region.

### MOUNT MCKINLEY NATIONAL PARK

The northeastern portion of the Mount McKinley National Park lies within the area here discussed. The act establishing this park is as follows:

[Public, No. 553, Sixty-fourth Congress.]

An act to establish the Mount McKinley National Park, in the Territory of Alaska.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,* That the tract of land in the Territory of Alaska particularly described by and included within the metes and bounds, to wit: Beginning at a point as shown on Plate III, reconnaissance map of the Mount McKinley region, Alaska, prepared in the Geological Survey, edition of nineteen hundred and eleven, said point being at the summit of a hill between two forks of the headwaters of the Toklat River, approximate latitude sixty-three degrees forty-seven minutes, longitude one hundred and fifty degrees twenty minutes; thence south six degrees twenty minutes west nineteen miles; thence south sixty-eight degrees west sixty miles; thence in a southeasterly direction approximately twenty-eight miles to the summit of Mount Russell; thence in a northeasterly direction approximately eighty-nine miles to a point twenty-five miles due south of a point due east of the point of beginning; thence due north twenty-five miles to said point; thence due west twenty-eight and one-half miles to the point of beginning, is hereby reserved and withdrawn from settlement, occupancy, or disposal under the laws of the United States, and said tract is dedicated and set apart as a public park for the benefit and enjoyment of the people, under the name of the Mount McKinley National Park.

SEC. 2. That nothing herein contained shall affect any valid existing claim, location, or entry under the land laws of the United States, whether for homestead, mineral, right of way, or any other purpose whatsoever, or shall affect the rights of any such claimant, locator, or entryman to the full use and enjoyment of his land.

SEC. 3. That whenever consistent with the primary purposes of the park, the act of February fifteenth, nineteen hundred and one, applicable to the location of rights of way in certain national parks and national forests for irrigation and other purposes, shall be and remain applicable to the lands included within the park.

SEC. 4. Nothing in this act shall in any way modify or effect the mineral land laws now applicable to the lands in the said park.

SEC. 5. That the said park shall be under the executive control of the Secretary of the Interior, and it shall be the duty of the said executive authority, as soon as practicable, to make and publish such rules and regulations not inconsistent with the laws of the United States as the said authority may deem necessary or proper for the care, protection, management, and improvement of the same, the said regulations being primarily aimed at the freest use of the said park for recreation purposes by the public and for the preservation of animals, birds, and fish, and for the preservation of the natural curiosities and scenic beauties thereof.

refuge, and no person shall kill any game in said park except under order from the Secretary of the Interior for the protection of persons or to prevent the extermination of other animals or birds: *Provided*, That prospectors and miners engaged in prospecting or mining in said park may take and kill therein so much game or birds as may be needed for their actual necessities when short of food; but in no case shall animals or birds be killed in said park for sale or removal therefrom, or wantonly.

SEC. 7. That the said Secretary of the Interior may, in his discretion, execute leases to parcels of ground not exceeding twenty acres in extent for periods not to exceed twenty years whenever such ground is necessary for the erection of establishments for the accommodation of visitors; may grant such other necessary privileges and concessions as he deems wise for the accommodation of visitors; and may likewise arrange for the removal of such mature or dead or down timber as he may deem necessary and advisable for the protection and improvement of the park: *Provided*, That no appropriation for the maintenance of said park in excess of \$10,000 annually shall be made unless the same shall have first been expressly authorized by law.

SEC. 8. That any person found guilty of violating any of the provisions of this act shall be deemed guilty of a misdemeanor, and shall be subjected to a fine of not more than \$500 or imprisonment not exceeding six months, or both, and be adjudged to pay all costs of the proceedings.

Approved, February 26, 1917.

### GEOLOGY.

#### PRINCIPAL FEATURES.

The areas of outcrop of the rock formations that have been differentiated in this region are shown on the accompanying geologic map (Pl. I, in pocket). The distribution of the formations as shown on this map has been determined only by reconnaissance field work, in which a large area was visited in a short summer field season, so that it was possible to make only an approximate outline of the geologic units. There was not time to trace out all the formational boundaries, and when the geologic field work was done the only topographic map available was that prepared by Brooks and Reaburn in 1902, on which merely a narrow strip of country was shown, on a scale of 10 miles to the inch. The geologic notes made in the field were therefore adjusted to the finished topographic map given here (Pl. II, in pocket) several months after the field work had been completed. An additional difficulty in fixing the age and stratigraphic position of most of the formations arises from the fact that in this region fossils are scarce and unsatisfactory, so that the determination of the age of many of the geologic units depends upon their correlation with similar beds in other localities or upon their stratigraphic relations to other formations whose age has been established. The ages to which some of these formations are assigned may therefore be changed in the future when diagnostic fossils are discovered or when the strati-



gta succession is more fully worked out. Under these circumstances it is inevitable that the outlines of the formations as shown will be found to be somewhat in error in places when critical and detailed examination is made in the field. Nevertheless, the map is believed to represent with a fair degree of accuracy the general outlines of the formations shown and to furnish at least a guide for the future worker who has time and facilities for more refined mapping. The formational boundaries shown by Brooks and Prindle have been accepted for a few places within the region that the writer had no opportunity to revisit.

As will be seen from the geologic map (Pl. II, in pocket) the pre-Tertiary rocks have been divided into four units—the Birch Creek schist, the Tatina and Tonzona groups, and the Totatlanika schist. In none of these rocks have fossils been found in this area, and they have been differentiated largely on lithologic and stratigraphic grounds. Any one of these divisions may contain some rocks that should properly be placed in another division, for each division contains a variety of materials. Any of these divisions may also comprise several formational units, and if so they should be subdivided. This is particularly applicable to the Totatlanika schist, which includes schists and gneisses of sedimentary and igneous origin. Such a subdivision, however, must await the careful and painstaking work of the detail geologist, for it is not possible in reconnaissance mapping. The geologic formations of the Kantishna region range in age from the pre-Ordovician schists to the present stream gravels, and comprise a great variety of materials, including sediments of all the common types and both intrusive and extrusive igneous rocks of many kinds. They also vary in degree of metamorphism from highly altered mica schists to unconsolidated and flat-lying recent deposits. Although the outermost range of foothills is composed dominantly of altered igneous rocks, the other foothill ranges and the main Alaska Range south of this region may be said to be composed primarily of material of sedimentary origin, with which are associated minor amounts of igneous material. The range is therefore the result of the folding and uplift of old sediments rather than a mountain mass formed by the injection of large quantities of molten intrusive rocks or by the upbuilding of a great mass of volcanic flows. Farther southwest, especially beyond Muldrow Glacier, large areas of granitic rocks make up an important element of the Alaska Range, but east of that glacier deep-seated igneous rocks are of minor importance.

The axis of folding in the region has a pronounced east-northeast trend (see Pl. II) parallel to the axis of the Alaska Range, and is the result of crustal movements brought about by stresses applied in the same direction as those that caused the elevation of the range. The

uplift of the present mountain mass, however, did not produce all the metamorphism that some of the rocks have undergone, for that uplift took place in post-Mesozoic time, and before it began some of the rocks of the range, notably the Birch Creek schist and the Totatlanika schists and gneisses, had been greatly metamorphosed by crustal movements acting in the same direction as those that forced up the mountains. The present range, therefore, was formed along a zone of weakness that had previously yielded to stress. It is not yet possible to state whether or not the crest line of the present range coincides with the axis of an older range. The geology of the higher part of the mountains in this region and of the Susitna slope of the range to the south have not yet been studied, but it appears that the older rocks, including the schists and gneisses, do not outcrop there. It may be that the schists and gneisses of the north flank of the range represent the core of an older range, but if so that range was reduced by erosion to a series of hills of low relief before the deposition of the Tertiary beds that were involved in the last stage of mountain uplift.

The following table gives the stratigraphic sequence for this district as determined by the geologic studies that have so far been made:

#### Quaternary:

- Gravels, sands, and silts of the present streams; talus accumulations; peat and impure organic deposits, or muck; soils and rock disintegration products in place; deposits of existing glaciers.
- Terrace and bench gravels, some of glaciofluvial origin.
- Glacial deposits of at least two stages of Pleistocene glaciers.

#### Tertiary:

- Neuana gravel (loosely consolidated elevated gravels and sands, of yellow or buff color, locally tilted). Possibly in part Pleistocene.
- Coal-bearing formation (generally light-colored soft sandstones, clays, and gravels, little indurated, locally containing lignite). Probably Eocene. Associated with these sediments are lava flows and tuffs.
- Canwell formation (dark-colored indurated conglomerates, grits, sandstones, and shales, with some carbonaceous material). Of Eocene age. Associated with these sediments are dikes, lavas, and tuffs.

Mesozoic (?) limestones at head of Sushana River.

Pre-Tertiary amygdaloidal greenstones, locally ellipsoidal.

#### Devonian or Silurian:

- Totatlanika schist (quartz-feldspar schists and gneisses, with some metamorphosed black carbonaceous slates and limestone).
- Tonzona group (black slates, argillites, and phyllites, with some schists, graywacke, and chert).

#### Ordovician (?):

- Tatina group (black slates and argillites, with some graywacke, thin-bedded limestone, shale, sandstone, and chert).

#### Pre-Ordovician:

- Birch Creek schist (micaceous and quartzitic schists and phyllites, with some metamorphosed igneous material).

The geologic history of this part of Alaska can be only outlined. Fossils that would enable the geologist to determine the age of the formations are scarce, and in many important rock units no fossils have been found. The intense metamorphism of the older rocks and their complex structure also make difficult the determination of the stratigraphic relations of the units. Furthermore, there are many breaks in the stratigraphic record, representing long periods of time during which either this area was a land mass and no sediments were deposited, or such sediments as once existed were removed by erosion or covered from view by younger overlying materials.

Our present knowledge of the geologic history may be summarized briefly, as follows:

The oldest rocks recognized are the Birch Creek schist, which as originally deposited consisted of shales, sandstones, and a little limestone. Into these rocks were intruded various kinds of igneous materials, chief of which was a basic rock, perhaps a diabase. These materials were all still later buried to a considerable depth and subjected to intense crustal movements which deformed them, caused the formation of such secondary materials as mica and garnet, and gave the rocks a schistose cleavage. The deformation and metamorphism that the schists have undergone were not accomplished, however, during a single period of crustal movement but are the result of the successive periods of deformation that have affected the region at different times. The Birch Creek schist is believed to be of pre-Ordovician age.

Succeeding the Birch Creek schist is the Tatina group, which includes black slates and argillites, massive graywacke, and thin limestone and chert beds, all more or less intricately folded and metamorphosed. These rocks were included by Brooks in his Tatina group, because they resembled similar rocks found farther southwest, along Tatina River. As will be shown later, there is some reason to suspect that the rocks so classified in this area may be younger than those at the type locality on Tatina River. They are, however, here called the Tatina group. The Tatina is regarded as at least partly Ordovician but possibly in part Silurian.

On the south border of the Birch Creek schist, between Teklanika and Stony rivers, there is a narrow belt of rocks comprising black slates and argillites, with some phyllites and schists. In many ways these beds resemble some of the metamorphosed sediments included in the Totatlanika schist. They have been included by Brooks in his Tonzona group, of Devonian or Silurian age.

In the northern part of the Kantishna region there is a group of rocks composed predominantly of quartz-feldspar schists and gneisses that form the northernmost range of foothills from Nenana River

Mount Chitsia. These rocks, called the Totatlanika schist, consist primarily of metamorphosed intrusive rocks but include also some metamorphic sedimentary materials, chiefly black carbonaceous slates and minor amounts of sand and limestone. They are believed to be of Devonian or Silurian age, and the sediments to correspond to the Tonzona group of the southern part of the region.

All the rocks listed above are considerably metamorphosed, and have been affected by more than one period of deformation. A large part of their folding and metamorphism, including the development of schistose structure, was accomplished in pre-Tertiary time.

There is a long gap in the stratigraphic column, extending from mid-Paleozoic to the beginning of Tertiary time, during which no sediments, so far as known, were laid down in the Kantishna region, except some limestones in Sushana Valley that may be of Mesozoic age. The Cantwell formation, a thick series of sandstones, conglomerates, and shales, succeeds the Tonzona group and forms an important element on the north flank of the Alaska Range. These beds are generally dark and firmly indurated, and are tilted, folded, and faulted. Although the Cantwell beds have been subjected to considerable deformation, they are little metamorphosed as compared with the older formations already described, and their present attitude can be ascribed to the movements of the crust that brought the Alaska Range into existence. The Cantwell formation is cut by many dikes, and a large amount of lava and volcanic tuff is locally interbedded with the sediments. The Cantwell is of early Tertiary age and has been assigned to the Eocene.

In certain parts of this region there are shales, sands, and gravels with which lignitic coal is locally interbedded. The outcrops of the coal-bearing formation are small, for the deposits are generally concealed beneath a covering of later gravels. The sands, gravels, and shales associated with the coal are prevailingly of light colors and are little indurated. At some places they include fragmental volcanic material and lava flows. They are of early Tertiary (probably Eocene) age.

A heavy deposit of bedded, unconsolidated gravels succeeds the coal-bearing beds in the eastern half of this region. These gravels, called Nenana gravel, have been tilted and faulted and now form a prominent range of hills. They are younger than the coal-bearing formation but are believed to be of Tertiary age.

Quaternary deposits are represented in this region in great abundance and in considerable variety. They include the morainal materials laid down during an ancient glacial advance and certain elevated terrace and bench gravels that are in part formed of the outwash materials from the old glaciers and in part of the reworked

Materials derived from the same source...  
are also actively engaged in the transportation of detritus,  
each of them as head in glaciers have developed extensive flood-  
plain deposits of gravel, sand, and silt. Accumulations of muck,  
peat, soil, and talus represent the deposits now in process of  
formation in the interstream areas.

### STRATIGRAPHY.

#### BIRCH CREEK SCHIST.

##### CHARACTER AND DISTRIBUTION.

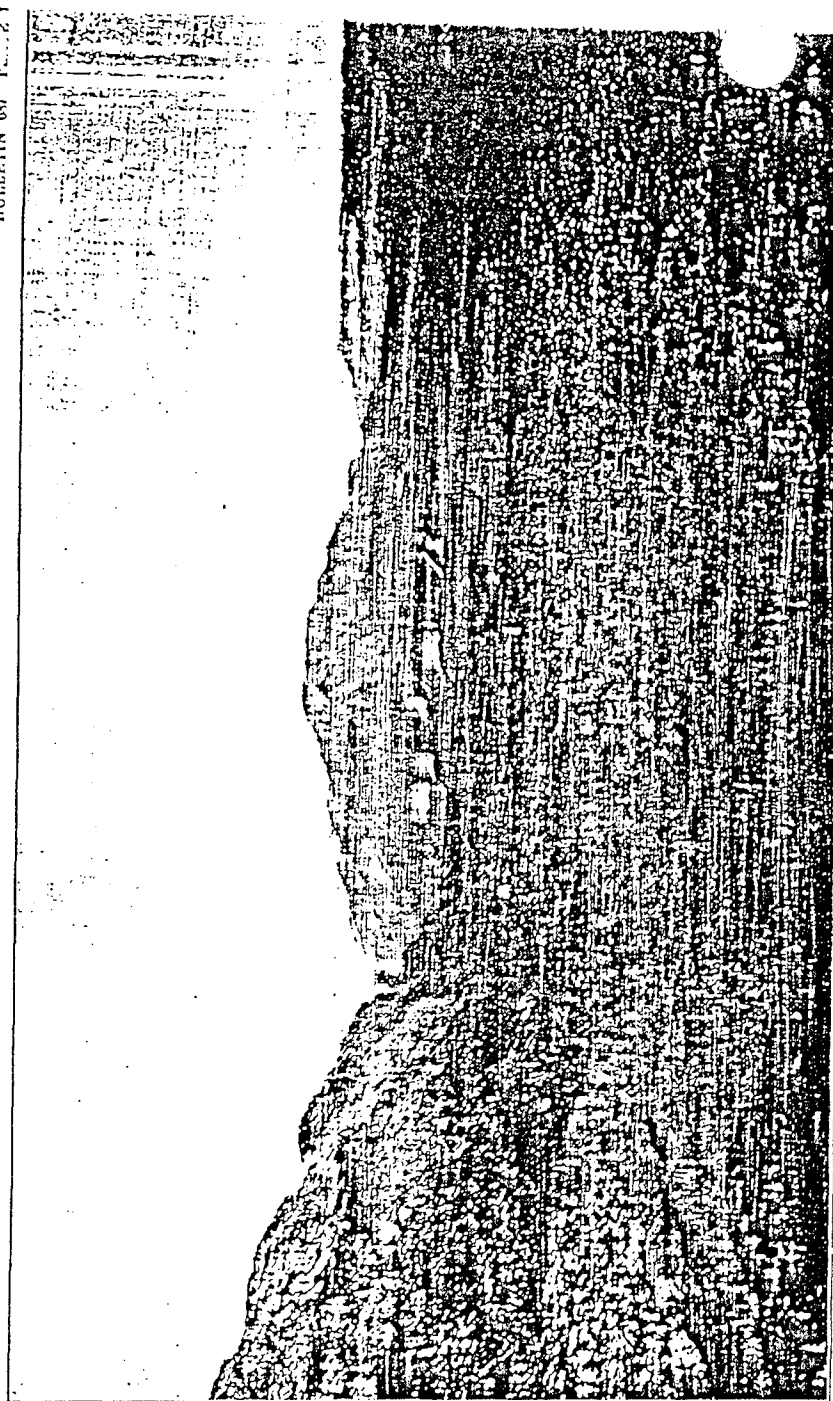
The Birch Creek schist occupies a narrow belt extending from Nenana River, south of Dry Creek, westward to Stony Creek, beyond which the schist area expands northward to include practically all of the Kantishna Hills southwest of Chitsia Mountain. (See Pl. II, in pocket.) Southwest of the area here discussed its limits are not known, but east of Nenana River the schist extends continuously to and beyond Delta River, and there forms a large part of the north slope of the Alaska Range. Within the Kantishna region, however, the schist occupies only the extreme northern front of the range westward to Stony Creek, and beyond that stream has not been observed in the main range.

The Birch Creek schist of this general region has been described by Brooks,<sup>1</sup> Prindle,<sup>2</sup> and Capps,<sup>3</sup> and it is apparent that the formation as a whole is of remarkably uniform composition and distinctive appearance throughout a wide area and can be readily identified in the field, though it includes a number of rock types. As the schists generally occur in mountains and hills of high relief, excellent exposures are numerous. The prevailing rocks include highly contorted fissile mica schists, quartzite schists, and phyllites in shades of green, red, brown, and gray. In exposures where the rocks are little weathered the beds appear rather massive, the rocks cleave into thick slabs, and the prevailing color is green. In weathered outcrops, on the other hand, the schists break down into thinly foliated sheets, the mica is conspicuous, and in places the material has oxidized to red and brown colors. (See Pl. IX.) A characteristic phase is a greenish rock in which the mica is so abundant that it gives the rock surface a glistening, silvery appearance. Locally garnets are scattered through the schist, and some stream gravels contain large quan-

<sup>1</sup> Brooks, A. H., The Mount McKinley region, Alaska, with descriptions of the igneous rocks and the Bonifield and Kantishna districts by L. M. Prindle: U. S. Geol. Survey Prof. Paper 70, pp. 56-69, 1911.

<sup>2</sup> Prindle L. M., The Bonifield and Kantishna regions: U. S. Geol. Survey Bull. 314, p. 206, 1907.

<sup>3</sup> Capps, S. R., The Bonifield region, Alaska: U. S. Geol. Survey Bull. 501, pp. 20-22, 1912.



VIEW EASTWARD ACROSS CANYON OF SAVAGE RIVER ALONG MOUNTAINS OF BIRCH CREEK SCHIST.

scales. The degree of schistosity varies from place to place; in some localities it is developed to an extreme degree, where the mica is most abundant, but in other places the rocks are rather massive and the cleavage is not well developed. Included quartzitic beds have in general been most resistant to the development of schistose structures, and some of them are quite massive. They grade from nearly pure mica-free quartzites to siliceous mica schists in which secondary mica has developed in sufficient abundance to give a marked schistose cleavage. As in all schists, the secondary mica scales are oriented in parallel planes, and the cleavage is in large measure due to the facility with which the mica crystals split.

Quartz veins are found abundantly throughout the schist and show a tendency to follow their foliation. Small gash veins and thin stringers of quartz are the common type, though lenses and bunches of quartz several feet thick were seen, many of which have been twisted and contorted during the metamorphism of the schist and thus bear witness to the fact that they were formed in the distant past before the folding of the schists was completed. The numerous quartz gash veins and lenses are commonly little mineralized and are prevailingly of milky white, massive quartz, entirely free from discoloration by the oxidation of metallic sulphides. At a few places some scattered pyrite was observed in them. In addition to the twisted gash veins that follow the lines of schistosity quartz veins of a different kind have been found in the Kantishna mining district, where such veins, some of them many feet thick, cut across the foliation of the schist, and show no evidence of having been folded with the inclosing country rock. Some of these veins have been traced along the surface for several hundred feet, and throughout their exposed length they maintain rather constant attitudes both of strike and dip. Furthermore, they are commonly mineralized and in places show abundant sulphides, including pyrite, arsenopyrite, sphalerite, galena, stibnite, and native gold. Without doubt veins of this group have supplied most of the gold to the stream placers of the Kantishna district. They may be termed fissure veins, to distinguish them from the gash veins, and were deposited much later than the gash veins, after the metamorphism of the inclosing schists was completed, and probably in connection with the intrusion of igneous rocks.

Some pyrite is scattered through the schist itself, and the red and brown colors of the weathered schists are probably due to the oxidation of finely disseminated pyrite.

The area of Birch Creek schist as shown on the geologic map (Pl. II, in pocket) includes also intrusive rocks of a wide range of

possibly also some lava flows that were interbedded with the sediments from which the schists were derived at the time they were originally deposited. The igneous rocks range in composition from basic greenstones and hornblende schists to acidic intrusives and in texture from fine-grained materials to coarse porphyries. The degree of metamorphism which the igneous rocks have undergone also shows a wide range. Some have been so thoroughly deformed and altered that it is difficult to determine their original character. They appear to be as thoroughly metamorphosed as the inclosing schist and to be of almost equal age. Other intrusive masses are fresh and unaltered, and certainly were intruded after the schists had reached almost their present state of alteration. The schists have evidently been cut by intrusions of different kinds and at many periods throughout their history, and igneous rocks are now so intimately intermingled with the materials of sedimentary origin that their complete separation on a geologic map is almost impossible. Only those igneous masses that have been little deformed and have considerable areal extent have been shown on the accompanying geologic map. (See Pl. II, in pocket.)

In the Cosna-Nowitna region, lying northwest of this area and separated from it by the broad lowland drained by Kantishna River, Eakin<sup>1</sup> found two groups of pre-Ordovician rocks, the lower group composed of limestone and altered greenstone, and the upper consisting of quartz-mica schists, quartzite, and black slates. On lithologic grounds there seems to be some justification for correlating the Birch Creek schist with Eakin's upper group of pre-Ordovician rocks.

#### STRUCTURE AND THICKNESS.

As a result of the very nature of the processes that have developed mica schists from previously unaltered sediments, the structure of the schist as a whole is extremely complex, and can be deciphered only by elaborate and detailed field studies. Metamorphism has destroyed in large measure the original character of the beds; bedding planes are generally difficult to distinguish, and the only obvious structure is that of the planes of schistosity, which may depart widely from the planes of bedding. Furthermore, extensive faulting has taken place, and intricate and close folding tends to reduplicate the same bed many times in a single exposure. Thus structural studies of a limited area may give a false idea of the structure of the schist series as a whole. In a general way, however, the prevailing strike of the schist lies east-northeast, parallel to the trend of the Alaska Range, and the average dips of the beds are steep.

<sup>1</sup> Eakin, H. M., The Cosna-Nowitna region, Alaska: U. S. Geol. Survey Bull. 667, pp. 20-22, 1918.

#### ORIGIN.

Most of the materials that now make up the Birch Creek schist were no doubt originally clastic sediments, including shales, sandstones, and a little limestone. The quartzite beds represent original sandstones, certain carbonaceous slates are the altered equivalent of shales, and the limestones are certainly water-laid. All these rocks contain secondary mica, and the highly micaceous schists probably represent only a more completely metamorphosed phase of the sediments. On the other hand, they contain certain constituents that without doubt are of igneous origin, such as greenstone schists and gneisses, which grade into little-altered igneous rocks. The schist, as a whole, therefore, consists mostly of altered sediments with which are associated igneous rocks in various stages of metamorphism.

#### AGE AND CORRELATION.

Although the Birch Creek schist has been studied over a wide area and by many observers positive evidence of its age is still lacking. No fossils have been found in it. Furthermore, these schists are the oldest rocks seen in the region, so that nothing is known of the materials upon which they lie. The next succeeding rocks, the Tatina group, lie unconformably upon the schists, and although they have been tentatively regarded as Ordovician and possibly in part Silurian, their age is still uncertain. If the age suggested is correct, however, the Birch Creek schist is much older, for it is much more completely metamorphosed than the rocks of the Tatina group. No definite evidence of the age of the schists has been obtained in the region here considered, but their general appearance suggested their correlation with the Birch Creek schist between Yukon and Tanana rivers, and there seems to be no sufficient reason for questioning that correlation. The rocks first described by Spurr<sup>1</sup> from the type locality have been correlated with a series of black slates and quartzites on Porcupine River, which, according to Kindle,<sup>2</sup> underlie beds that carry Ordovician fossils, and which he therefore considers pre-Ordovician. All that can now be said concerning the age of the Birch Creek schist is that it is probably pre-Ordovician.

#### TATINA GROUP.

#### CHARACTER AND DISTRIBUTION.

The Tatina group as originally described by Brooks<sup>3</sup> includes a series of sediments that are dominantly calcareous but that contain also

<sup>1</sup> Spurr, J. E., Geology of the Yukon gold district, Alaska; U. S. Geol. Survey Eighteenth Ann. Rept., pt. 3, p. 140, 1898.

<sup>2</sup> Kindle, E. M., Geologic reconnaissance of the Porcupine Valley, Alaska: Geol. Soc. America Bull., vol. 19, pp. 320-322, 1908.

<sup>3</sup> Brooks, A. H., op. cit., pp. 69-73.

in the valleys of Tatina and Jones rivers, where several thousand feet of beds are exposed. In the Kantishna region beds were classified by Brooks with his Tatina group occur in a narrow belt extending from Stony Creek eastward into Teklanika basin. (See Pl. II, in pocket.) As studied on Big Creek, a tributary of Teklanika River, this group includes black slates, argillites, cherts, and black limestone, cut by many quartz and calcite veins and much contorted and folded. These beds lie unconformably beneath the Cantwell beds on the south and are intruded by considerable masses of gabbro. On the north the only contact observed was with a similar intrusive mass. Similarly, on the East Fork of the Toklat, just above the canyon, contorted black slate, argillite, and limestone outcrop. Here again the beds are in unconformable contact on the south with Cantwell sediments, and on the north lie against a mass of igneous material. On Toklat River there are extensive exposures of highly contorted and folded carbonaceous slate schists and some interbedded coarser materials. The folding of the beds is locally so close that opposite limbs of the same fold lie parallel. The closely folded Tatina beds at this place are overlain both on the north and south by little metamorphosed Cantwell sediments. On Stony Creek black slates of this group are bordered both on north and south by Cantwell beds.

#### STRUCTURE AND THICKNESS.

At all localities where they were studied the sediments of the Tatina group are intensely deformed. This deformation is displayed by great structural folds and by intricate close folding and crumpling superposed on the larger structures and parallel to them. The development of slate schists and slates is the result of this deformation. Faults are common within these rocks, and some of them appear to be of great displacement. The areal distribution of the Tatina rocks in this region in a long, narrow band, bordered for the most part by Cantwell sediments, is explained by their anticlinal structure. Brooks<sup>1</sup> has mapped the west end of this anticline, and the same conditions exist farther east, the Cantwell beds flanking the anticline on both limbs but lying unconformably upon the Tatina. Subsidiary to this great anticlinal fold there has been intense crumpling and the development of multitudes of small, close folds parallel to the major structure. Farther southwest, beyond the borders of the region here described, Brooks noted another set of small folds superposed upon the major folds but at right angles to them.

It is impossible to make a reliable estimate of the thickness of the beds of this group as exposed in Toklat and Teklanika basins. The

<sup>1</sup> Brooks, A. H., op. cit., fig. 12.

in which they occur measures from half a mile to several miles in width at right angles to the strike, and in general the beds have steep dips. Faulting and close folding have so complicated the structure, however, that no reliable estimate can now be made. Moreover, only the crest of the anticline is exposed, and the base of the beds was nowhere seen. It seems safe only to say that the measure of their thickness must be expressed in thousands rather than in hundreds of feet.

#### AGE AND CORRELATION.

The beds here classified as the Tatina group have in this region failed to yield fossils. They have been identified by Brooks with the Tatina farther southwest by their structural and lithologic similarity, and, as shown on his map (Pl. IX), crop out almost continuously from the upper Kuskokwim basin to the basin of Teklanika River. This areal continuity and the similarity of the appearance of the rocks over a wide area give a strong support to the idea that they belong to a single group which extends throughout this region. From fossils collected near the type locality the age of at least the basal part of the Tatina was identified as Ordovician. In the absence of definite evidence from the rocks in this region, the age is therefore tentatively accepted as Ordovician. The structural relations alone, however, seem to give some evidence that these beds may be younger than Ordovician. In Toklat basin the oldest rocks, without much doubt, are those of the Birch Creek schist. These are immediately succeeded on the south by beds that have been assigned to the Tonzona group, of probable Silurian or Devonian age. The next younger formation is the Cantwell, of early Tertiary age. As already shown, the Tertiary Cantwell beds appear on both limbs of an anticline whose crest is composed of Tatina rocks, whereas the presumably younger Tonzona beds do not appear in that anticline although they outcrop near by upon the Birch Creek schist. If the rocks here grouped with the Tonzona are younger than the rocks classified as Tatina and occur beneath the Cantwell they should outcrop along the anticline. It would further be expected that if these Tatina rocks are older than the near-by Tonzona beds they should occur nearest the Birch Creek schist instead of the Tonzona, which forms a narrow border along the south flank of the schists. These anomalies are suggestive rather than conclusive, for faulting and folding have greatly complicated the stratigraphic relations. The more conclusive evidence of stratigraphic continuity and lithologic similarity is therefore accepted.

In the Cosna-Nowitna region, northwest of this area, Eakin<sup>2</sup> has found a series of massive limestones, several thousand feet in thick-

<sup>2</sup> Eakin, H. M., The Cosna-Nowitna region, Alaska: U. S. Geol. Survey Bull. 667, pp. 23-25, 1918.

ness and carrying Upper Ordovician fossils. No such massive limestones in the region here considered. The Tatina beds, described above, though calcareous, were nowhere observed to carry massive and prominent limestone beds, and a correlation with the Ordovician limestone of the Cosma-Nowitna region can have little value.

#### CHARACTER AND DISTRIBUTION.

The Tonzona group comprises a series of argillites, slates, and phyllites, with some graywacke and chert that outcrop almost continuously along the north flank of the Alaska Range from Kuskokwim River to the Nenana. The name was first used by Brooks<sup>1</sup> to designate a subdivision of Spurr's Terra Cotta series,<sup>2</sup> on Tonzona River west of Mount Dall. In the northern part of the Kantishna region the sediments of the Tonzona group are intimately associated with gneissic rocks of igneous origin, and no attempt has been made to separate them on the geologic map, the whole being there shown with a single pattern and called the Totatlanika schist. This name was proposed by the writer<sup>3</sup> for these rocks in the Bonfield region, where the same conditions prevail, the sediments and gneisses being completely intermingled. In the southern part of the Kantishna region, occupying a long, narrow belt between the Teklanika basin and the valley of Stony Creek, there is a group of rocks, largely of sedimentary origin, that were classed by Brooks with his Tonzona group, and that name is therefore applied to them in this report. It is to be understood that in this area the rocks designated the Tonzona group are represented by the sedimentary materials of the Totatlanika schist, to be described later, which includes both the Tonzona and a large quantity of metamorphosed intrusive rocks as well. Thus defined, the sediments of the Totatlanika schist should be classed as Tonzona as soon as their areas are outlined.

The Tonzona beds in this area are characteristically black slates and argillites, much metamorphosed and cut by multitudes of small quartz and calcite veinlets. In the mountain just north of the head of Sushana River the slates and argillites are associated with some altered intrusive rocks, and infolded with the slates and gneisses there is considerable black siliceous limestone, which becomes gray on weathering. As a fossil coral found in the limestone appears to be of Mesozoic age we must assume either that some Mesozoic limestone has been folded or faulted down into these Paleozoic rocks,

<sup>1</sup> Brooks, A. H., op. cit., p. 73.

<sup>2</sup> Spurr, J. L., A reconnaissance in southwestern Alaska in 1898: U. S. Geol. Survey Twentieth Ann. Rept., pt. 7, pp. 156-157, 1900.

<sup>3</sup> Capps, S. E., op. cit., pp. 22-26.

or that some of the supposedly mid-Paleozoic rocks are really Mesozoic. The best exposures of the Tonzona rocks are in or near the canyons cut through them by East Fork of Toklat and Toklat rivers, where the rocks are prevailing black slates, blocky argillites, and graywacke, much folded and contorted and dipping at high angles.

#### STRUCTURE AND THICKNESS.

The Tonzona rocks everywhere show the effects of strong regional metamorphism, and are folded, faulted, and in places closely crumpled. Nevertheless, compared with the Tatina sediments in near-by localities—for example, on the East Fork of Toklat River—the Tonzona rocks are less intricately crumpled than the Tatina. The major structure consists of great folds parallel with the axis of the Alaska Range, and the faults that cut the folds have the same general trend. Numerous minor faults and small overturned and closely compressed folds were observed. Faulting has taken place locally along the contacts of the Tonzona beds with both the Birch Creek schist and the Cantwell formation, and it is not known how far this faulting has affected the stratigraphic relations, although it seems certain that the Cantwell lies with unconformable overlap upon the Tonzona.

Obviously the complex structure of the beds has made any estimate of their thickness unreliable, but the high dips and areal extent of this group indicate a thickness of several thousand feet. Brooks<sup>1</sup> suggests that the group as a whole consists of two divisions, a lower division, made up largely of phyllites and black slates with some graywacke, to which the beds in this district probably belong, and an upper division, composed of black, red, and green slates, and locally of shales and cherts. He estimates that the lower division is 2,000 to 3,000 feet thick and that the thickness of the whole group is 4,000 to 5,000 feet.

#### AGE AND CORRELATION.

The age of the Tonzona group is uncertain, as no fossils have been obtained from characteristic Tonzona rocks. Fossils obtained from a limestone bed associated with Tonzona rocks in upper Sushana basin were reported upon by T. W. Stanton, as follows:

1003L No. 2. This lot contains a few imperfectly preserved corals which seem to be of Mesozoic types, though it has not been possible to identify them even generically. They are similar to corals obtained in Triassic limestones in other Alaskan areas and are probably of that age.

As these fossils came from a limestone bed, and as limestones are rare or lacking elsewhere in the Tonzona group, their stratigraphic

<sup>1</sup> Brooks, A. H., op. cit., p. 73.



value. All for the limestone bed in which they were found may have been merely infolded or faulted into the Tonzona at this place and may not be of the same age as the inclosing material. Brooks referred the Tonzona rocks provisionally to the lower Devonian or to the Silurian because they appear to be younger than the Tatina and are overlain, probably unconformably, by a Middle Devonian limestone. The validity of this determination therefore depends on the uncertain stratigraphic relation between the Tonzona and the Middle Devonian limestone. When Brooks made his correlation the Cantwell, which also overlies the Tonzona, was regarded as Carboniferous, but it is now known to be Tertiary. This fact must make us realize that late geologic formations may exhibit great deformation and metamorphism; for the Cantwell is in places highly metamorphosed and schistose. The degree of metamorphism of the Tonzona, as compared with that of the Tatina and the Cantwell, may justify its assignment to a position somewhere between the two, but this group can not be finally placed in the stratigraphic column until more definite evidence is obtained. Brooks's assignment of it to the Lower Devonian or to the Silurian must be accepted for the present.

Limestones and associated calcareous and slaty carbonaceous shales of Middle Devonian age have been recognized in the Cosna-Nowitna region.<sup>1</sup> These beds should probably be correlated with the Middle Devonian limestone, which according to Brooks<sup>2</sup> overlies the Tonzona beds unconformably, rather than with those of the Tonzona group.

#### TOTATLANIKA SCHIST.

##### CHARACTER AND DISTRIBUTION.

The name Totatlanika schist was first applied by Capps<sup>3</sup> to a series of quartz-feldspar schists and gneisses, with some metamorphosed sedimentary rocks, which occupy an extensive area in the foothills and higher mountains between Nenana and Delta rivers. These rocks have now been found to continue westward to the vicinity of Chitsia Mountain and form the outermost range of foothills in the area here discussed. Their northern extension, as shown on the geologic map (Pl. II, in pocket), is at the north base of a prominent eastward-trending range of foothills, but the rocks doubtless extend northward beneath a covering of later gravels and may crop out north of the area in which they have been mapped. The lowland area north of latitude 64° was not visited except along Nenana and Kantishna rivers, and the lowlands were seen only at a distance. On their south border the rocks of this series are also

covered by younger deposits except at the northern end of the Kantishna Hills. It should be noted that the rocks here classed as the Tonzona group, in the southern part of the Kantishna region, represent sediments which in the northern part of the region are associated and have been mapped with the Totatlanika schists and gneisses because sufficient work has not yet been done to differentiate them.

The rocks here called the Totatlanika schist have already been described, although not under that name, by Prindle<sup>4</sup> and by Brooks and Prindle.<sup>5</sup> They include materials of great variety and contain rocks of both igneous and sedimentary origin and of wide range in degree of metamorphism. One striking and characteristic phase is a porphyritic schist or augen gneiss, in which quartz and feldspar crystals, in a groundmass composed chiefly of fine-grained quartz and mica, form phenocrysts or augen that reach maximum diameters of half an inch to 2 inches. This phase of the rock is decidedly schistose, the phenocrysts are commonly oriented parallel to the schistosity, and the foliation of the matrix lies in curved lines around the augen. The gneiss or schist containing large feldspar phenocrysts reaches its most striking development in the Bonnifield region, in the basin of Totatlanika River, from which stream the rocks received their name. In the area west of Nenana River the characteristic augen gneisses are less abundant and the phenocrysts are less perfectly developed, yet there can be little doubt as to the identity of the rocks. Their best exposures are in the lower canyon of Teklanika River. Associated with the augen gneisses are various phases of material, grading into fine white to cream-colored sericitic schists and including finer-grained schists in which large phenocrysts are lacking.

Prindle's<sup>4</sup> studies have shown that the quartz-feldspar rocks are of igneous origin and were originally rhyolites or rhyolite porphyries and perhaps some tuffs. From these materials the present rocks have been produced by metamorphism. Prindle's description of them is quoted as follows:

The rock is composed essentially of angular quartz and perthitic orthoclase grains in a finely granular mass of quartz, feldspar, and sericite. It contains a few small grains of plagioclase (albite), apatite, zircon, magnetite, limonite, chloritic material, and some specimens show considerable carbonaceous matter.

There are in general three varieties—a coarse-grained variety with feldspars up to 4 centimeters in diameter, a medium-grained variety (the most common) with feldspars 2 to 5 millimeters or more in diameter, and a fine-grained variety, which is a glistening sericite schist containing only a few isolated grains of

<sup>1</sup> Prindle, L. M., The Bonnifield and Kantishna regions: U. S. Geol. Survey Bull. 314, pp. 206-207, 1907.

<sup>2</sup> The Mount McKinley region, Alaska: U. S. Geol. Survey Prof. Paper 70, pp. 149-150, 1911.

<sup>3</sup> U. S. Geol. Survey Prof. Paper 70, pp. 149-150, 1911.

<sup>1</sup> Eakin, H. M., The Cosna-Nowitna region, Alaska: U. S. Geol. Survey Bull. 667, pp. 24-27, 1918.

<sup>2</sup> Brooks, A. H., op. cit., p. 76.

<sup>3</sup> Capps, S. R., op. cit., pp. 22-26.



quartz and feldspar. At all localities the rock exhibits a greater or less degree of schistosity, but this is due rather to the arrangement of the fine material than to that of the quartz and feldspar phenocrysts, some of which are conspicuously oriented with their longer diameters nearly at right angles to the general structure. The sinuous lines of fine material wind irregularly among the grains in directions governed by their presence. At some localities the coarse feldspars have, through weathering, been released from the groundmass, and their crystal forms and edges are well preserved. Under the microscope the same is found to be true of much of the quartz, and both quartz and feldspar exhibit many cases of embayment. In the least altered rocks the phenocrysts are still in the original relation to the groundmass, and the structure of the groundmass is preserved; it is microgranitic, granophyric, or flow structure. In the rocks showing flow structure protoclasic phenomena are common.

In the process of metamorphism the quartz and orthoclase have been fractured, and in every specimen observed where this had happened with the two in contact the quartz had yielded to the feldspar. Both quartz and feldspar have in many places been converted into augen by the physical and chemical shifting and deposition of material about their margins.

A striking characteristic of these rocks is the universal presence of quartz-feldspar and feldspathic veins. Some of these are a foot or more thick, but most commonly they are but a few inches thick and of small extent. The minutest gash veins cutting the rock in various directions are of the same character. One such vein in thin section proved to be composed for the greater part of its length of feldspar alone. Toward the termination of the vein, however, the feldspar is limited to the margins of the vein, from which automorphic forms extend toward the middle of the vein, where they become embedded in granular quartz. The feldspar is perfectly fresh, has a lower index of refraction than balsam, and on sections cut at right angles to the positive bisectrix gave angles of 5 to 7 degrees to the basal cleavage. No evidence of twinning was observed, and in composition it is probably a nearly pure potash feldspar. So far as noted there is no indication that these feldspathic veins are connected with intrusions, and their material has apparently been derived from the rocks in which they occur. They are unmetamorphosed. In the lack of detailed observations and studies of these veins any explanation can have but a tentative value, but it would seem that the inciting cause is to be found in the process of metamorphism to which these rocks have been subjected.

So far as the evidence is available, this assemblage of gneisses and feldspathic schists comprises highly metamorphosed rhyolitic rocks, presumably flows, with possibly some associated tuffs and quartz-feldspar sediments.

Considerable material of sedimentary origin is associated with the altered igneous rocks throughout the Totatlanika schist, especially near the base of the series. (See p. 32.) This material consists principally of black slates, carbonaceous slate schists, limestone, and quartz conglomerate, so closely infolded and involved with the quartz-feldspar schists that they have not been differentiated and are included in the Totatlanika schist.

#### STRUCTURE AND THICKNESS.

The gneisses, schists, and associated sediments, as has already been stated, are complexly folded, faulted, and metamorphosed. In certain localities the crumpling seems to have no definite trend, but

throughout the region the principal thrusts that have produced the contortion seem to have been applied from the north and south, at right angles to the axis of the range, and the resulting folds and the strike of the schistosity trend east and west. Faulting is common, and faults parallel to the planes of schistosity as well as faults that cut the foliation were observed. During the summer of 1916 a geologic party in charge of G. C. Martin, while studying the Nenana coal fields, noted eastward-trending faults that cut both the Totatlanika schist and the Tertiary deposits.

#### AGE AND CORRELATION.

The discussion of the age of the Tonzona group (see pp. 33-34) serves equally well for the Totatlanika, which represents both the Tonzona beds and the associated metamorphosed igneous rocks in areas where the two classes of materials have not been differentiated. The Tonzona is dominantly sedimentary but contains some metamorphic rocks of igneous origin. The Totatlanika is dominantly igneous but includes some sediments. Though the age of this series, as well as that of the Tonzona, has been determined on somewhat uncertain evidence, both are here grouped as Lower Devonian or Silurian.

#### MESOZOIC (?) ROCKS.

The only rocks of probable Mesozoic age in this area are the limestone beds associated with Tonzona slates and gneisses near the head of Sushana River, already mentioned (p. —). The limestone appears on the surface as two parallel beds separated by several hundred feet of slate and gneiss. Along the outcrops the beds are interrupted, possibly by faults, and the two apparently distinct beds may be merely the outcrop of the same bed, repeated by folding or faulting. The limestone is highly siliceous and weathers gray, but on freshly fractured surfaces is black. Its surface distribution is so small and its stratigraphic relations are so obscure that it has not been shown on the accompanying geologic map (Pl. II, in pocket). All that is known of its age is stated in the discussion of the age of the Tonzona group. (See pp. 32-33.)

#### CANTWELL FORMATION.

##### DISTRIBUTION AND CHARACTER.

The Cantwell formation, which occupies an extensive area in the higher parts of the Alaska Range and which has been mapped from the vicinity of Muldrow Glacier on the west to Sanctuary River on the east, comprises the oldest Tertiary sediments that have been recognized in the Kantishna region. Along its northern border this formation gives place to metamorphosed Paleozoic sediments, but

on the south extends into the heart of the range beyond the area discussed in this report.

The Cantwell formation was named by Eldridge,<sup>1</sup> who applied that designation to a series of conglomerates and coarse sandstones that outcrop along Nenana River 10 or 15 miles above the mouth of Yanert Fork of Cantwell River. Eldridge made no suggestion as to the age of the formation. In 1902 Brooks traced these rocks to the north and west and expanded the definition of the formation to include not only the conglomerates and sandstones seen by Eldridge but also a thick series of associated sandstones and shales. As will be shown later, Brooks regarded the Cantwell as Carboniferous. In 1910 the writer<sup>2</sup> observed certain firmly cemented sandstones, shales, and conglomerates on upper Wood River, in the Bonnisfield region, east of the area here described. He recognized the probable Tertiary age of the materials but correlated them with the coal-bearing formation, for the Cantwell was then still considered Carboniferous. In 1913 Moffit<sup>3</sup> extended the known area of Cantwell rocks eastward into the upper Nenana basin, demonstrated their Tertiary age, and showed that the beds in upper Wood River basin, which the writer earlier thought were a part of the Tertiary coal-bearing formation, really belonged in the Cantwell formation. By the investigation on which this report is based the known area in which rocks of the Cantwell formation occur was extended still farther. The general northern boundary of the formation as already determined by Brooks<sup>4</sup> was confirmed, though some minor corrections were made possible by more detailed work and by a larger-scale topographic map. The southern boundary was not everywhere determined, but the formation is now known to extend southward to include the area shown on the accompanying geologic map (Pl. II, in pocket), and on a number of trips made southward into unmapped areas the Cantwell sediments were seen to continue far into the Alaska Range, almost to its summit.

The Cantwell formation consists predominantly of coarse elastic sediments. These grade from beds of coarse, massive conglomerate containing pebbles as large as 6 inches in diameter through finer conglomerates to coarse gritty sandstones, and from those into shales. The northern border of the Cantwell is not everywhere a normal contact of sedimentation but is at some places formed by faults, and at such places the base of the formation is not exposed. Where the

<sup>1</sup> Eldridge, G. H., A reconnaissance in the Susitna basin and adjacent territory, Alaska, in 1898: U. S. Geol. Survey Twentieth Ann. Rept., pt. 7, p. 16, 1900.

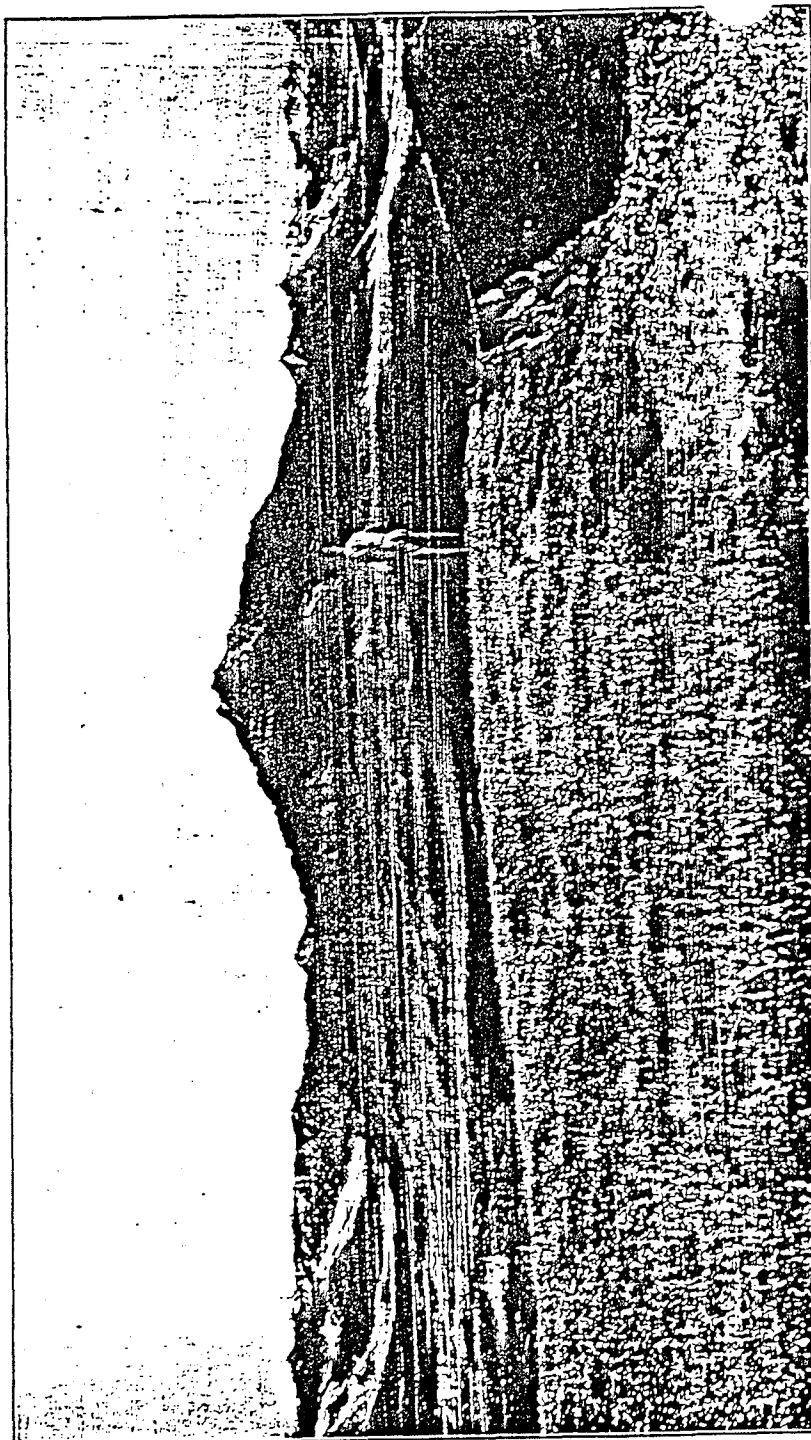
<sup>2</sup> Capps, S. R., The Bonnisfield region, Alaska: U. S. Geol. Survey Bull. 561, p. 28, 1912.

<sup>3</sup> Moffit, F. H., The Broad Pass region, Alaska, with sections on Quaternary deposits, igneous rocks, and glaciation, by J. E. Logue: U. S. Geol. Survey Bull. 608, pp. 40-49, 1915.

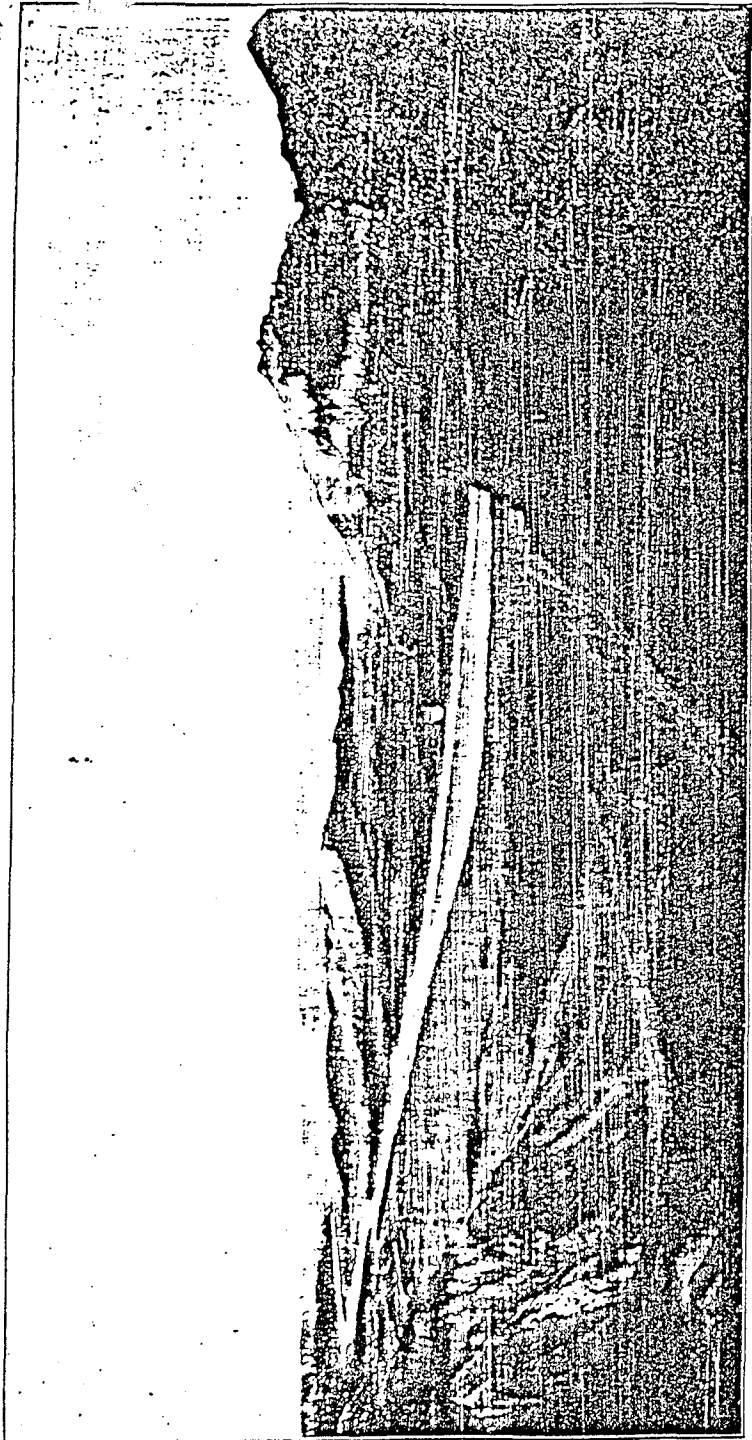
<sup>4</sup> Brooks, A. H., *op. cit.*, pl. 9.

BULLETIN 637 PLATE X

U. S. GEOLOGICAL SURVEY



VIEW SOUTHWARD INTO THE VALLEY OF SANCTUARY AND TEKLANIKA RIVERS.



VIEW NORTHEASTWARD ACROSS THE VALLEY OF TEKLANIKA RIVER.

stratigraphic relations are normal, however, the lowest part of the Cantwell is composed of coarse, massive conglomerate, locally 200 feet or more thick, including well-rounded pebbles composed of white and bluish quartz, chert, slate, and granular intrusive rocks. The pebbles are commonly less than 1 inch in diameter and are inclosed in a matrix of coarse sand or grit. The basal conglomerate is succeeded above by interbedded sandstones, grits, shales, and conglomerates, the individual beds ranging in thickness from a few inches to many feet. The succession is probably not the same at any two places, for a single bed may vary in character along the strike, being fine grained in one place and coarse grained in another. In a general way it may be stated that the proportion of conglomerate decreases and that of shale sandstone increases upward in the section, which, however, includes conglomerate beds throughout. In color the Cantwell sediments range from light gray in some sandstones and conglomerates to dark gray and black in the shales. They include some reddish sandstones, but their colors are prevailingly somber. These dark beds contrast sharply with the brilliant colors of the associated lavas.

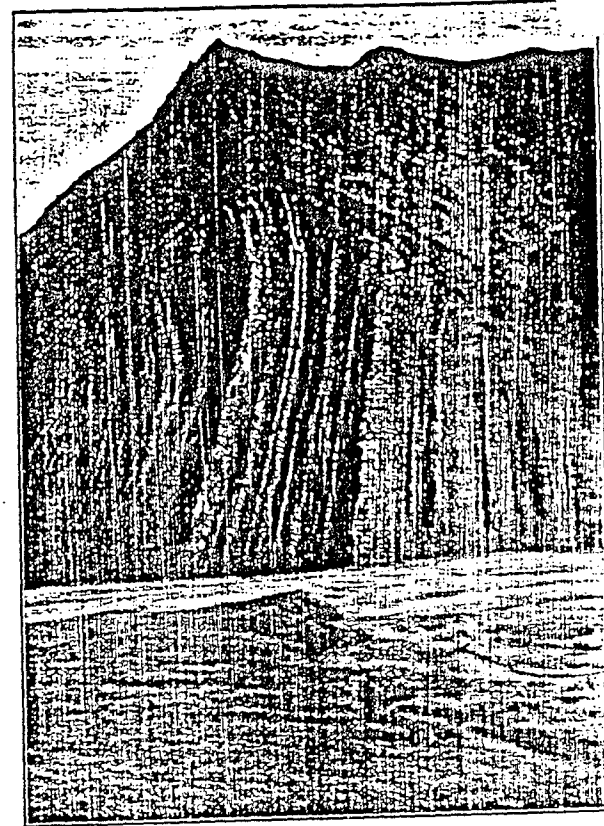
The conglomerates, sandstones, and shales of this formation are well indurated throughout, and weather into bold, rugged forms. (See Pls. X, XI, and XII. *B.*) The peaks of many high mountains are composed of these materials, and the coarsest beds, particularly the conglomerates, produce many fantastic and picturesque forms. The shales and argillites are generally less resistant to erosion than the sandstones and conglomerates, and where the formation is largely composed of the finer beds the relief is less bold and the slopes are smoother than where the coarser materials prevail. In many exposures the harder, coarse-grained beds stand out as parallel plates of high relief, the shales having weathered into deep troughs between them. (See Pl. XII, *A.*)

Moffit has shown that east of Nenana River the Cantwell sediments exhibit a progressive change from little-altered sediments, through materials that show increasingly the effects of metamorphism, to highly metamorphic rocks that include mashed conglomerates, black slates, and mica schist. He traced the formation throughout these various stages and entertained no doubt that the slates and mica schists of one locality were contemporaneous with the little-altered sediments seen elsewhere. Within the Kantishna region the Cantwell beds have locally been much deformed, but nowhere were they observed to have been so greatly altered as to approach slates and schists in appearance. Blocks of conglomerate seen on the surface of Muldrow Glacier that were similar to some of the Cantwell beds showed signs of incipient crushing and stretching, but no outcrops

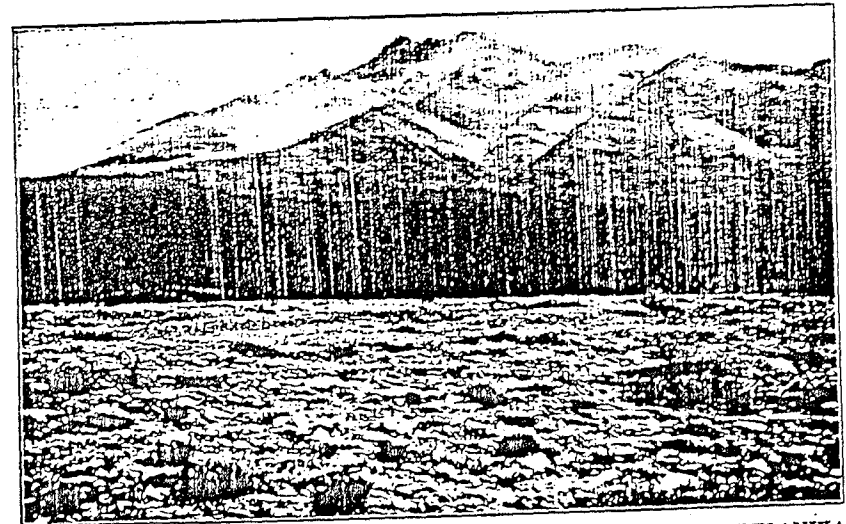
of the material in place were found. The Cantwell formation throughout contains carbonaceous material, commonly in thin, scattered leaf-like lenses, which represent former vegetable material now turned to lignite. Although this carbonaceous matter can be recognized from its shape as having originally been leaves, twigs, or sticks, its structure and surface markings are generally too poorly preserved for identification by the paleobotanist. At a few places thin seams of sheared lignite less than an inch thick were seen. No workable coal beds have yet been discovered in the Cantwell formation, and at only a few places have fossil leaves sufficiently well preserved for identification been found.

Associated with the sedimentary Cantwell beds there are in places large quantities of volcanic rocks, which occur both as intrusive dikes and sills and as lava flows interbedded with the sediments. (See Pl. XIII.) These materials are particularly abundant in Teklanika and Toklat basins a short distance south of the area mapped in Plate II. They include rocks of considerable range in texture and composition, among them rhyolite, porphyry, rhyolite flows and tuffs, andesite, diabase, and amygdular greenstone. In color the andesites and rhyolites range from white and cream, and light shades of pink, red, green, and purple to darker shades of brown, red, and green; the diabase from dark green and purple to black. Wherever these rocks are well exposed in the high rugged mountains their bright colors, which contrast sharply with the somber associated Cantwell sediments, produce unusually vivid and beautiful scenery. This is particularly true of the mountains on the main East Fork of Teklanika River and East Fork of Upper Toklat River.

Though the Cantwell sediments contain the remains of land plants, they have failed to yield any trace of the marine fossils. It is believed that the beds were laid down as continental land deposits, largely by streams but perhaps locally in small, shallow lakes. They were therefore accumulations of mud, sand, and gravel in stream valleys or on a piedmont plain near some land mass from which the materials were derived. The coarseness of the material shows that this land mass stood rather high, for the streams must have had fairly steep gradients to carry the gravels and coarse sands that make up so large a part of the formation. Furthermore, the great quantity of material necessary to furnish the existing Cantwell sediments, extending as they do from east to west for 100 miles, with a width from north to south reaching 20 miles, and a thickness of several thousand feet, requires the erosion of a land mass of at least as great a volume as that of the remaining sediments derived from it. Neither the location of this land mass nor the rock formations of which it was composed have been definitely ascertained.



4. STEEPLY TILTED SHALES AND GRITS OF CANTWELL FORMATION IN THE BASIN OF EAST FORK OF TOKLAT RIVER.



5. SOUTHWARD-DIPPING ROCKS OF CANTWELL FORMATION IN UPPER TEKLANIKA BASIN.

STRUCTURE AND THICKNESS.

As has been stated, the general structure of the Cantwell formation as a whole is that of a broad synclinal basin whose axis extends from east to west, parallel to the main mountain range. Both the north and south limbs rest unconformably on older rocks, including the early Paleozoic sediments and certain pre-Tertiary igneous materials. Studies were confined for the most part to the northern border of the Cantwell beds, where the Tertiary sediments lie unconformably upon both Tatina and Tonzona beds and terminate against masses of intrusive rock. To the south, in the Toklat basin, the Cantwell beds at several places lie upon a floor of basic lava flows. Moffit<sup>1</sup> has shown that the Cantwell sediments on their southern border, in the Broad Pass region, are faulted into contact with Devonian limestones, are cut off by intrusive rocks, or are covered with Quaternary deposits.

The synclinal structure of the Cantwell formation is only general, for between the north and south borders of the formation there are

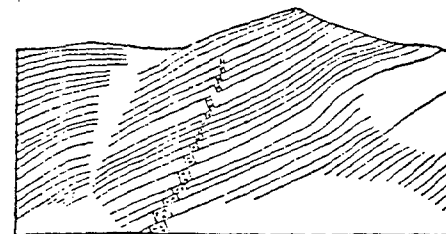


FIGURE 3.—Sketch of Cantwell formation on East Fork of Toklat River, showing bedding faults. As originally intruded the dike cut the formation at right angles to the bedding. Many parallel faults along the bedding planes have offset the dike.

evidences of numerous folds, both anticlines and synclines, and over considerable areas monoclinal dips prevail. The minor folds and the strike of the monoclinal beds are commonly parallel to the folding of the main range. Numerous faults running parallel to the folds were also observed. Some faults cut the bedding with unknown displacement, others lie parallel to the bedding and are distributive faults, confined to numerous parallel beds of the less resistant shales. Such bedding faults are inconspicuous and may readily escape notice unless revealed by the presence of dikes that are offset by the faults. A particularly good illustration of parallel bedding faults is seen in the finely exposed bluffs along upper East Fork of Toklat River. (See fig. 3.)

The folding in the formation on East Fork of Toklat River is broad, open, and apparently of simple structure, and is followed by areas of monoclinal dips. Close study, however, reveals the presence

<sup>1</sup> Moffit, F. L., *op. cit.*, pl. 2.

BULLETIN 687 PLATE XIII

U. S. GEOLOGICAL SURVEY



UPPER FORKS OF TEKLANIKA RIVER.