

REPORT

OF THE

GOVERNOR OF THE DISTRICT OF ALASKA

TO THE

SECRETARY OF THE INTERIOR.

1897.

WASHINGTON:
GOVERNMENT PRINTING OFFICE
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DISTRICT OF ALASKA, EXECUTIVE OFFICE,
Sitka, October 5, 1897.

SIR: I herewith submit my report upon affairs in Alaska for 1897.

LAW AND ITS EXECUTION IN ALASKA.

At the time of the transfer of Alaska to the United States by Russia, in October, 1867, this vast region was placed under the military Department of the Columbia, and Gen. Jeff. C. Davis, with three companies of troops, was placed in charge. They were stationed at Port Tongas, Fort Wrangell, Sitka, Fort Kenai, and Kadiak.

Customs were collected from the first by revenue officers, but Congress, on July 27, 1868, passed a law organizing the whole purchase into "a customs collection district," and by the same act the importation and sale of firearms, ammunition, and distilled spirits were prohibited. This state of affairs continued until June, 1877, when the order came to withdraw the last of the forces from Alaska.

Immediately after the occupation, American citizens attempted to acquire preemption rights to lands at Sitka. The Department decided that—

Such claims and settlements are not only without the sanction of law, but are in direct violation of the provisions of the laws of Congress applicable to public domain secured to the United States by any treaty made with a foreign nation; and, if deemed necessary and advisable, military force may be used to remove the intruders.

It is not easily understood how, during these ten years of military occupancy, the inhabitants of the ceded territory could be admitted to the enjoyment of all the rights, advantages, and immunities of citizens of the United States, as guaranteed under article 3 of the treaty.

After the withdrawal of the last of the troops, the care of this immense area was cast upon the Treasury Department. For nearly a year the whole business was in the hands of a deputy collector. By the way of preparation, two cases of rifles and two cases of ammunition were shipped to the collector's office at Sitka.

The special agent telegraphed from Port Townsend to the Secretary of the Treasury, "No cutter should be dispatched without largely increased force and medical officer; Gatling gun required." And in another communication he says, "Since the withdrawal of the military

from Alaska that Territory has been practically without any government or protection whatever, save the occasional presence of a vessel of the revenue marine."

When a new collector came, in July, 1878, he at once assumed the functions of a probate judge as well as those of a customs officer.

The Department began to feel that Alaska was very much of a white elephant, or was at least worthless and a watery waste; and, indeed, the chief of that department proposed to abolish the whole customs district.

The natives became impressed with the idea that the whites who remained after the departure of the soldiers were not esteemed very highly, and consequently matters were brought to a climax in the spring of 1879, when a considerable portion of the natives at Sitka armed and organized themselves and attempted to march upon the white settlement with the avowed intent of massacre and plunder. They were prevented by the timely interference of Annahootz and his Kokwanton supporters.

The inhabitants were thoroughly alarmed, and sent a petition to the authorities of British Columbia to send a man-of-war at once to protect their lives until they could obtain protection from their own government. The *Osprey* was sent off at once and afforded the people protection until relieved by the U. S. S. *Alaska*.

From this time until the autumn of 1884 Alaska remained under the rule of the Navy Department. During these years the people felt more free, as life and property were more secure; but there was but little incentive to take hold of any resources of the country save that of furs. Some attention had been paid to mining near Sitka, and discoveries had been made near Juneau. No title could be obtained from the Government.

The naval officers did much to curb the natives by breaking up their stills with which they manufactured a murder-producing rum called "hoo-chi-noo," by freeing those who were held in bondage as slaves, and by punishing those who had bound and tortured others as witches. Many of these officers gave aid and encouragement to the missionaries, who began to establish schools and churches in behalf of these degraded people.

A feeling of better security began to prevail, and men started to prospect while others were developing quartz lodes near Sitka.

In 1880 rich discoveries occurred on the main coast bordering on Gastinaux Channel. Some companies started enterprises in the fish industry.

But every effort emphasized the fact that Alaska was without any civil government.

At last Congress gave heed for a little while, and, on May 17, 1884, it passed what is known as the "organic act." This makes the whole ceded territory into a judicial district, and gives it a governor, district judge, attorney, clerk, marshal, four commissioners, together with a certain number of deputies. The collector of customs and his deputies are embodied as organized under the law of July 27, 1868.

Section 7 reads: "That the general laws of the State of Oregon now in force are hereby declared to be the law of said District so far as the same may be applicable."

Section 8 creates it a land district, with a commissioner, the clerk and marshal to be the land officers ex-officio.

The laws of the United States relating to mining claims and the rights incident thereto, were to be in full force and effect, but it

expressly declares that "nothing contained in this act shall be construed to put in force the general land laws of the United States."

Section 9 provides: "There shall be no legislative assembly in said District, nor shall any Delegate be sent to Congress therefrom."

The original law of 1868 prohibiting the importation and sale of distilled spirits was strengthened, in section 14, by prohibiting the importation, manufacture, and sale of intoxicating liquors except for medicinal, mechanical, and scientific purposes.

During the past twelve years and over—that is, from 1884 until the beginning of this present Administration—the following persons have been appointed and sent here to administer the law as they deemed it applicable under this act:

Governors.—John H. Kinkead, Nevada; A. P. Swineford, Michigan; Lyman E. Knapp, Vermont; James Sheakley, Pennsylvania.

Judges.—Ward McAllister, jr., California; E. J. Dawn, Oregon; Lafayette Dawson, Missouri; John H. Keatley, Iowa; John S. Bugbee, California; Warren Truitt, Oregon; Arthur K. Delaney, Washington.

United States Attorneys.—E. W. Hasket, Iowa; M. D. Ball, Virginia; Whit. M. Grant, Iowa; C. S. Johnson, Nebraska; Lytton Taylor, Tennessee; Burton E. Bennett, Washington.

Clerks.—A. T. Lewis, Illinois; Henry E. Hayden, Minnesota; N. R. Peckinpugh, Indiana; C. D. Rogers, Alaska.

Marshals.—M. C. Hillyer, California; Barton Atkins, New York; Orville T. Porter, Oregon; Louis L. Williams, Missouri.

Commissioners at Unalaska.—Chester Seeber, California; Joseph B. Johnston, Virginia; Melancton W. Hunt, California; Louis H. Tarp-ley, Oregon; Lycurgus R. Woodward, California.

Commissioner at Kadiak.—Alphonso C. Edwards, Washington.

Commissioners at Juneau.—Henry States, Oregon; Louis L. Williams, Missouri; William R. Hoyt, Wisconsin; Henry W. Mellen, Indiana; John Y. Ostrander, Washington.

Commissioners at Sitka.—John G. Brady, Alaska; T. Carlos Jewett, Minnesota; Robert C. Rogers, California.

Commissioners at Wrangell.—George P. Ihre, Louisiana; James Sheakley, Pennsylvania; William A. Kelly, Alaska; K. M. Jackson, Texas.

Collectors.—Peter French, New York; John McCafferty, Kentucky; A. K. Delaney, Wisconsin; Max Pracht, Oregon; W. T. Hatch, Oregon; B. F. Moore, New York.

If variety is the spice of life, Alaska has not lacked for seasoning during these years of the organic act. However, the present state of affairs is far preferable to that which existed during the years 1878 and 1879.

The encouragement given to mining by the full extension of the mining laws has pushed that industry forward by leaps and bounds.

But those who have been residents of the Territory for twenty or more years, and who have almost in defiance of regulations and rules settled upon and improved lots of land for homesteads, have waited in vain for Congress to extend the general land laws.

Perhaps nothing has so retarded the true and substantial growth of Alaska as this helplessness on the part of settlers to obtain titles to their homes.

The conditions which largely prevail in Oregon do not exist here, and any improvement which that State may have made in her laws since 1884 does not inure to the benefit of this district. The civil and criminal jurisdiction of a justice of the peace in Oregon is very limited,

but they have other courts with greater powers, and the means of communication are rapid and abundant. But a United States commissioner clothed with the same civil and criminal jurisdiction, located at Unalaska, Circle City, or even at Juneau and Fort Wrangell, feels himself circumscribed to pettiness when he is called to sit and administer justice to litigants when he knows that his jurisdiction extends only to \$250 in civil suits, and to six months' imprisonment in criminal cases.

By the act approved June 4, 1897, four additional commissionerships have been created, who are to have the same powers, duties, fees, and salaries as the present commissioners. The President has designated St. Michaels, Unga, Circle City, and Dyea as the places of residence.

By the provisions of the organic act, section 4, the clerk is ex-officio recorder of the district, but the district court may direct the establishment of separate offices at Wrangell, Unalaska, and Juneau City. It did direct the establishment of offices at Wrangell and Juneau City, but not elsewhere; and it now appears that the court has no authority to redistrict the Territory and mark out proper boundaries for each commissioner as a recorder. These officers will thus be deprived of much of their expected income, and the certain salary of \$1,000 will hardly be a sure preventative of what the papers call "klondicitis."

All these commissioners should have their jurisdiction enlarged to \$1,000 in civil suits and covering all misdemeanors where the punishment is less than one year, the boundaries of their districts determined for recording purposes, and their salaries increased according to their location, the cost of subsistence and transportation, and the hardships to be endured. When the commissioner sits as a trial justice his mind should not be biased by the amount of fees there is in each case for himself. It would be better for all concerned to raise his salary and do away with fees.

The district court, in endeavoring to administer the law, has had a difficult task in wrestling with the Oregon code to find out what is applicable to cases under consideration. The population being so sparse and scattered makes it a matter of the greatest difficulty to secure juries. Matters of the greatest importance have come before this court, even affairs of international magnitude, and they have been disposed of with dignity and ability. A large proportion of the trials is for the violation of the liquor laws. Public sentiment has been strong against the enforcement of these laws, and this sentiment has been intensified by the inconsistent attitude of the Government itself. This is brought about by the collection of revenue by deputy internal revenue officers from those who are conducting saloons and manufacturing beer. When the whisky dealers and brewers are brought to trial for the importation, manufacture, and sale of intoxicating liquors within the District, they exhibit their receipts for money paid on account of their business to a revenue collector of the United States. The judge is prompt to rule this out as evidence in favor of the accused, but a jury will almost invariably bring in a verdict of "Not guilty." During the last term of court the judge made a strenuous effort to enforce the law against this large class of offenders, and a number of convictions were secured. It was a demonstration that the law could be upheld if the officers of the court were determined to do it.

ATTORNEY.

The United States attorney should be represented by an assistant at the court of each commissioner. The commissioner at Circle City, for

instance, can put the United States to an enormous expense by committing persons on insufficient testimony, which will not hold even before a grand jury.

MARSHAL.

The marshal and his deputies are the executive officers of the court. A glance at the shore line of Alaska will convince one of the helplessness of officers who are to serve papers and make arrests. They can depend only upon the regular mail steamers, which touch at Wrangell, Juneau, and Sitka, and return twice each month. All traveling communication must be by water.

Among the multitudes who will turn their feet toward Alaska next spring will be numbers of daring criminals. They are now reading the papers and picking up every item of information. A small seaworthy and fast steam vessel will always be a necessity to look after this class. The value of the protection to life and property which it will give will more than offset the expense.

THE REINDEER PROBLEM.

The people who live north of the Alaska Peninsula, on the Island of St. Lawrence, on the shores of Bering Sea and Straits, upon the margins of the Arctic Ocean, and along the rivers which empty into these, are, by the testimony of revenue officers who have had long service in these parts, by letters from missionaries who live among them, and by the narratives of explorers and travelers, brought face to face with starvation, and large numbers of them perish for lack of food. They have been accustomed to an abundance of whales, walrus, seals, fish, and wild reindeer. The white man has come with his wonderful machines—steamships, bomb lances, repeating rifles, and powerful gear. The whales go farther north, and numbers of steam whalers winter at Herschel Island, hoping to get at these monsters as soon as the ice breaks. The Eskimo finds his food supply diminishing year by year, with no hope for better times.

Those who had long paid attention to and studied this sad condition of these fine people asked why they could not be taught to cultivate the domestic reindeer. The Chuch Chee, across the straits in Siberia, raise them, and are never brought to hunger.

The reindeer is as valuable in its way to an Eskimo as the bamboo is to a Chinaman. It affords him food, shelter, clothing, utensils, and transportation.

This question commended itself to the common sense of some benevolent people, and inquiries were started. The Alaska Eskimo kill about 15,000 wild reindeer each year. The domestic and wild reindeer eat the same kind of food, and there could be no question about a supply of food over a vast region. This was such a hopeful project that Dr. Sheldon Jackson, general agent of education in Alaska, took it up for action.

Strange as it may seem, this enterprise has been under the fostering care of the Bureau of Education from its inception.

It has been demonstrated that the deer can be purchased in Siberia and transported to Alaska; that they can be herded and multiplied.

The introduction of the families of Laplanders, who are experts in all matters pertaining to reindeer, was wise and fortunate. Four years of experience with them as herders and teachers of the Eskimo apprentices have proved how wonderfully well adapted they are to show forth and demonstrate to those northern people all the utility there is in reindeer.

Since this undertaking began the rich discoveries of gold in various parts of the Yukon Valley have opened up a far more extended field for the usefulness of these animals. Transportation is very costly, and consequently the miner can only skim over the country and dig and thaw out his prospecting holes upon the richest spots.

The dog so far has been his faithful friend, and he is valued as high as \$200. But the dog must be fed upon animal food, and when a prospecting trip is undertaken a large part of the freight must consist of provisions for the teams. On the other hand, the moss for the deer is spread out over the face of the ground, and when he is unharnessed he can go to eating. The long journey of 2,000 miles and more taken last winter by the superintendent and two Lapps shows how well adapted this animal is to serve the people who are ready to pour in upon the Yukon and its branches.

Congress should feel that it has spent the money well, and should be ready to grant more if the Bureau asks for it.

SCHOOLS.

In section 13 of the organic act, the Secretary of the Interior is directed to "make needful and proper provision for the education of the children of school age in the Territory of Alaska without reference to race, until such time as permanent provision shall be made for the same." This has been done under the care of the Bureau of Education, with Dr. Sheldon Jackson as general agent. It is safe to say that no work under the care of any department of the Government has been more fruitful of good results than the labor of this Bureau here in Alaska.

Education had been neglected for eighteen years. The people were dispersed over a vast area. There were no buildings or facilities of any kind whatsoever. This good work has steadily progressed from year to year under very small appropriations, and to-day the children in Alaska are learning to read and write the English language, and other primary branches, under the instruction of teachers as carefully selected as are teachers in any of the States. The schools have been primary, but now there is beginning to be a demand for those of a higher grade.

New communities are starting up in various places. They cry for mail routes, for teachers and school buildings. More families are coming to Alaska, for men who have to earn their living find that they can support their families with less effort and fewer doctor bills than in other places which they have tried. Right now thousands of people over the States are inquiring what Alaska has to offer in the way of schools. To meet the demand for more teachers and school buildings, I would respectfully urge that the appropriation be increased to \$60,000.

MAIL ROUTES.

The people of Alaska feel grateful to the officers of the Post-Office Department for their efforts in trying to serve them with the mails. All pioneer service of this kind is costly, and especially so in Alaska. Probably in no place on the globe is such hardship and suffering endured as on the mail route from Dyea to Circle City and return in the winter months.

Contracts should be let with great care, for a failure of a single delivery is a great disappointment to all and a serious loss to many who depend upon the mails for information and instructions.

The route from Sitka to Unalaska should be increased from seven deliveries to twelve. It is a long time to shut off this portion of the Territory from communicating with the outside world.

With reindeer transportation, mails can be sent all over Alaska during the winter.

AGRICULTURE.

The friends of Alaska have never claimed that it has great agricultural possibilities in the way of raising staple crops, but they do maintain that very much can be accomplished by giving the same amount of toil and care as is bestowed upon land in the States.

Grass grows abundantly in all the southeastern part and all along the margin of the North Pacific and upon the Shumagin and Aleutian islands. Large areas in the interior are overgrown annually with red-top, and especially is this true around Cook Inlet.

In southeastern Alaska, redtop, blue grass, clover, timothy, and alfalfa have all been tried with success. It is true that there is much rain, and curing hay as in the States can not be relied upon; but silos will work here as well as anywhere, and the methods pursued in northern Norway and Sweden will answer here. The moisture makes the grass grow and the yield is never disappointing.

Alaska should furnish its own beef, butter, and cheese, and have some to spare.

Cattle, horses, mules, donkeys, goats, and hogs all do well. The hogs now wear their tails in a curly twist, and are no longer molested by the nibbling of the voracious crow.

The red and black currant, strawberry, salmon berry, red and blue whortleberry, cranberry, and various other kinds are native to the land and usually can be obtained in abundance in season. Cultivated berries, where their culture is attempted, yield well.

Radishes, parsnips, carrots, beets, onions, turnips, potatoes, lettuce, cabbage, cauliflower, horse-radish, rhubarb, and pease, have been cultivated with success for many years at Sitka.

Hardly anything has been done to test the soils or to make experiments since we have come into possession. The Russians began early. Nicholas Rezanoff, in writing from Kadiak, on August 10, 1805, says:

The monks experimented in 1795, sowing onions, turnips, carrots, mustard, poppy, tobacco, potatoes, cabbage, cucumber, watermelons, radishes, beets, peas, beans, corn, sunflowers, and garden flowers. Out of all these, potatoes, radishes, and turnips gave good crops; the others flourished, but did not mature. The next year, 1796, these monks took up a new location near an old Aleut settlement upon Karluk Straits. They had fair crops of potatoes, radishes, large turnips, and cabbage without heads. The following year they raised very good crops of potatoes, radishes, and turnips—the latter weighing as much as 10 pounds. In 1802 they found that seaweed and kelp from the beach make excellent fertilizers. In 1804 they sowed 4 pounds of barley and reaped 60 pounds, and this year they raised 3,200 pounds of potatoes. They made further investigation in later years around Kadiak, but appear never to have attempted anything in the southeastern part of their possessions. They procured in the fall large quantities of potatoes from the natives of Killisno, Hootznahoo, and Kake.

All this goes to show that it is worth while for the Agricultural Department to take Alaska under its care and give all these matters fair treatment. Indeed, it has made a start this season by sending two gentlemen, Messrs. Evans and Killin, to make rapid inquiries along the coast as far as Unalaska.

It is sincerely hoped that the reports of these forerunners may induce the Secretary of Agriculture to plan more extended work to be done here next year.

TIMBER.

The whole coast of Alaska, including the islands from 54° 40' to the eastern part of Kadiak Island, is covered with timber to the snow line of the mountains. Hemlock and spruce prevail, but in places there is the yellow or Sitka cedar, and upon Prince of Wales Island the red cedar attains large size. It is difficult to estimate the quantity of each, except to say that the amount of spruce and hemlock capable of being sawed into good merchantable lumber is very great.

This timber is one of the great resources of the country. It stands to-day almost in its virgin state, for all that the Russians and Americans have used from the first until now does not amount to as much as is burned in one small fire in Washington or Oregon.

Fire very seldom takes hold in these dense forests. The moss on the ground and over fallen trunks is deep and holds water like a sponge. The rains are so abundant that the moss and thick underbrush is kept soaked. Growths of large trees can be seen upon the mountain sides with apparently no soil whatever.

Every man who builds a fire to cook a meal, or builds a house to cover his head, is a trespasser upon this timber reserve. The Government has not put it on the salable lists. The people use it for all domestic purposes and for mining. It is almost as necessary as the water and air to support life in this latitude. What trees are taken are cut within a few hundred feet of salt water and are put in by what is known as hand logging. Very much of the lumber and timbers used in the construction of the quartz mills and other buildings in and around Juneau has been imported from Puget Sound.

There need be no fear of Alaska being denuded of its timber as long as rain falls as it does, and that will surely be as long as the Japan current flows and the mountains stand.

The place of the native settlement on Halleck Island, 10 miles north of Sitka, and where they still lived when they massacred the Russian settlement in 1804, is now thickly overgrown with tall spruce trees, many of them over 2 feet in diameter.

Great mountain slides occur, when acres of timber from the top to the bottom of the mountain are sloughed off into the sea. In a few years this bare place is covered with the salmon berry, black currant, devil club, elder, and other bushes, and in a few years more a growth of alder will choke down these; and then, by and by, the alder must give place to the spruce and hemlock. It appears like big fish eating little fish even in the vegetable kingdom.

The early disposal of these timber tracts is a matter of great concern to the people, for they would at once enter into the lumbering business, and in the near future could build up a very profitable trade with Japan and China. The great facilities for water transportation will make the southeastern coast very desirable for lumber shipments.

Common rough spruce lumber sells in Sitka at \$13 per M feet, tongue and grooved flooring and beveled siding at \$18 per M feet; clear boat stock, dressed two sides, \$25 per M feet.

FURS.

The fur industry took precedence from the first. In 1776 Captain Cook, when he touched at Unalaska, found the Russians already there. He says:

There are Russians upon all the principal islands between Unalaska and Kamchatka, for the sole purpose of collecting furs. Their great object is the sea beaver, or otter. I never heard them inquire after any other animal, though those whose skins are of inferior value are also made part of their cargoes.

The Russian-American Company devoted its energies almost exclusively to the collection of furs. China furnished a market for sea otter and other rich kinds. This fur industry has gone on from year to year without any let-up.

If, in early days, skins worth several hundred dollars were bartered for goods worth only 50 cents, it is not so now. Competition is keen, and frequently the natives get more in cash for their skins than the same fetch when sold in London.

There are no statistics from which to make out the annual valuation. The manifests in the custom-house give no help, for the entries are so many bales of furs, without a word of description or value.

While this trade will remain extensive for years, it must necessarily decline as the great Yukon Valley and the mountain fastnesses of the coast are invaded by the prospector and the miner and the hordes who crowd in when success is assured. The trading posts of the fur companies will serve the miner well and will be paid in dust instead of furs. The vessels in the carrying trade will continue; only the kinds of merchandise will differ. The transition will be easy and natural.

FUR SEAL.

There is still another year of the modus vivendi under the regulations as laid down by the arbitrators at Paris. Our fleet of revenue cutters has been on patrol duty all season, and no doubt the results of this season will be similar to those of the four preceding. It all proves that pelagic sealing is constantly reducing the herd upon the islands.

Our contention that we have a property right in these animals is surely the proper allegation for us to set up and constantly to maintain.

The branding of all the female pups upon the rookeries is a wise course to pursue, for it will put an unmistakable mark of identification upon the animal; and if it renders the pelt valueless to the furrier, pelagic sealing will cease because it will not pay. These experiments of President Jordan and Colonel Murray and their associates will be followed with great interest. If they solve this problem of the fur-seal question between ourselves and Great Britain, they will deserve the gratitude of the nation.

Section 5 of the organic act provides:

The governor appointed under the provisions of this act shall, from time to time, inquire into the operations of the Alaska Seal and Fur Company, and shall annually report to Congress the result of such inquiries.

The present incumbent took the oath of office July 15, and has had no opportunity since that date to visit the seal islands and carry out this requirement.

List of sealing vessels boarded by United States cruisers in Bering Sea, season of 1897.

Name.	Nationality.	Dates boarded.	Skins taken.
Vern.....	British.....	Aug. 1, 12, 18, 24, 26, Sept. 16.....	264
Arietis.....	do.....	Aug. 1, 2, 10, 11, 15, 25, Sept. 3.....	680
Victoria.....	do.....	Aug. 1, 2, 10, 21, Sept. 2.....	625
Mary Taylor.....	do.....	Aug. 2, 15.....	184
Zillah May.....	do.....	Aug. 2.....	None.
Fawn.....	do.....	Aug. 12, 17.....	182
Elsie.....	American.....	Aug. 2, Sept. 12.....	215
Penelope.....	British.....	Aug. 24, Sept. 4.....	598
Minnie.....	do.....	Aug. 11, 24, Sept. 10.....	845
Umbrina.....	do.....	July 20, Aug. 31.....	153
City of San Diego.....	do.....	Aug. 18, Sept. 15.....	402
Borealis.....	do.....	Aug. 19.....	125
A. E. Faint.....	do.....	July 29, 31, Aug. 25, Sept. 15.....	385

List of sealing vessels boarded by United States cruisers in Bering Sea, etc.—Continued.

Name.	Nationality.	Date boarded.	Skins taken.
Beatrice	British	Aug. 19, 26, Sept. 3	454
J. Eppinger	American	Aug. 1, 7, 11, 18, 24, Sept. 11	443
Ainoko	British	Aug. 8, 26	924
Dora Seiwerd	do	Aug. 8, 12, 25, Sept. 3	988
Enterprise	do	July 31, Aug. 18, 25, Sept. 13	508
Otto	do	Aug. 10	251
Teresa	do	Aug. 10, 11, 31	559
E. B. Marvin	do	Aug. 11, 25, Sept. 3, 12	973
Sadie Turple	do	Aug. 20	68
Ocean Belle	do	Aug. 17	457
St. Lawrence	American	Aug. 12	199
			10,482

Taken by British vessels 9,625
 Taken by American vessels 857

10,482

Respectfully submitted.

C. L. HOOPER,
 Captain, R. O. S., Commanding Bering Sea Fleet.

Comparison of pelagic catch in Bering Sea for 1895-1897.

Nationality.	1895.			1896.			1897.		
	Vessels.	Skins taken.	Average.	Vessels.	Skins taken.	Average.	Vessels.	Skins taken.	Average.
British	36	24,762	685	54	20,469	379	21	9,625	458.7
American	18	6,454	358	12	3,280	273	3	857	285.0
	54	31,216	578	66	23,749	359	24	10,482	436.7

Number of females 6,498
 Number of males 3,728
 Sex undetermined 256

Total 10,482

NOTE.—The foregoing is only approximate, being the number reported by the sealers when boarded. Many of them took seals after the last boarding.—C. L. H.

H. M. S. WILD SWAN,
 Unalaska, September 16, 1897.

Name.	Dates boarded.			No. of skins.	Remarks.
	First.	Second.	Third.		
Eppinger	Aug. 7	Aug. 20	.....	143	
St. Lawrence	Aug. 8	.....	.....	14	
Favorite	Aug. 19	Aug. 26	Sept. 1	416	
Annie E. Paint	Aug. 19	Aug. 26	Sept. 3	331	
Arietis	Aug. 19	Aug. 25	.....	414	Boarded by two United States revenue cutters.
Minnie	Aug. 20	Aug. 23	.....	354	
Teresa	Aug. 20	Aug. 23	.....	321	
Triumph	Aug. 20	Aug. 29	.....	1,117	
Ocean Belle	Aug. 20	.....	.....	493	Boarded by Grant Aug. 17.
E. B. Marvin	Aug. 25	Sept. 4	.....	674	
Dora Seiwerd	Aug. 25	.....	.....	714	
Zillah May	Aug. 26	.....	.....	432	
Otto	Aug. 26	Sept. 3	.....	730	Boarded by Corwin.
Vera	Aug. 29	.....	.....	166	
Mary Taylor	Sept. 3	.....	.....	468	
Penelope	Sept. 3	.....	.....	554	

MACVEY NAPIER,
 Commander and Senior Naval Officer, Bering Sea.

Captain HOOPER,
 Senior Officer, U. S. R. O. Service, Unalaska.

Reported catch of sea otter, season of 1897. a

Name.	Number of skins.	Name.	Number of skins.
Kate and Anne.....	22	Jane Gray.....	6
Herman.....	24	Volante.....	25
Olga.....	37	St. Paul.....	27
Baranoff.....	57	Anaconda.....	10
Rattler.....	22	Eunice.....	2
Eppinger.....	11	Marjory.....	1
Lydia.....	18	Maksoutoff.....	33
Hunter.....	36		
Everett Hayes.....	36	Total.....	392
Emma.....	25		

a Approximate only.—C. L. H.

FISHERIES.

Alaska is the aquarium of the North Pacific. The oulachan, herring, cod, halibut, and salmon inhabit these waters. It is a vast food preserve, and will be more and more drawn upon as the central line of population in the United States moves westward. The Russians had salteries and sent an occasional cargo of salmon to the Sandwich Islands, and returned with sugar and rice.

The swift-running stream and the lake at its source are the places where the salmon come in from the ocean to spawn, and these abound all along the coast line.

The packing of salmon in cans began upon the Columbia and other rivers below. The industry grew as the markets were cultivated and the demand increased. As in all other industries, experience suggested and taught improvements in the art of soldering and can making, and in the manner of catching, handling, and cooking the fish. The system and methods of one of these salmon canneries are planned to get the largest results from the least cost.

As the demand grew, more capital was thrown into these enterprises and larger fields were sought. In 1878 a venture was made near Sitka, but it was allowed to die out. The following year another venture was made at Klawak, on Prince of Wales Island, and it flourished. Others came, and by 1886 8 salmon canneries and 9 salteries were in operation, and the product was valued at \$500,000 in San Francisco. In 1896, ten years later, we have 29 canneries and 14 salteries, producing 949,645 cases of fish, 4 dozen 1-pound cans to the case, and 10,000 barrels, the combined value amounting to \$2,383,757.

The officers of the Alaska Packers' Association have kindly furnished the statistics following.

Statistics of Alaska salmon pack, season 1896.

Name and location.	Men employed.			Apparatus used.	Number salmon taken.		
	White.	Native.	Chinese.		King.	Red.	Silver.
Bristol Bay Canning Co., Nushagak	66	49	100	Gill nets	5,362	427,882	38,680
Alaska Packing Co., Nushagak	69	51	100	do	5,449	423,891	49,510
Arctic Packing Co., Nushagak	66	47	100	do	3,966	410,917	29,340
Arctic Packing Co., Naknek	60	30	90	do	1,352	304,287	53,488
Thin Point Packing Co., Thin Point	20	17		Seine		27,198	10,207
Karluik Packing Co., Karluik	100	52	100	do		821,943	
Hume Packing Co., Karluik	100	49	100	do		843,840	
Uganuk Fishing Station, Uganuk	32	16	70	do		252,060	
Arctic Packing Co., Alitak	35	21	51	do		285,060	
Arctic Fishing Co., Kusiloff	60	46	100	Gill nets	18,076	309,863	58,902
Chignik Bay Packing Co., Chignik	89	33	158	Gill nets and seine	3,304	456,500	56,754
Pacific Packing Co., Prince William Sound	108	42	65	do	817	282,438	219,073
Pyramid Harbor Packing Co., Pyramid Harbor	106	95	81	Gill nets	10,823	412,519	5,862
Glacier Packing Co., Fort Wrangell	57	63	75	do	3,958	123,537	447,395
Alaska Salmon Packing and Fur Co., Loring	50	120	130	Seine		216,060	759,479
Point Roberts Packing Co., Koggiung	77	23	100	Gill nets	1,172	283,363	74,050
Ugashik Fishing Station, Selina River	64	35	90	Gill nets and seine		229,020	
Egegak Fishing Station, Egegak	22	2		Gill nets		20,400	
Togiak Fishing Station, Togiak	14	2		do		10,576	
Total	1,195	813	1,510		54,279	6,141,334	1,802,730

Name and location.	Cases.	Barrels.	Steamers employed.	Lighters and boats.		Nets.		Sail tonnage employed.	Value of tin plate.
				Number.	Value.	Number.	Value.		
Bristol Bay Canning Co., Nushagak	38,314		2	42	\$18,000	80	\$4,000	1,280	\$18,390
Alaska Packing Co., Nushagak	39,115		1	44	13,000	84	5,000	1,536	18,775
Arctic Packing Co., Nushagak	35,676		1	43	12,500	88	4,400	1,073	17,124
Arctic Packing Co., Naknek	27,133	338	2	23	15,000	88	4,400	1,158	13,024
Thin Point Packing Co., Thin Point		611	1	10	6,000	3	500	229	
Karluik Packing Co., Karluik	68,495	1,600	6	47	30,000	15	7,500	4,900	76,714
Hume Packing Co., Karluik	70,320			48	21,000	15	7,500		
Uganuk Fishing Station, Uganuk	21,005			28	15,200	10	5,100		
Arctic Packing Co., Alitak	23,155		1	23	11,000	4	800	771	11,115
Arctic Fishing Co., Kusiloff	34,787	167	2	40	18,200	80	7,000	1,172	16,688
Chignik Bay Packing Co., Chignik	48,361		2	24	19,000	90	8,600	1,470	23,213
Pacific Packing Co., Prince William Sound	39,873		3	43	45,000	75	6,000	1,375	19,139
Pyramid Harbor Packing Co., Pyramid Harbor	47,458		1	31	18,000	200	14,000	1,263	22,779
Glacier Packing Co., Fort Wrangell	44,233		1	17	14,200	60	3,000	1,278	21,232
Alaska Salmon Packing and Fur Co., Loring	61,467		2	11	13,100	15	3,600	940	29,504
Point Roberts Packing Co., Koggiung	29,730	97	3	12	12,500	30	4,250	1,364	14,270
Ugashik Fishing Station, Selina River	19,764		2	13		30	4,000	1,110	9,487
Egegak Fishing Station, Egegak		750		3	600	5	600	555	
Togiak Fishing Station, Togiak		240		2	400	2	200	229	
Total	648,864	3,812	30	504	282,700	974	90,450	21,703	311,454

Estimated, 1896.

Name and location.	Cases.	Barrels.
C. E. Whitney & Co., Nushagak		1,741
Naknek Packing Co., Naknek	8,698	200
Bering Sea Packing Co., Ugashik	20,004	286
Joseph Hume Packing Co., Chignik	16,893	
Pacific Steam Whaling Co., Chignik	21,515	
Alaska Improvement Co., Karluk	80,000	
C. D. Ladd, Cooke Inlet		850
Pacific Steam Whaling Co., Prince Williams Sound	31,513	
Peninsular Fishing and Trading Co., Copper River	21,000	
Baranoff Packing Co., Baranoff Island	15,358	98
North Pacific Fishing and Trading Co., Klawak	16,800	329
Boston Fishing and Trading Co., Yes Bay	23,000	
Metlakahla Industrial Co., Metlakahla	12,000	
Pacific Steam Whaling Co., Hunters Bay	20,000	
Quadra Packing Co., Cape Fox	8,000	
Various, southeastern Alaska		2,000
Total	300,781	5,502

Attention is called to the valuation of the tin plate used in this business—\$311,454, paying a duty of \$93,456, and under the present tariff rate it would pay \$116,700.

The registered tonnage of American ships employed was 37,398, and this of a high class, to carry such valuable cargoes. Thirty steamboats are employed, some of them as much as 500 tons capacity.

In answer to the charge that these cannery people are no good to Alaska, they maintain that one association of them has left \$103,804.85 in payment for boxes and labor furnished by the natives and whites who remain as residents of the Territory; that they keep up three medical stations, one in Bering Sea, one upon Kadiak Island, and one in Prince William Sound. These are thoroughly equipped and attended by competent doctors, who minister to the ills of all employees and natives without charge for service or medicine.

Mr. W. B. Bradford, secretary of the Alaska Packers' Association, writes:

Appreciating the necessity that the large number of fish which were taken demanded at some points to assist nature, we established in the spring of 1896 a large hatchery at Karluk River, Kadiak Island, and, contrary to the belief of many experienced persons, and also the trial which was made in 1892, that the fish could not be successfully hatched, we have been enabled to turn out 3,000,000 fry this season. As success is now assured, we shall proceed to place hatcheries at several other points, as the utility of the same has been demonstrated on both the Columbia and Fraser rivers.

Mr. J. C. Calbreath, at Point Ellis, Kuiu Island, on Chatham Strait, has had a hatchery in operation for several years, and he claims remarkable success.

These two are the only ones of the canning people who have been solicitous and farsighted enough to take up this work of fish-hatching, so as to be sure of putting back as much and more fish life than they have taken out.

Fearing that the streams were being robbed of salmon by the use of dams, barricades, etc., driven and erected across them by the canners and others, Congress passed a law, in March, 1889, prohibiting this under a penalty of \$250 per day. Inspectors of salmon fisheries have been appointed from year to year to enforce the provisions of this act; but this has been a farce from the beginning until now.

order to protect and inspect the salmon fisheries, provision should be made for the use of a cutter with steam launch and proper boats for the officer assigned to the duty of inspecting the southwestern district and some of the otherwise inaccessible points, for a portion of the fishing season at least, so that visits could be made quietly and the detection of violators of the law assured.

The whole question of salmon taking, breeding, and inspection is not at all satisfactory. The method of obtaining proper laws on this subject will be suggested toward the close of this report. No persons are so interested and solicitous about this matter as the persons who have made such large investments. They are desirous and anxious to obtain the best laws for the protection of the industry and to have them unflinchingly enforced.

Two firms have for many years been sending out fleets of vessels for cod. Large portions of their catch have been taken in waters around the Shumagin Islands and in Bering Sea. This fish is caught in the southeastern section and all around the coast.

Halibut abound, and a beginning has been made in shipping in ice to various points East.

One establishment at Killisnoo has been handling the herring for its oil and the residuum turned into guano, or fertilizing material. It is the Alaska Oil and Guano Company, Carl Spuhn, president. This gentleman has kindly furnished the following:

Catch of herring, season 1886, 25,750 barrels, 90,650 gallons oil, 550 tons guano; total value \$35,000.

They put up some salt codfish and salmon bellies and 700 half barrels salt herring, of the value of \$3,000.

They fished with one gang, employing one steamer, from August 27 to November 7, employing 35 white men, 40 natives, 5 Japanese, and 3 Chinese. This is not near up to the capacity of this plant, because prices have been too low. Right now they are running to their utmost, and expect an output of 200,000 gallons of oil and 1,200 tons of guano.

This company has industriously worked up a market for their guano, and are rewarded by large orders from those who have proved its value.

It is a well-managed concern, and is a great credit to Alaska as the pioneer in this industry.

MINES.

When Captain Cook was in Prince William Sound, which name he himself gave to that body of water, he wrote:

As to the copper, these people seem to procure it themselves, or at most it passes through few hands to them, for they used to express its being in a sufficient quantity when they offered any to barter by pointing to their weapons, as if to say that, having so much of this metal of their own, they wanted no more.

La Pérouse, at Port des Français, June, 1786, says:

Our naturalists collected ochre, coppery pyrites, garnets (brittle, but very large and perfectly crystallized), schorl in crystal, granite schist, hornstone, very pure quartz, mica, plumbago, and coals. Some of these substances prove that the mountains contain copper and iron ores.

The Americans of Port des Français know how to forge iron, to fashion copper.

In speaking of the female, he says:

The lower lip is pierced with a kind of pin of copper or gold, which is either left in the opening or its place is supplied with a ring of the same material till the period of puberty.

Senator Sumner's great speech in favor of the purchase of Alaska should be published and circulated to-day for its valuable information.

What he said on the mineral products is here given in full:

In considering the mineral products I shall first ask attention to such indications as are afforded by the early navigators. They were not geologists. Indeed, geology was at that time unknown. They saw only what was exposed. And yet during the long interval that has elapsed not very much has been added to their conclusions. The existence of iron is hardly less uncertain now than then. The existence of copper is hardly more certain now than then. Gold, which is so often a dangerous *ignis fatuus*, did not appear to deceive them, but coal, which is much more desirable than gold, was reported by several, and once at least with reasonable certainty.

The boat that landed from Bering, when he discovered the coast, found, among other things, "a whetstone on which it appeared that copper knives had been sharpened." This was the first sign of that mineral wealth which already excites such an interest. At another point where Bering landed "one of the Americans had a knife hanging by his side, of which his people took notice on account of its unusual make." It has been supposed that this knife was of iron. Next came Cook, who, when in Prince William Sound, saw "copper and iron." In his judgment the iron came through the intervention of Indian tribes from Hudson Bay or the settlements on the Canadian lakes, and his editor refers in a note to the knife seen by Bering as coming from the same quarter; but Cook thought that the copper was obtained near at home, as the natives, when engaged in barter, gave the idea "that having so much of this metal of their own they wanted no more." Naturally enough, for they were not far from the Copper River. Maurelle, the French officer in the service of Spain, landed in sight of Mount St. Elias in 1779, and he reports Indians with arrowheads of copper, "which made the Spaniards suspect mines of this metal there." La Pérouse, who was also in this neighborhood, after mentioning that the naturalists of the expedition allowed no rock or stone to escape observation, reports ochre, schist, mica, very pure quartz, granite, pyrites of copper, plumbago, and coal, and then adds that some things announce that the mountains contain mines of iron and copper.

He reports, further, that the natives had daggers of iron and sometimes of red copper; that the latter metal was common enough with them, serving for ornaments and for the points of their arrows; and he then states the very question of Cook with regard to the way in which they acquired these metals. He insists that "the natives know how to forge iron and work copper." Spears and arrows "pointed with bone or iron," and also "an iron dagger" for each man, appear in Vancouver's account of the natives on the parallel of 54° 59', just within the southern limits of Russian America. Lisiansky also saw at Sitka "a thin plate of virgin copper," found on Copper River, 3 feet in length, and at one end 20 inches in breadth, with figures painted on its sides, which had come from the possession of the natives. Meares reports "pure malleable lumps of copper in the possession of the natives," sometimes weighing as much as a pound; also necklaces, all obtained in barter with other natives farther north. Portlock, while in Cook Inlet, in latitude 59° 26', at a place called Grahams Harbor, makes another discovery. Walking around the bay he saw "two veins of cannel coal just above the beach, and with very little trouble several pieces were got out of the bank nearly as large as a man's hand." If the good captain did not report more than he saw, this would be most important, for from the time when the amusing biographer of Lord Keeper North described that clean, flaky coal which he calls "candle," because often used for its light, but which is generally called cannel, no coal has been more of a household favorite. He reports, further, that "returning on board in the evening he tried some of the coal, and found it to burn clear and well." Add to these different reports the general testimony of Meares, who, when dwelling on the resources of this country, boldly includes "mines which are known to be between the latitudes of 40° and 60° north, and which may hereafter prove a most valuable source of commerce between America and China."

It is especially when we seek to estimate the mineral products that we feel the want of careful explorations. We know more of the roving aborigines than of these stationary citizens of the soil. We know more of the trees. A tree is conspicuous. A mineral is hidden in the earth, to be found by chance or science. Thus far it seems as if chance only had ruled. The Russian Government handed over the country to a trading company, whose exclusive interest was furs. The company only followed its business when it looked to wild beasts with rich-skins rather than to the soil. Its mines were above ground rather than below. There were also essential difficulties in the way of any explorations. The interior was practically inaccessible. The thick forest, saturated with rain and overgrown with wet mosses, presented obstacles which nothing but enlightened enterprise could overcome. Even at a short distance from the port of Sitka all effort had failed, and the inner recesses of the island, only 30 miles broad, were never penetrated.

The late Prof. Henry D. Rogers, in his admirable paper on the physical features of America, being a part of his contribution to Keith Johnston's Atlas, full of knowl-

edge and of fine generalization, says of this northwest belt of country, that it is "little known in its topography to any but the roving Indians and the thinly scattered fur trappers." But there are certain general features which he proceeds to designate. According to him, it belongs to what is known as the Tertiary period of geology, intervening between the Cretaceous period and that now in progress, but including also granite, gneiss, and ancient metamorphic rocks. It is not known if the true coal measures prevail in any part, although there is reason to believe that they may exist on the coast of the Arctic Ocean between Cape Lisburne and Point Barrow.

Beginning at the south, we have Sitka and its associate islands, composed chiefly of volcanic rocks, with limestone near. Little is known even of the coast between Sitka and Mount St. Elias, which, itself a volcano (?), is the beginning of a volcanic region occupying the peninsula of Alaska and the Aleutian Islands, and having no less than thirty volcanoes, some extinct, but others still active. Most of the rocks here are volcanic, and the only fossiliferous beds are of the Tertiary period. North of Alaska and near the mouth of the Kwichpak the coast seems to be volcanic or metamorphic, and probably tertiary, with a vein of lignite near the head of Nortons Sound. At the head of Kotzebue Sound the cliffs abound in the bones of elephants and other extinct mammals, together with those of the musk ox and animals now living in the same latitude. From Kotzebue Sound northward the coast has a volcanic character. Then at Cape Thompson it is called subcarboniferous, followed by rocks of the Carboniferous age, being limestones, shales, and sandstones, which extend from Cape Lisburne far round to Point Barrow. At Cape Beaufort, very near the seventieth parallel of latitude and north of the Arctic Circle, on a high ridge a quarter of a mile from the beach, is a seam of coal which appears to be of the true coal measure.

From this general outline, which leaves much in uncertainty, I come now to what is more important.

It is not entirely certain that iron has been found in this region, although frequently reported. The evidence points to the south and also to the north. Near Sitka it was reported by the Russian engineer Doroschin, although it does not appear that anything has been done to verify his report. A visitor there as late as last year saw excellent iron, reported to be from a bed in the neighborhood, which was said to be inexhaustible and with abundant wood for its reduction. Then, again, on Kotzebue Sound specimens have been collected. At 66° 35' Kotzebue found a false return in his calculations, which he attributed to the disturbing influence of "iron." A resident on the Yukon thinks that there is iron in that neighborhood.

Silver, also, has been reported at Sitka by the same Russian engineer who reported iron there, and, like the iron, "in sufficient quantity to pay for the working."

Lead was reported by the Russian explorer Lieutenant Zagoysskin on the lower part of the Kwikpak, but it is not known to what extent it exists.

Copper is found on the banks of the Copper River, called by the natives Mjednaja, meaning copper, and of its affluent, the Tshitachitna, in masses sometimes as large as 40 pounds. Of this there can be little doubt. It is mentioned by Golowin in the Archiv of Erman as late as 1863. It was undoubtedly from this neighborhood that the copper was obtained which arrested the attention of the early navigators. Traces of copper are also found in other places on the coast; also in the mountains near the Yukon, where the Indians use it for arrowheads.

Coal seems to exist all along the coast—according to Golowin, "everywhere in greater or less abundance." Traces of it are reported on the islands of the Sitkan Archipelago; and this is extremely probable, for it has been worked successfully on Vancouver Island below. It is also found on the Kenaian Peninsula, Alaska; the Island of Unga, belonging to the Shumagin group; Unalaska, and far to the north at Beaufort. At the latter place it is "slaty, burning with a pure flame and rapid consumption," and it is supposed that there are extensive beds in the neighborhood better in quality. For an account of this coal I refer to the scientific illustrations of Beechey's Voyage.

The natives also report coal in the interior on the Kwikpak. The coal of Unalaska, and probably of Alaska, is tertiary, and not adapted for steamers. With regard to that of Unga, scientific authorities are divided. That of the Kenaian Peninsula is the best and the most extensive. It is found on the eastern side of Cook Inlet, halfway between Cape Anchor and the Russian settlement of St. Nicholas, in veins three-quarters of a yard or more in thickness, and ranging in quality from mere carboniferous wood to anthracite. According to one authority, these coal veins extend and spread themselves far in the interior. It appears that this coal has been more than once sent to California for trial, and that it was there pronounced a good article. Since then it has been mined by the company, not only for their own uses, but also for export to California. In making these statements I rely particularly upon Golowin in the Archiv of Erman, and also upon the elaborate work of Grewingk, in the Transactions of the Mineralogical Society of Petersburg for 1848 and 1849 (p. 112), where will be found a special map of the Kenaian Peninsula.

Gold is less important than coal, but its discovery produces more excitement. The report of gold in any quarter stimulates the emigrant or the adventurer who hopes to obtain riches swiftly; nor is this distant region without such experience. Only a few years ago the British colony of Victoria was aroused by a rumor of gold in the mountains of the Stikine River, not far in the interior from Sitka. At once there was a race that way, and the solitudes of this river were penetrated by hunters in quest of the glittering ore. Discomfiture ensued. Gold had been found, but not in sufficient quantities reasonably accessible. Nature for the present set up obstacles; but failure in one place will be no discouragement in another, especially as there is reason to believe that the mountains here contain a continuation of those auriferous deposits which have become so famous farther south. The Sierra Nevada chain of California reaches here.

Traces of gold have been observed at other points. One report places a deposit not far from Sitka. The same writer who reports iron there, also reports that during the last year he saw a piece of gold as large as a marble, which was shown by an Indian. But the Russian engineer, Doroschin, furnishes testimony more precise. He reports gold in at least three different localities, each of considerable extent. The first is the mountain range on the north of Cook Inlet and extending into Alaska, consisting principally of clay slate with permeating veins of diorite, the latter being known as a gold-bearing rock. He observed this in the summer of 1851. About the same time certain Indians from the Bay of Jakutat, not far from Mount St. Elias, brought him specimens of diorite found in their neighborhood making, therefore, a second deposit. In the summer of 1855 the same engineer found gold on the southern side of Cook Inlet, in the mountains of the Kenai Peninsula. Satisfying himself, first, that the bank occupied by the redoubt of St. Nicholas, at the mouth of the Kaknu River, is gold bearing, he was induced to follow the development of diorite in the upper valley of the river, and, as he ascended, found a gold-bearing alluvion gradually increasing, with scales of gold becoming coarser and coarser, instead of being scarcely visible, as at first.

It does not appear that the discoveries on Cook Inlet were pursued; but it is reported that the Hudson Bay Company, holding the country about the Bay of Jakutat under a lease from the Russian company, have found the diorite in that neighborhood valuable. This incident has given rise to a recent controversy. Russian journals attacked the engineer for remissness in not exploring the Jakutat country. He has defended himself by setting out what he actually did in the way of discovery and the essential difficulty at the time in doing more; all which will be found in a number just received of the work to which I have so often referred, the *Archiv von Russland*, by Erman, for 1866, volume 25, page 229.

Thus much for the mineral resources of this new-found country as they have been recognized at a few points on the extensive coast, leaving the vast unknown interior without a word.

The other great statesman, William H. Seward, whose name is more intimately connected with Alaska than even Sumner's, visited the coast, and, in a speech delivered at Sitka, August 12, 1869, he said:

Alaska has been as yet imperfectly explored, but enough is known to assure us that it possesses treasures of what are called the baser ores equal to those of any other region of the continent. We have Copper Island and Copper River, so named as the places where the natives, before the period of Russian discovery, had procured the pure metal from which they fabricated instruments of war and legendary shields. In regard to iron, the question seems to be not where it can be found, but whether there is any place where it does not exist. Mr. Davidson, of the Coast Survey, invited me to go up to him at the station he had taken up the Chilkat River to make his observations of the eclipse, by writing me that he had discovered an iron mountain there. When I came there I found that, very properly, he had been studying the heavens so busily that he had but cursorily examined the earth under his feet; that it was not a single iron mountain he had discovered, but a range of hills, the very dust of which adheres to the magnet, while the range itself, 2,000 feet high, extends along the east bank of the river 30 miles.

Limestone and marble crop out on the banks of the same river, and in many other places. Coal beds, accessible to navigation, are found at Kootznoo. It is said, however, that the concentrated resin which the mineral contains renders it too inflammable to be safely used by steamers. In any case, it would seem calculated to supply the fuel requisite for the manufacture of iron. What seems to be excellent cannel coal is also found in the Prince of Wales Archipelago. There are also mines at Cook Inlet. Placer and quartz gold mining is pursued under many social disadvantages upon the Stikine and elsewhere, with a degree of success which, while it does not warrant us in assigning a superiority in that respect to the Territory, does, nevertheless, warrant us in regarding gold mining as an established and reliable resource.

In 1858 there occurred what is known as the Fraser River excitement, and this merged into the Cariboo country, where large quantities of gold were obtained.

In 1862 gold was discovered upon the Stikine River in British Columbia, near the Alaska boundary line.

About the year 1867 Captain Lewis, of the Hudson Bay Company's steamer *Otter*, picked up a man who was wounded, hungry, and drifting in a canoe near Takou Harbor in the neighborhood of Stockade Point. This man had some gold dust. His name was Culver. He had two partners, and the natives, attacking them, killed one.

He told the story of his discovery at Port Townsend, where a party fitted out and embarked on the schooner *Louisa Downs*. He said that he could take them to the place. They came to Sitka, replenished their stores, and proceeded to the neighborhood of the Takou; but Culver could not tell anything, for it all seemed a blank to him. They threatened to hang him, and then he lost his wits altogether.

He came back to Sitka, where he died a few years afterwards. He told his best friends, just before dying, that he had always told the truth about the gold, and that some day the place would be found.

In 1873 gold was discovered in the Cassiar district of British Columbia, and the entrance to it is up the Stikine River.

It was in the summer of this year that William Dunlap, Edward Doyle, P. Burns, Frank Mahony, and some others started to prospect around Sitka. They found colors in Indian River, and at the falls a quartz ledge carrying mineral. At the head of Silver Bay, 10 miles from town, they found colors and float quartz in a stream. In following up the stream they found a branch of it flowing across a large quartz ledge.

They brought back samples, and these were exhibited on the counter of the saloon, which was conducted by Samuel Militich, a Slavonian, who had encouraged and aided the prospectors.

Among the soldiers who were stationed here was Nicholas Haley. He had worked upon the mines in California and Nevada. When he saw this ore he became interested and found out all that he could learn. He and another soldier obtained a few days' leave, and they, with Edward Doyle, went to the ledge already discovered. Two blasts were put in, and about \$300 worth of fine gold quartz specimens were blown out.

When Haley visited this ledge soon afterwards he went farther up the stream, and in about a quarter of a mile he came upon a fine cropping of quartz. When the disintegrated surface was panned plenty of colors could be obtained. These were pronounced genuine discoveries, and are the first real discoveries of gold in Alaska.

Fort Wrangell was the entry port and headquarters of miners entering the Cassiar country.

In 1874 a number went prospecting on the main coast north from Wrangell, and discovered and worked placer ground at a place called Shuck, in Stephens Passage and not far from Holkham Bay. A considerable amount of dust was taken from a few claims.

Alaska, at this time, was connected very closely with Oregon. The mail steamer hailed from there and the traders and merchants did nearly all of their business in Portland. The military officers came from Vancouver, only 14 miles from Portland. These officers took great interest in the quartz discoveries. It was quite natural, therefore, that the first mining company should be incorporated under the laws of Oregon, in Portland. This was on January 30, 1877, and it was known as the Alaska Gold and Silver Mining Company.

The mine was named Stewart Tunnel, after Major Stewart, who was then in command of the troops stationed at Sitka.

The Portland merchants controlled the stock. The work of development began, and in 1879 a 10-stamp mill was put up. But affairs were not managed well, and in the spring of 1880 the president of the company came up and shut down the works.

This turn left quite a number of men in the neighborhood of Sitka without employment. Two of these were Richard T. Harris and Joseph Juneau. They were outfitted by George E. Piltz, the superintendent of the Stewart Tunnel mine, and N. A. Fuller, storekeeper. Harris and Juneau struck out in the direction of Takou. In October they returned with quartz crammed with gold, and such a quantity as to leave no doubt as to the value of the discovery. Everybody wore a smile, especially poor Piltz, who had just about run to the end of his string. The officers of the *Jamestown*, the United States man-of-war lying in the harbor, shoved out their twenty-dollar pieces, and they were taken in, of course.

Steam launch, boats, canoes, and steamers were made ready and there was a rush for Gastinaux Channel. Locations were made, both placer and quartz, along Gold Creek and at its source, in Silver Bow Basin. A town was marked out, and some called it Rockwell, after the popular executive officer of the *Jamestown*, others Harrisburg, but finally, at a miners' meeting in May, 1882, the name of Juneau was adopted.

The first winter was one of waiting, and, as the wag of the camp, Pat McGlinchy, used to say, "They lived on snowballs and pepper."

Work began in earnest in 1881, and many thousands of dollars were washed out. New life was thus given to mining. Prospectors branched out in all directions. Douglas Island, across the channel from Juneau, received immediate attention, and considerable gold was cleaned up from claims upon the beach. Several hydraulic claims were located on top of what is now the Treadwell group.

Quartz locations were made upon this island in May, 1881. Mr. John Treadwell, of San Francisco, acquired for himself and others in the same city a number of the locations by purchase. Development began by running two tunnels and erecting a 5-stamp mill. In due time, when there was no longer any doubt as to the extent and value of the ore, cost of transportation, timber, wood, and other problems, which have to be considered in valuing a mine, a 240-stamp mill was erected with all of its accessories in the way of shops, water, and steam power, tracks, wharf, electric lights, and chlorination works. The machinery is the best that can be obtained, and the greatest care has been taken in the construction of the whole plant. These works are not surpassed by anything similar in any mining country.

This Alaska Treadwell concern has given tone and backbone to mining in this far-off quarter of the globe. Day and night, month after month, year after year, these stamps have been dropping and the smoke from the fires in the chlorination works has been wafted either up or down the channel.

The monthly shipments of bricks of bullion are arguments of great weight. This has been going on since 1885.

It is a great wonder that such a practical school in mining has not been taken up by some enterprising university. A dormitory and class room could be built and the students could be put through the actual work of mining and be made to understand how to conduct it for a profit. Theory could be corrected by practice. They could go along hand in hand. These corporations are composed of liberal-minded men,

and they no doubt would welcome and aid such a movement on the part of universities. Young men put through such a course would find a promising field right here in Alaska. The country needs trained and skillful mining superintendents and managers even more than it does capital for development.

The Alaska Treadwell is 450 feet wide.

Mr. Robert Duncan, jr., the able superintendent, has kindly furnished a copy of his report for the year ended April 30, 1896. His last is not yet printed.

Mining people will no doubt take great interest in reading what follows:

THE MINE.

During the year there were mined of ore as follows:

	Tons.
110-foot level:	
Sections D to H, 15 to 20.....	88, 172
Sections A to G, 20 to 24.....	130, 361
Sections C to F, 24 to 27.....	42, 475
Total	261, 008
220-foot level: Main crosscut.....	2, 662
Making a total of	263, 670

The above ore was mined at a cost of \$144,787.68, or nearly 55 cents per ton; included in above is a small amount of waste rock, which was mined and trammed to a dump, and of which no separate account was kept.

It will be noticed that all the ore and waste mined during the last year was hoisted from the 110 and 220 levels. Heretofore a great portion of the ore was taken direct from the adit level to the mill, which did away with the cost of hoisting. The above cost of \$0.5491 per ton includes sinking and development work and all costs in the mine development.

DEVELOPMENT WORK.

110 and 220 foot levels:	Feet.
Drives and crosscuts.....	798
Chutes and upraises.....	293
Shaft sinking (main shaft).....	50
Total development work	1, 141

Except the shaft sinking and 120 feet of crosscut on 220 level, all of the above footage was done in ore of fair milling value. From the fire assays made we find the ore developed has an assay value of \$4.19 per ton; this is obtained from an average of about fifty samples of ore taken during the cleaning up of the drifts after blasting the rounds.

As far as development work has gone on the 220-foot level, we find the ore has about the same value as the ore on the level above it. The vein on this level at the main crosscut is 426 feet wide, or a few feet wider than on the 110-foot level.

At this date an upraise is being driven to connect the 220 with the 110 foot level. When connection is made, development work on the vein will be vigorously pushed east and west.

In the writer's judgment, the vein on the 220-foot level looks more promising than it did on the 110-foot level. This is especially noticeable in the 200 feet of the vein nearest the foot wall, 100 feet of which, it will be remembered, on the 110-foot level was poor, and in fact worthless, except the 4 feet next the foot wall. It may also be said that the slate horse has entirely disappeared on the 220-foot level.

During winter development work had to be entirely suspended for want of compressed air; this will not occur another year, as it is the intention to put in a new duplex Riedler compressor, to be driven by either water or steam power. Our old compressor can be driven by water only; therefore the reason of the compressed air being short in winter.

During the next winter the main shaft should be sunk to the 330-foot level and a new working shaft should be sunk, as during the winter hereafter it is proposed to work entirely under cover and leave the open pits to be worked when there is no snow to retard the handling of the ore; therefore the necessity of having another working shaft.

During the year the main shaft was equipped with two water-hoisting skips or buckets, also a dumping rig for these; an 8-inch plunger pump was placed at the

220 loading station. We are now fully prepared to handle any big rush of water we may have.

RESERVES OF ORE.

	Tons.
Adit level	164, 000
110-foot level	1, 971, 900
220-foot level, 200 by 420 by 110.....	610, 000
Total.....	2, 745, 900

The ore on the 110 level is estimated from the No. 1 and No. 2 east and Nos. 1, 2, 3, and 4 west drifts, all of which are now in average ore. On the 220-foot level the ore in sight or reserve is thus taken: Vein, 420 feet wide; height, 100 feet, and length 200 feet. It is safe to say that the ore will continue good for, say, 100 feet east and west of the main crosscut.

The general appearance of the mine at this date is excellent in fact, it never has been better during the six years that I have been here.

THE MILL OF 240 STAMPS.

During the period under review the mill has crushed 263,670 tons of ore, at a cost of \$91,671.34, or 34½ cents per ton.

The crushing this year is over 22,000 tons more than ever was crushed before in the same time. The Gates crushers are principally accountable for this, and the length of drop of the stamps was, also, increased somewhat.

During the year new foundations were put under 60 stamps of the old mill; the foundations of all of the old mill are now practically renewed and are in first-class order; work will be continued in placing new foundations in the new part of the mill next winter, and so on until new foundations are put in all of it.

All of the mill machinery has been kept in good repair during the year.

THE CHLORINATION WORKS.

The works have been fully employed (with the exception of a few stoppages for repairs), three furnaces on this company's own ore, and one on ore from the Alaska Mexican Gold Mining Company.

During the period under review there were 4,397.6 tons of Alaska Treadwell concentrates worked, at a total cost of \$30,012.80, or \$6.83 per ton.

The works have been kept in thorough repair, and vats and precipitating tubs renewed as required.

MECHANICAL.

The mill engines, air-compressor plant, mine locomotives, and electric-light plant, and all other machinery, have been kept in thorough repair.

Additions to this department during the coming year will be, one 2,000 16-candle-power light Westinghouse direct-current dynamo, to be driven by Pelton water wheel or steam power, at will; we have entirely outgrown our present electric-light plant; also, one duplex Riedler compressor, 24 by 36 inch air cylinders, driven by a cross-compound condensing Corliss engine, 22 and 38 inch by 36-inch stroke, or by water power with the Pelton wheel, at will.

STORE.

The store has been very successfully run during the year, and has beaten its own record as to profits.

GENERAL.

There were built during the year six cottages; two 25 by 30 feet, and four 25 by 20 feet, at a cost of \$3,711.83. These cottages are rented to employees, and it is my intention to build a few more of them during the coming year. They are a very necessary adjunct to the establishment.

It is also my intention to build, adjoining our wharf, coal bunkers, to hold about 3,000 tons of coal; our coal storage is entirely inadequate. These bunkers will pay for themselves in about three years, as we now sell a great deal of coal to other concerns here. By these bunkers I also hope to still reduce the cost of our coal. A contract has now been let to put in the piling foundation for these bunkers and warehouse.

Usual repairs have been made on Fish Creek ditch and other ditches, and the whole line has been kept in order.

A new 6-inch main water pipe was laid, connecting the different departments, for protection from fire. This was done at a cost of \$347.47.

A new powder magazine was also built. This was done by driving a large tunnel into the mountain side, and in this tunnel a magazine was built. The cost of this was \$1,227.84.

In the store and office department there was put in a chrome steel vault, burglar and fire proof, size 6 by 8 feet, with time locks, etc. This vault has cost so far \$1,809.90. It will cost about \$300 more before all of the concrete work is finished.

LABOR.

Throughout the year labor has been plentiful. The average number of employees for the year was 171 white men and 27 Indians. Contractors and cord-wood men are not included in this average.

Wages were paid as follows:

Occupation.	Wages.	Remarks.
Miners	\$2.50	Per diem, with board and lodging.
Laborers	2.00	Do.
Drill men	2.50	In summer and \$3 in winter, with bonuses and board and lodging.
Indians	2.00	Per diem, paid daily.
Mill men:		
Concentrators	65.00-100.00	Per month, with board and lodging.
Feeders	70.00-100.00	Do. do.
Amalganators	90.00-100.00	Do. do.
Chlorination works:		
Roasters	2.50	Per diem, with board and lodging.
Roasters' helpers	2.00	Do. do.
Floor men	2.00-2.25	Do. do.
Machine shop:		
Mechanics	2.00-6.00	Do. do.
Blacksmiths	4.00	Do. do.
Blacksmiths' helpers	2.00	Do. do.

Bullion statement, twelve months ending May 15, 1896.

Date of shipment.	Crush- ed.	Sul- phurets saved.	Sul- phurets treated.	Yield free gold.	Per ton in free gold.	Yield sul- phurets.	Per ton from sul- phu- rets.	Total yield.	Total yield per ton.
1895.									
June 15	<i>Tons.</i> 25,991	<i>Tons.</i> 416.5	<i>Tons.</i> 398.3	\$59,187.38	\$2.28	\$28,885.66	\$72.58	\$88,073.04	\$3.39
July 15	22,823	406.5	384.2	64,985.90	2.85	28,158.48	73.33	93,144.38	4.08
August 15	23,806	402.3	416.5	59,756.69	2.51	28,156.26	67.52	87,912.95	3.69
September 15	22,849	377.2	402.8	56,478.24	2.47	24,288.17	60.27	80,760.41	3.53
October 15	20,821	397.2	306.6	53,720.89	2.58	23,578.33	59.46	77,300.22	3.71
November 15	23,711	376.7	400	37,286.77	1.57	19,828.01	49.67	57,114.78	2.63
December 15	22,033	364.3	369.1	35,990.90	1.03	18,827.10	51.00	54,818.00	2.49
1896.									
January 15	21,293	344.6	364.2	37,135.04	1.28	18,939.82	52.00	56,074.86	2.63
February 15	18,013	255.1	205	28,949.57	1.60	12,729.59	48.04	41,679.16	2.31
March 15	17,940	270.6	281.6	25,584.35	1.43	12,072.19	45.00	38,256.54	2.13
April 15	22,114	362.7	347.3	32,169.93	1.46	14,705.04	42.50	46,914.97	2.13
May 15	22,276	400.2	372	30,657.07	1.05	17,099.42	47.57	54,356.49	2.44
Base bars				1,056.07				1,056.07	
Filterings						5,341.80	1.22	5,341.80	.25
Total	203,070	4,373.9	4,397.6	528,958.80	a 2.00	253,870.87	a 57.73	782,829.67	a 2.97

a Average.

Bullion shipments from Paris or Treadwell mine, from beginning of work to May, 1896.

[The Paris mine was owned by Alaska Mill and Mining Company up to June 1, 1890; since that date it has been owned and operated by the Alaska Treadwell Gold Mining Company.]

Dates.	Crushed.	Yield free gold.	Concentrates (sulphurets).		Total yield.	Total yield per ton.	Operating profits.	Operating costs per ton.
			Chlorinated.	Yield.				
	Tons.		Tons.					
1882-1884.....		\$10,002.80			\$10,002.86			
August to December, 1885.	34,495	232,176.33	205 [†]	\$10,143.00	243,319.33	\$7.02	\$729,000.00	\$2.25
January to December, 1886.....	90,826	283,750.24	1,566 [†]	82,429.07	366,180.21	4.03		
January to December, 1887.....	108,306	343,421.80	1,697	133,512.72	476,934.52	4.40		
January to December, 1888.....	121,173	348,264.20	1,354	81,625.21	429,889.41	3.55		
January to December, 1889.....	214,544	540,665.03	2,527	111,825.75	652,490.78	3.04			308,000.00
January to May, 1890.....	47,768	101,279.70	1,510	59,402.10	160,681.86	3.30	38,000.00	1.78
	017,112	1,800,460.16	8,865	478,938.81	2,330,398.97	3.79	1,075,000.00	2.05
June, 1890, to May, 1891....	220,686	\$531,185.77	α5,869	\$238,580.03	\$769,765.80	\$3.49	\$418,208.90	\$1.59
June, 1891, to May, 1892....	239,633	508,894.81	6,176	198,122.56	707,017.37	2.95	361,980.16	1.44
June, 1892, to May, 1893....	237,235	504,785.46	4,584	189,873.28	694,658.74	2.94	385,613.79	1.30
June, 1893, to May, 1894....	220,043	518,194.34	4,042	187,753.69	705,948.03	3.20	429,948.86	1.25
June, 1894, to May, 1895....	241,278	411,070.66	4,261	215,250.40	626,327.06	2.60	309,534.56	1.31
June, 1895, to May, 1896....	263,670	528,958.80	4,397.6	253,870.87	782,829.67	2.97	497,342.22	1.08
	2,039,657	4,863,550.00	38,194.6	1,702,395.64	6,625,945.64	3.25	3,477,028.49	1.54

a Including 501 tons sold.

The given "total yield per ton" does not exactly show the value of the quartz crushed in each period, as the amount of sulphurets chlorinated was sometimes less and sometimes greater than the product of sulphurets for that particular period.

The figures in the above statement, prior to May 31, 1890, have been prepared by Mr. Hamilton Smith from a careful analysis of the accounts of the Alaska Mill and Mining Company.

The directors of the Alaska Treadwell take a pardonable pride in presenting the foregoing accounts to the shareholders of the company. All expenses of construction have been (as has been the practice heretofore) charged to operating, as well as freights on bullion, mint charges, and all expenses of management; the profit for the year of \$497,342.22 was therefore applicable for dividends. The total costs per ton were \$1.16; from this can be deducted 8 cents per ton, being the profit from the store, leaving the net cost for the year 1895-96 at \$1.08 per ton. This is an astonishingly low cost for mining and reducing hard quartz, where nearly one third of the bullion product was obtained by the elaborate process of concentration, roasting, and chlorination, and reflects great credit on Mr. Duncan, the superintendent, and the other officials of the company. By reference to page 21 it will be seen that the costs were \$2.05 per ton for the first five years (1885-1890) of the milling operations of the mine, which was then considered satisfactory.

The company is sinking a shaft, and no doubt in the near future will erect a mill of more than twice the capacity of the present one.

Next comes the Alaska Mexican Gold Mining Company, under almost the same management as the Alaska Treadwell. This property is on Douglas Island and about a half mile south of the Alaska Treadwell. Mr. Robert Duncan, jr., is the superintendent of this mine also. His report for 1896 is of so much importance to mining men, to show what is being accomplished in Alaska, that liberty is taken to give it almost in full:

THE MINE.

During the year there were mined of ore as follows:

	Tons.
Adit level:	
Pit No. 1, G to K, 43 to 47.....	26, 754
Pit No. 2, G to L, 42 to 52.....	20, 405
Stope No. 2, K to L, 42 to 43.....	5, 862
Stope No. 4, L to N, 29 to 32.....	1, 903
Total.....	54, 924
110-foot level:	
Stope No. 1, M and N, 44 to 49.....	25, 268
Stope No. 4, O, 30 to 32.....	5, 723
Drifts, cross-cuts, upraises, and chutes, N to P, 28 to 53.....	3, 515
Total.....	34, 506
220-foot level—	
Stope No. 1, O and P, 43 to 48.....	9, 003
Drifts, crosscuts, upraises, and chutes O and P, 38 to 41.....	3, 148
Winze.....	121
Total.....	12, 272
Total ore milled.....	101, 702
Waste rock mined and trammed to waste dump.....	1, 290
Total mined.....	102, 992

The above 101,702 tons of ore were mined at a cost of \$116,056.20, or \$1.1411 per ton. There was no separate account kept of the 1,290 tons of waste rock or slate, the cost of which is included in the total cost per ton of ore.

Development work underground during the year has been as follows:

	Feet.
Adit level: Chutes and upraises.....	274
110-foot level:	
Drives and crosscuts.....	831
Chutes and upraises.....	296
Total.....	1, 127
220-foot level:	
Drives and crosscuts.....	750
Chutes and upraises.....	296
Total.....	1, 046
Main shaft sinking.....	62
Total development work for year.....	3, 409

ADIT LEVEL.

Ore is still being mined from pit No. 1, which at this date looks poor on or near the surface; but it is of fair milling value about 30 feet down from the surface.

No. 2 pit (in Section O, 50, see map) is now being worked, and from which fair ore is being obtained.

During the year little ore has been taken from No. 4 stope, this level, which is also being kept as reserve ore.

Prospect shaft No. 5 is being sunk from the surface (in Section R, 41) between No. 3 and No. 4 stopes. This is being done with a view of stoping some good ore which is located at this point on the surface. It is the intention to drop the ore into No. 4 stope, and from there take it to the mill.

110-FOOT LEVEL.

This level, during the period under review, has been extended west about 500 feet. All of this distance the level is in good ore, and is now connected with No. 4 Prospect shaft, where ore is now being stoped. The vein at this point (No. 4 Prospect shaft) is over 60 feet wide.

During the drifting of the above 500 feet on the vein an ore sample was taken from every blast, or about 100 samples were taken and assayed. We find the average value of the assays to be \$3.21 per ton, which is about average milling ore.

No. 1 stope on this level at this date looks well. A good percentage of the ore we are now milling is being taken from this stope.

Intermediate drifts have been driven on this level, and chutes have been put in place, ready for the delivery of ore.

220-FOOT LEVEL.

This level has been extended west about 360 feet, all of which distance is in good ore. No crosscuts have been driven across the ore body; therefore, in my estimate of the ore developed for the year, I take the vein as being 10 feet wide. It is safe to say that the vein will double the above width.

During the driving of this level over 100 assays were made from samples taken from the ore as it was blasted, which result in an average assay value of \$7.12 per ton. At this date we are in ore assaying between \$20 and \$40 per ton.

Intermediate drifts have been driven on this level and chutes put in place, which are ready for stoping ore.

This drift will be continued west to a point about Section P, 40, where an upraise will be made to connect with the level above.

East drift, on this level, has been extended during the year 65 feet, all in fair ore. For some distance intermediate drifts have been driven and chutes put in place.

We are now sinking a winze from the 220-foot level on the vein. This winze is now about 30 feet deep, and is in fair ore. It is my intention to place a small hoisting engine here, to be driven by compressed air, and sink this winze at least 330 feet. If the ore is found to go down this depth (with the vein at the same angle as it is at the 220-foot level), then it would be advisable to sink a main shaft out at the mouth of the adit level (Section J, 45), and hoist and dump direct into the ore-crushers.

In doing development work throughout the year, samples of ore were taken as it was blasted from the different faces of the drifts and assayed. From these assays we find the average value of the ore developed for the year to be \$4.74 per ton.

The general appearance of the mine at this date is good.

RESERVES OF ORE.

Estimate of ore in sight:	Tons.
Adit level	238, 230
110-foot level	256, 694
220-foot level	112, 342
Total	607, 266

MAIN SHAFT.

During the year the main shaft was sunk from the surface to the adit level, and there connected with what was the collar of the main shaft. Head-gear was placed over the shaft and the hoisting engines were moved to the surface from the adit level. All of the ore is now hoisted directly to the surface, and from there trammed to the top of the crusher tower, instead of being hoisted twice, as was done with the old system. The change was also necessary to enable the comet crusher to crush all of the ore required for the 120-stamp mill. We now drop the ore to a fine set of grizzlies before it falls into the comet crushers. This, of course, enables us to run the 120-stamp mill with the same crushers as were used for the 60-stamp mill.

THE MILL.

The mill (of 60 stamps until August 20, and of 120 stamps during the balance of the year) has crushed 101,702 tons of ore, or 3.57 tons per stamp per day of twenty-four hours' running time, at a cost of \$0.3491 per ton.

The running time made for the year was 350 days, 1 hour, and 20 minutes; of this time, water power was used 171 days, 21 hours, and 50 minutes, and steam power 178 days, 3 hours, and 30 minutes. Attached to this report is the mill record for the year 1896, which shows the cause of so much lost time as compared with our year's work in 1895.

Concentrates saved by the mill during the year were 2,219.4 tons, of which 1,652.2 tons were treated at the Alaska Treadwell Gold Mining Company's chlorination works, at a net cost of \$10 per ton of 2,000 pounds; 95.68 per cent of the gold contained in the concentrates of a net value of about \$30,000.

For the use of this company the Alaska Treadwell Gold Mining Company has built another roasting furnace and has generally enlarged their chlorination works. It is expected that the new furnace will be at work in a few days, when we will be able to reduce about all the sulphurets saved by the mill.

ADDITIONS TO PLANT.

During the year there were added to the mill 60 stamps of 1,020 pounds each, which now makes it a 120-stamp mill.

There was also put in place a new pipe line (for water power), size 18 inches and 22 inches, and about 2,600 feet long.

To drive the mill it was also necessary to replace the old Pelton water wheel with a new one of larger capacity.

The condensing plant of the mill engines was also replaced with a surface condensing plant, so that the water used for condensing can be used for amalgamating purposes.

There was also installed one Berryman feed-water heater for boilers. Two 100-horsepower Fraser & Chalmer's tubular boilers also were added to the boiler plant.

The addition to air-compressor plant was one 18 by 30 inch Reidler compressor, which now makes our compressor a duplex Reidler, 18 by 30 inches, driven by cross-compound condensing Corliss engines 16 and 28 inch by 30-inch stroke. This compressor is also connected by rope transmission with a Pelton wheel, which enables it to be driven by water or steam at will. The water used for condensing is pumped back and used again for battery purposes.

There was also installed in the electric-light department one 22 kilo-watt direct-current Westinghouse dynamo, which gives us ample light for all purposes.

There were also built four cottages (25 by 30 feet) for dwellings for employees, all of which are rented at a fair rent.

In conjunction with the Alaska United Gold Mining Company, there was bought a new Baldwin locomotive to replace the one blown to pieces in the dynamite explosion of last spring.

GENERAL.

The water ditch (or canal) for power has been kept in repair throughout the year. All of the machinery has been kept in thorough repair, and, while running, gives every satisfaction.

Fire hydrants have been placed on the outside of the buildings, and fire hose has been installed on the inside, both of which have been kept in good working order in case of need. The water for fire purposes is continuously kept under a pressure of 180 pounds to the square inch.

LABOR.

Labor was very plentiful, and the daily average of employees for the year was 85 white men and 30 Indians. Paid wages as follows:

Occupation.	Wages.	Remarks.
Miners	\$2. 50	Per day and board and lodging.
Laborers	2. 00	Do. do.
Drillmen (in summer)	2. 50	Do. do.
Drillmen (in winter)	3. 00	Per day and board and lodging, with bouses.
Indians	2. 00	Per day, no board.
Mill men:		
Amalgamators	90. 00	Per month, board and lodging.
Feeders	70. 00	Do. do.
Concentrators	65. 00	Do. do.
Crushermen	75. 00	Do. do.
Holsters	75. 00	Do. do.
Engineers and mechanics	2. 50-4. 00	Per day, board and lodging.
Blacksmiths	4. 00	Do. do.
Blacksmiths' helpers	2. 00	Do. do.

In reply to a request for information concerning the Berners Bay Mining and Milling Company and the Nowell Gold Mining Company, the following has been received:

The Berners Bay Mining and Milling Company properties are situated on the borders of Lynn Canal, about 55 miles from Juneau. The town is named Seward in honor of Secretary Seward, who concluded the purchase of Alaska Territory. This company was incorporated three years ago last November. At about that date construction and development work for the company was commenced. The company have their own wharf and warehouse at the beach, where the Pacific Coast Steamship Company land their supplies. A well-constructed railroad extends from the wharf to the milling plant, 2½ miles. A 40-stamp mill, electric-lighting plant, air

compressor, 300-horsepower Corliss engine, warehouses, boarding houses, and other accommodations sufficient for 50 men, with well-constructed buildings, surround the milling plant. A gravity wire tramway, 4,400 feet, extends to the Comet group of mines; a gravity tramway, 1,800 feet, to the Bear group of mines. This gravity tramway has a daily capacity of 1,000 tons of ore, it being constructed to meet all the demands of the company for future time when they increased their milling plant.

The Bear mines have been opened up to the 500-foot level by a 1,200-foot tunnel. The Comet mine is opened up to the 1,000-foot level by a tunnel extending 1,875 feet. This is the lowest level any mine has been developed in Alaska, and demonstrates the fact that ledges of gold-bearing quartz that abound in this Territory extend to great depth, and the ores are as free-milling and the ledges larger and richer at this 1,000-foot level than at any other level above that has been worked in this mine. This company owns over forty mining claims—the most of them full size, 600 by 1,500 feet. The ore bodies are from 2 to 50 feet wide. Many of the ledges have been developed by crosscuts, adits, shafts, and tunnels, and the ore has a milling value in free gold and high-grade concentrates of good-paying quantity.

Great possibilities seem to surround this company's properties. The management is in the hands of Mr. F. D. Nowell, general manager, and Mr. Willis E. Nowell, superintendent. The stockholders are from Boston and New York capitalists, with Mr. Thomas S. Nowell, of Boston, president of the company.

The Nowell Gold Mining Company mines extend from Sheep Creek, where the company owns its wharf, to Silver Bow Basin, some 4 miles. At Sheep Creek the company now have 30 stamps running, and the building is of sufficient size to admit of 15 more stamps, making the milling plant 45 stamps. The milling plant is situated about 1 mile from the company's wharf. This company controls the entire water front at Sheep Creek, with a very valuable water power, which will furnish power for 50 to 100 stamps the year around, and for eight months in the year any number of stamps that the company may wish to construct.

Large bodies of high-grade ore have been developed at Sheep Creek. A system of tunnels has been inaugurated that will extend through the ore deposits to Silver Bow Basin, and will tap the basin proper to the 500-foot level.

This company owns some 200 acres of placer ground. The present bank where they are hydraulicking is 100 feet deep. The hydraulic plant is operated from six to seven months in the year, and the results in its operation are satisfactory in net annual returns. It is estimated that it will take eighteen or twenty years to work out this large gravel deposit. The company's quartz ledges are very extensive, the ore yielding an average of \$10 a ton, and Mr. F. D. Nowell, the manager, says that the entire cost of mining and milling will not exceed \$3 per ton; and when the milling plant is enlarged to 100 stamps—which it is proposed to do in 1898—the cost of mining and milling will be materially reduced. It is the opinion of good mining men, who express their opinions from a disinterested standpoint, that the Nowell Company's properties are destined to be of great importance to the Territory. The same management and officers and stockholders have this company's mines in control as the Berners Bay and Mining Company.

At Funter Bay, Admiralty Island, the Boston-Alaska Gold Mining Company have a 10-stamp mill, which is operated by water power. There are 42 claims. This year they have been doing development work.

At Silver Bow Basin a 400-foot tunnel is being run on the Perseverance by Wisconsin parties.

The Ebuer mill has 10 stamps, and is run the year through by water power.

The Webster mill has 5 stamps, but is idle most of the time.

The London Exploration Company bought out the Lane & Hayward Company, and are running 35 stamps, and turning out bullion at a profit.

At the Yankee Basin is the Aurora Borealis, owned by S. P. Earle & Co. They are erecting a 5-stamp mill, to run by steam. Considerable development work has been done, and the ore is very promising.

Montana Creek: Claims held by Juneau people; development work in progress. There are more than twenty claims, and they are about 7 miles from salt water. There is a trail and wagon road. The ore assays well.

In the Berners Bay district are the Horrible and Mexican claims,

owned by the Portland-Alaska Gold Mining Company. There are 300 feet and more of tunneling, several inclines, and a 10-stamp mill close to salt water. A wire tramway 10,000 feet long connects the mine with the mill. One hundred thousand dollars has already been spent upon it.

Another mine in this neighborhood is the Jualin, a word made up of the first syllables in the words Juneau, Alaska, and Indiana. The owners are "Hoosiers," and the old saying, "A greenhorn for luck," comes near the truth in this case. They have a 10-stamp mill. The vein is from 3 feet to 6 feet, and the yield in gold exceeds \$10 per ton, and there is enough ore in sight to keep the mill going for a long while. There is no stock for sale, and the owners wear a pleasant smile. The short history of the management of this mine is worthy of study. It is surely one of the neatest and cleanest pieces of work that has been done in Alaska.

Claims have been located and houses built in the Mendenhall district, and a company organized to begin work. Many claims are undergoing development on Snettisham Bay, but no mill has been built.

The Bald Eagle is a noted mine. Nearly \$200,000 was taken out with 11 months' run with a 4-stamp mill. Last year they cleaned up \$96,000 in 167 days' run. One thousand seven hundred feet of tunnel has struck the ledge 350 feet deep, the mill ore running from \$48 to \$53 per ton. In the vicinity of the Bald Eagle is the Sum Dum Chief. A 10-stamp mill is in process of erection, to be run by water or steam. There is an electric plant to run the hoist and air compressor. They have 4,000 feet of wire tramway from the mill to the mine, along the side of the mountain, 1,500 feet above the mill. Mine is well developed, with tunnels and winzes. Owned by San Francisco parties.

Three or four claims are under development near Shuck, where there was placer mining in 1874.

Locations have been made upon Gravina Island and around Boca de Quadra.

There were 380 mining claims recorded at Juneau last year.

One of the largest enterprises in the Territory is the Apollo Consolidated Mining Company, upon Unga Island, one of the Shumagin group, about 1,000 miles west of Sitka. The company is composed of San Francisco people. They have spent \$375,000 in development and construction. They run a 40-stamp mill and concentrators. The monthly yield of gold is \$30,000 and more. It pays the company to ship the concentrates rather than treat them on the ground, on account of the high price of fuel.

So far but little silver ore has been found. Sheep Creek, near Juneau, is the only place where it is produced. Rich silver ore has been found north of Golovnin Bay, and attempts have been made to ship the ore, but they proved sadly disastrous.

YUKON VALLEY.

Cassiar miners who would spend their winters at Victoria, Fort Wrangell, and Sitka, would often express a desire and a determination to prospect the head waters of the Yukon. The passes were held by the Chilkats, a tribe noted for its willingness to fight in order to maintain their monopoly of the fur trade with the interior people. They were extremely jealous of the white men going in, for they would cultivate wrong notions in the minds of the Stick Indians. In May, 1878, a party left Sitka with their outfits on a small steamer. These Chilkats had many questions to ask, and were saucy. One fellow put on a miner's shoes and did not wish to take them off. These adventurers did not

deem it safe to take the risk, so they got up steam and left early in the morning, and returned to Sitka. Two years afterwards parties did cross, and went down a distance, but they came out in the fall. In 1882 larger numbers went in over the Dyea trail, and the same year Ed. Schieffelin and brother built a steamer for the Yukon, and with a party of five went up the river to Nulukilt, where they wintered. The next season they prospected until August. They found coarse gold everywhere. A short distance beneath the surface they found the ground frozen. The miners were well rewarded by working the bars on Stewart River and its tributaries before 1885.

Franklin discovered coarse gold on Forty Mile Creek in the fall of 1886. This is in Alaska Territory. There was a rush from Stewart River to this stream and its branches, and they have been worked every year since. While Sixty Mile Creek and Forty Mile Creek pass over into the British soil, nearly all of the gold diggings are on the American side of the line. Circle City was founded in the fall of 1894. It is the depot for supplies to the miners upon Birch Creek and its forks. Gold was found the previous year, 1893. Thus, year after year, the field has been widening and more men have been attracted, and they go in expecting to remain several years. But the miner is handicapped. The want of supplies and transportation facilities is what discourages him. If he waits till the river opens and the boats come up, his time is consumed. If he starts out with a dog team, he knows that his grub will last so many days and no longer, and to go farther and trust to his gun would be tempting fate. This is the great problem for the Yukon, namely, how to get supplies there and sell them at profits not akin to robbery, and how to distribute them to any river, creek, or gulch where men are at work. Capital put into enterprises with such ends in view will be rewarded richly.

KLONDIKE.

The discovery of gold upon this branch of the Yukon in August, 1896, by George Cormack, was no doubt largely by accident. However that may be, it has stirred up the world. The shipments of gold by the steamer told the story. Thousands started at once, and thousands more are waiting to be more certain, and it is well that they have done so. Shipload after shipload of gold-seekers and their freight has been rushed to the extreme limit of salt-water navigation, and there they have been literally dumped upon the beach, some above high water and many below, as they learned to their sorrow when the water covered them as they slept. Miners' meetings were held upon the ships on the way up and about every two hours after they were piled upon the beach. Some said Dyea was best, many held out for Skugua. It may be well to explain that there are three passes over the coast range of mountains in the neighborhood of Lynn Canal, which is the extreme limit of salt water in a northerly direction. The one which has always been used by the Chilkats, and by the early prospectors and miners, and who are now looked upon as old timers, is the Chilkoot Pass, or, as it is more frequently called, the Dyea Pass. West of this the Chilkat River is ascended, and on this route is the Chilkat Pass, or Dalton Trail.

Now, about 3 miles below where the Dyea waters empty, and on the east shore, is another stream which has filled up a bight of the coast with sand and gravel, which forms a flat between the mountain walls. The natives call this stream Skugua. This name has been in use since the crow made the earth and the Thlingits. A woman was drowned in

this river, and her name was Skugua. On the banks of this river lived a man, Ken-noo-goo, or North Wind, by name. Skugua came to him and became his wife. She told him that her name was Koot-kay-too-on-du-chin. No doubt those who stay there this winter will find out how close the relationship is to the cold north wind. Parties from Victoria have been seeking for a pass to the Northwest Territory, and Capt. William Moore, who has been a pioneer in every camp since 1888, especially in steamboating, persuaded these people to take hold of this pass. Moore's son located 160 acres under the law of 1891. A company was organized and they were proceeding to build a sawmill and a wharf, and intended to open a trail, but when the ships arrived with gold-seekers, they were simply overwhelmed. The miners paid no attention to former locations, but went ahead and laid out a town and elected a recorder.

More than eleven hundred locations have been made, and now the town of tents is giving way to the town of frame houses. The trail was not open, and even the correct distance was not known before the eager throng were crowding with horses, goats, oxen, and mules, hitched to carts, wagons, and drags, and carrying pack saddles loaded with flour, bacon, beans, dried apples, and hay. Already the saloon and dance hall were up and ready for patrons. Tons of stuff were scattered over the beach, and shiploads strung along the trail. These men have had a terrible time, but they are brave and started out to endure hardships. Take them as a class, they would rank far above the average manhood of the country. By hard work and bull-dog tenacity and perseverance some outfits went over the Skugua trail and White Pass to the lakes and down the river. If this pass is improved and kept open during the winter, it may be possible to put over hundreds of tons of provisions and have them ready at the lakes for the break-up in the spring.

Skugua is being built up rapidly. Lumber is in demand, and lots are selling as high as \$1,500. No natives were at work on this trail. Those who took the Dyea trail had no hindrance. The price of packing went up to \$40 per hundred from salt water to the lake. Most of those who got in went over this trail. The Chilkat, or Dalton trail, is the most westerly. It avoids the lakes, canyon, rapids, etc., by keeping to the left, and comes out far down on the river. It is over this trail that they drive in horses and cattle. Americans are anxious to secure a route to the Yukon which shall be entirely upon United States territory. Different parties are now out, and are carefully examining the mountains between Yakutat and Cook Inlet. It is to be hoped that they may succeed and report their discovery yet this fall. This is the third season of the work in Cook Inlet. The excitement over the Klondike has drawn many away from that district; nevertheless, the output of gold this year will be no mean sum. The possibilities of the whole region bordering upon this Inlet and upon Prince William Sound will draw crowds of adventurers in the near future.

COPPER.

But little more can be said of copper than has already been quoted from the early navigators. The Copper River natives bring bullets made of it. A number of locations have recently been made upon Prince William Sound, and representatives of the large copper-producing plants are on the ground, but there will be no development before another season.

MARBLE.

This is found in many localities, but heretofore but little attention has been given to it. The Russians at Sitka used to make excellent lime from marble obtained on Halleck Island, about 14 miles north of town. This year a number of locations have been made and parties are exploiting it in the East.

IRON.

Nobody is looking after this metal just now. In a mineral way, the people are going to take desert first course, and corn beef and cabbage after a while.

COAL.

The best that is in print on this subject is the report on coal and lignite of Alaska by William Healey Dall, Department of the Interior, United States Geological Survey, Charles D. Wolcott, Director. Mr. Dall has for years stood bravely up for Alaska and her resources, and it is a matter of regret that he had but a few brief weeks to devote to this important subject in the summer of 1895. His report, however, will show how well distributed the coal croppings are and how little development work has been done. Alaska is becoming a large consumer of coal, and nearly all that is now used comes from Vancouver Island, British Columbia. This increasing demand will cause more attention to be given to the coal fields in the near future.

COAL OIL.

It has long been known that coal oil has been floating upon the waters around Prince William Sound. Parties have now taken this matter in hand, and it will doubtless be well inquired into during the next year.

Enough has now been said to convince a skeptic that Alaska is the most promising mineral field that is in the possession of the United States, or within the possession of any other country. The Yukon and its tributaries are the ideal diggings for poor men. The gold is all frozen, and it takes muscular power to get it out. In fact, a new kind of mining has been developed. The best work is done in the winter, when fires are kept going upon the frozen earth. As it thaws it is scraped up and piled in heaps, where it remains until washing time in the spring. The individual miner has his chance to make a stake as well as any company or corporation. The Alaska miner wants plenty of the best grub and good trails; he will attend to the rest; trust him.

POPULATION.

The enumeration of the inhabitants of Alaska is no easy task, and has never been accomplished with any degree of accuracy. The census of 1880 is not accepted as correct; and that of 1890, while it is better, is largely a matter of guesswork so far as the natives are concerned. In 1887 the total was estimated at 39,800, and in 1891 at 33,000. In the neighborhood of Juneau and other mining centers, families are coming in to stay. This is even so at Circle City, where the Government has opened a public school. The white population has increased during the past year, and will increase more rapidly from now on. It would be approximately correct to estimate the natives at 30,000 and the whites at 10,000.

MISSIONARIES.

During the Russian occupation a few good men were sent out. Bishop Veniaminoff worked zealously in behalf of the Aleuts. But such men were few, and the examples of every day life as exhibited by a majority were not edifying. The Russians had suffered a massacre at the hands of the Thlingits, or Kolosh, as they called them. Sitka was protected by a stockade and many cannon, all trained upon the native village. For ten years the people of the United States seemingly never thought of these native races. In 1877 a cry for help went even from the military officers. It was responded to, at first feebly, but more earnestly and generously year by year for the past twenty years. Everywhere these devoted missionaries have found the natives practicing witchcraft in all its cruel forms. Almost every manifestation of human depravity met their gaze as they went among them. This has largely changed, and where the missions have been well conducted the change has been from darkness to light. This uplifting work is in progress now. When an Argonaut puts his load on the scales at Dyea, he finds that the native, if a young man, can read the figures and make his reckoning as quickly and correctly as he can himself. The early miners on the Yukon found that the natives could read and write.

The work of instruction and preaching had been going on quietly and almost unknown to the rest of the world for years under the London Missionary Society. These natives are interesting people. No fair-minded man can study the Hydats, Thlingits, Tsimpseans, and Eskimos without forming a very favorable opinion of them. They are self-sustaining, and will continue to be if they only have an equal chance with the white man. They are, beyond question, of Mougolian origin, and have notions about many things that the Anglo-Saxon will not tolerate. So many white men coming to the country as sailors, fishermen, and hunters, without wives, have wrought nothing but misery among these people. The missionaries have found this the worst drawback to their work. They have found it difficult to preserve the trained and educated young women as wives for the young men. Their parents are often willing, yea even anxious, to sell them for a few years to some lecherous villain for a few hundred dollars. This evil is recognized, and is being battled with, and improvement has been made. These people are needed for the development of the country. The missionary should be encouraged instead of sneered at in his efforts to build them up mentally and spiritually. Allowing for all criticisms of their labors, both just and unjust, they need not be ashamed of the work which has been established by them.

COAST SURVEY.

This work has been in progress for several years, and the inside channels for steamers in the southeastern part have been practically completed. A number of the openings or approaches from the ocean have been surveyed, but a vast work remains yet to be done. The coast from Cross Sound to the mouth of the Yukon is almost untouched. Prince William Sound and Cook Inlet will demand immediate attention, for there will be a large increase in the number of vessels frequenting those places during the coming year. Particular attention should be given to the mouth of the Yukon.

The officers of this department are to be commended for the thorough and conscientious manner in which they do their work. It is real hard

physical work for those on the surveying vessels, but they go at it with a will and persistency that is cheering.

MOUNTAIN CLIMBING.

It is worthy of special mention that Luigi, Prince of Savoy, successfully ascended Mount St. Elias to its top on the 31st of July. The success of the Prince is the more noteworthy by reason of failure of a number of parties who have attempted the same feat within the past few years.

LOCAL INSPECTORS.

Attention is called to Alaska's need of a board of local inspectors of hulls and boilers. At present it is joined to the Puget Sound district, and the inspectors arrange to come up on a summer trip of the excursion steamer and do the work. But the business is increasing, and they are not able to keep up with it.

The captain of the cutter *Perry* reports that a number of the steamers in connection with the canneries have not been inspected according to law. Some new steamers were built and launched upon the banks of the Yukon this season, and no doubt many more will be next year. All these vessels should be thoroughly inspected and made to live up to the requirements of the law. It will keep two men well occupied to do the work in Alaska.

CHANNEL IMPROVEMENT.

It is believed by many that the channel around the north end of Douglas Island could be deepened and made navigable at no very great expense to the Government. This would be a great benefit to Juneau and to all points north of it. It is recommended that a Government engineer be sent to examine this channel, and that he report as to the feasibility of the improvement desired.

INSANE.

If an insane person can be turned into a criminal he can be taken care of, otherwise not. A number of sad cases have already occurred. The marshal of the District should have a special fund to draw upon when insane persons come under his care.

PUBLIC BUILDINGS AT SITKA.

At the time of the transfer the Government received a number of log buildings, and these have been used for public purposes and residences of the officials ever since. Some have entirely decayed and have been removed. The most noted one of them, known as The Castle, was burned to the ground after several thousands of dollars had been spent in repairing it. The judge and district attorney lost their libraries and papers. These log houses are not healthy. The lower courses of logs are decayed almost entirely away. Enough has already been spent in repairs to build better and more suitable structures. As Sitka is the most accessible point in southeastern Alaska when taken in connection with all points west, as it is possessed of a fine harbor, is unsurpassed by any place on the Pacific Coast for the grandeur and beauty of its scenery, as it is the historic point, and as it is a healthy and desirable

place to live in, it is altogether likely that it will remain the seat of government while Alaska remains under the control of Congress. The judge, district attorney, clerk, commissioners, register, receiver, surveyor-general, collector of customs, and governor, all need proper and safe quarters in which to transact the business that comes before them and in which to preserve their records. It is, therefore, recommended that Congress be asked to appropriate \$100,000 for proper buildings, to be erected under the supervision of the Government architects.

THE WAY TO HELP ALASKA.

Alaska can get help only at the hands of Congress. We know that it has a vast amount of work to do, and, as we are far away and have no mouthpiece in that body, we are very much afraid that our cries will not be heard during the coming session. We, here in Alaska, believe that the simplest and most intelligent way would be for Congress, as soon after it meets as possible, to pass a law creating a commission of five, two of whom shall be Members of Congress, one a Senator and one a Representative, and the remaining three bona fide residents of Alaska for at least two years—all to be appointed by the President. They shall meet in Alaska and draw up a code of laws which shall be suitable for governing us, and shall report back the same within four months for final action by Congress. An appropriation for the expense of such work should be liberal enough to have it done well. In the meanwhile the time of Congress can be saved by referring the many bills which are sure to come before it to this commission for its consideration.

Suppose that this commission were here at work, and that they had come to the topic of fisheries, they could have the reports of Captain Mosier of the *Albatross* and Captain Phillips of the revenue cutter *Perry* for this year, and the verbal testimony and suggestions from these officers. Representatives of all the fishing interests would be on hand to give careful statements, for they have millions involved in the correct framing of a law. The natives could be brought to tell how they feel about the canneries taking salmon. What good things British Columbia has wrought out, for the value of its pack is as great or greater than that of Alaska. What would the cannery men propose in regard to hatcheries and their maintenance? It might take the commission a week to get all the side lights upon the subject; but, if it did, they surely would be able to present a law that would be just, and at the same time tend to preserve the fish. The importance of this question can hardly be overestimated. Its present money valuation is many times more than that of the fur seals, about which we are so concerned. It is a food question, and should be carefully looked into.

We believe that such a commission could in such a space of time draw up a code of laws that would meet necessities until such time as Alaska became numerically and financially strong enough to be organized into a territory. We earnestly hope, Mr. Secretary, that this plan may commend itself to the approval of this Administration and to Congress, and that before its session closes Alaska will have a code of good laws.

THE YEARLY CRUISE OF THE CUTTER BEAR.

The service of this vessel has been going on for years, and it has been a constant blessing to all who have anything to do in Bering Sea and the Arctic. It has kept run of the whaling fleet and has rendered every possible aid when any vessel has been wrecked. She has brought

out over 1,500 of these wrecked mariners. Wherever she calls her physician is always besought to administer treatment to the sick. The missionaries always look forward to her annual trips with gladness, for she brings their mails. The officers have kept after evil-doers, and especially after those who wish to peddle fire-water to the Eskimo. At this moment of writing, her presence at St. Michaels is all that preserves order among 1,000 angry men who see that they are doomed to spend the winter 2,000 miles from Klondike. It is to be hoped, therefore, that such valuable service will be continued, and that the vessel shall be kept up to the highest possible standard of efficiency.

HUNTING OF SEA OTTER.

In consequence of the large numbers of white hunters, who use superior arms and vessels, these animals are decreasing very rapidly. For many years the Aleuts have depended upon the results of the hunting of these fine furs for their living. Now they are beginning to face starvation before they can adjust their lives to any other occupation. If the white man is not shut off at once, these people will have to be cared for by the Government.

Mr. Rudolph Neumann, general agent of the Alaska Commercial Company at Unalaska, while answering inquiries about furs, writes, under date of September 20, 1897:

The low prices prevailing in the London market, and the constant and rapid decrease of the sea-otters, has made that branch of the trade unprofitable, and has forced us to abandon, in this district, the following stations: Woznesensky, Belkofsky, Norzhovoi, Sanak, Akutan, Buyka, Nakushin, Kashega, Tshernoïsky, and Umnak.

The natives of these ten settlements supported themselves entirely by hunting sea-otters, but, in consequence of the disappearance of these animals in the localities above mentioned, had to be transported in schooners during the last few years to the remaining sea-otter grounds, in the vicinity of Kadiak Island, which now have, also, ceased to be profitable, and the people will eventually be forced to rely on Government aid for their subsistence.

As the Secretary of the Treasury has the authority to confine the hunting of these animals strictly to the natives, it is recommended that he issue the necessary orders to secure this end.

Very respectfully, your obedient servant,

JOHN G. BRADY,
Governor of Alaska.

The SECRETARY OF THE INTERIOR,
Washington, D. C.

APPENDIX A.

*Outfit for two men for fourteen months, food and clothing, Sitka (Alaska) prices,
August 1, 1897.*

4 barrels best flour, at \$6.....	\$24. 00
200 pounds granulated sugar, at 6 cents.....	12. 00
200 pounds navy beans, at 4 cents.....	8. 00
100 pounds corn meal.....	2. 75
250 pounds breakfast bacon, at 12½ cents.....	31. 25
75 pounds island rice, 6 cents.....	4. 50
2 cases Eagle milk.....	17. 50
20 pounds salt.....	. 35
25 pounds best Mocha and Java coffee.....	8. 75
10 pounds best tea.....	4. 50
8 pounds soda.....	. 70
20 pounds baking powder.....	9. 20
25 pounds dried apricots.....	2. 50
25 pounds dried peaches.....	2. 50
25 pounds dried apples.....	2. 25
2 boxes candles.....	5. 00
1 box pepper, 25 cents; soap, \$1.....	1. 25
3 boxes yeast, 25 cents; one-half tin matches, 50 cents.....	. 75
1 Yukon stove, complete.....	6. 00
3 half-spring shovels.....	3. 00
3 miners' picks.....	3. 00
1 double-bladed ax, complete.....	1. 50
18 oil sacks, 50's and 100's.....	7. 55
2 gold pans, \$1; 1 coffee mill, 35 cents.....	1. 35
12 pounds condensed onions.....	5. 00
10 pounds evaporated spuds.....	2. 50
40 pounds rope.....	5. 00
Toilet soap.....	. 50
6 tin plates, 50 cents; 3 granite cups, 50 cents.....	1. 00
1 coffeepot, 40 cents; whetstone, 20 cents.....	. 60
Awls, shoe thread, wax, bristles, etc.....	1. 00
2 fry pans, \$1; fish line and hooks, 50 cents.....	1. 50
2 ——— extract of beef.....	1. 00
6 assorted files, 60 cents; oil blacking, 50 cents.....	1. 10
1 package chocolate.....	. 30
2 miners' candlesticks.....	1. 00
1 iron brace and bits.....	1. 75
24 pounds raisins, 10 cents.....	2. 40
Outfit for boat:	
30 pounds nails, \$1.50; 5 pounds white lead, 60 cents.....	2. 10
Candle wicking, 20 cents; 1 2-inch auger, \$1.25.....	1. 45
Oakum, 25 cents; pitch, 25 cents.....	. 50
1 handsaw, \$1.50; 1 jack plane, 75 cents.....	2. 25
Paint brush, 25 cents; 4 candle wicks, 40 cents.....	. 65
2 pairs oars, \$1.75; oarlocks, 40 cents.....	2. 15
3 pairs heavy wool blankets.....	20. 50
2 pairs pack straps, \$3; 1 hand ax, \$1.....	4. 00
2 pairs hip r. boots, leather soles, \$6.....	12. 00
2 pairs high top lace shoes.....	7. 50
4 pairs German socks, 75 cents.....	3. 00
3 pairs lumberman's rubbers.....	3. 00
2 pairs suspenders.....	. 75
4 suits heavy wool underwear.....	12. 00
4 dark-blue flannel overshirts.....	8. 00
4 pairs Mackinaw pants.....	11. 00
2 pairs Mackinaw coats.....	6. 00

2 blanket coats	\$3.00
12 pairs socks, wool	4.50
6 pairs wool mittens	3.00
40 yards mosquito netting	1.00
11 buckskin pouches	5.00
1 magnet, 50 cents; 2 pairs goggles, 50 cents	1.00
2 pairs snow glasses	1.00
2 ——— extract of beef	1.00
1 dozen bandanna handkerchiefs	1.00
1 lot spoons, knives, and forks	1.35
1 butcher knife .....	.75
4 oil blankets	6.00
1 lot buckets, pans, cooking utensils, etc	3.35
2 sou'westers, \$1; tent, \$12	13.00
1 41 Colt's revolver and ammunition	15.00
1 Winchester rifle and ammunition	18.00
2 fur caps	2.50
1 whipsaw	5.50
Total	372.60

Prices at Sunrise City.

Flour	per bag ..	\$2.00
Bacon	per pound ..	\$0.12 $\frac{1}{2}$ to .15
Sugar	do .....	.08 to .09
Butter	per roll ..	.60 to .75
Beans	per pound ..	.03 to .04
Tobacco	do .....	.70
Lard	per can of 5 pounds ..	.70
Rice	per pound ..	.07
Rolled oats	do .....	.07
Best rubber boots	per pair ..	10.00
Shovel		1.50
Picks		1.75
Pans .....		.75 to 1.00

APPENDIX B.

Distances from Juneau.

Miles.		Miles.	
Haines Mission (Chilkat).....	80	Five Fingers Rapids.....	444
Dyea.....	100	Rink Rapids.....	450
Head of canoe navigation.....	106	Pelly River.....	503
Summit of Chilkoot Pass.....	114	White River.....	599
Head of Lake Lindeman.....	123	Stewart River.....	609
Foot of Lake Lindeman.....	127	Sixty Mile Post.....	629
Head of Lake Bennett.....	128	Klondike.....	678
Foot of Lake Bennett.....	153	Fort Reliance.....	682
Caribou Crossing.....	156	Forty Mile Post.....	728
Foot of Tagish Lake.....	173	Fort Cudahy.....	728
Head of Lake Marsh.....	178	Circle City.....	898
Foot of Lake Marsh.....	197	Forty Mile to Diggings.....	70
Head of Canyon.....	223	Circle City to Diggings.....	50
Foot of Canyon.....	224	Mouth of Cook Inlet.....	700
Head of White Horse Rapids.....	225	Turnagain Arm.....	800
Tahkeena River.....	240	Six Mile Creek.....	825
Head of Lake Le Barge.....	256	Funter Bay.....	47
Foot of Lake Le Barge.....	284	Berner Bay.....	50
Hootalinqua River.....	316	Sitka.....	140
Cassiar Bar.....	342	Snettisham.....	32
Big Salmon River.....	349	Sum Dum.....	50
Little Salmon River.....	385	Wrangell.....	160

Distances via Victoria, British Columbia.

FROM SEATTLE.

Miles.		Miles.	
Marys Island.....	655	Juneau.....	960
Metlakahla.....	683	Berners Bay.....	1,015
Loring.....	718	Dyea.....	1,060
Fort Wrangell.....	808		

FROM SITKA.

Miles.		Miles.	
Killisnoo.....	70	Kadiak.....	550
Juneau.....	160	Sunrise City, Cook Inlet.....	785
Hoonah.....	120	Karluk.....	610
Dyea.....	193	Sandpoint.....	880
Yakutat.....	220	Unga.....	874
Nutsehk (Prince William Sound, direct).....	450	Belkofsky.....	
		Unalaska.....	1,150

FROM UNALASKA.

Miles.		Miles.	
Seal Islands.....	240	St. Michaels.....	850

APPENDIX C.

Schedule of rates, Pacific Coast Steamship Company's steamers.

	Cabin passage, single fare.	Steerage passage, single fare.
San Francisco to Wrangell	\$37. 00	\$19. 00
San Francisco to Juneau	44. 00	23. 00
San Francisco to Sitka	52. 00	28. 00
Puget Sound ports to Wrangell	25. 00	13. 00
Puget Sound ports to Juneau	32. 00	17. 00
Puget Sound ports to Sitka	40. 00	22. 00

For information, etc., apply to Goodall, Perkins & Co., general agents, 10 Market street. San Francisco; J. F. Trowbridge, Puget Sound superintendent Pacific Coast Steamship Company, Ocean Dock, Seattle, Wash.

[Circular A.]

Pacific Coast Steamship Company, Alaska route freight rates.

[Subject to change without notice.]

From—	To Wrangell (wharfage additional—animals designated below, about \$1 each; merchandise \$2.50 per ton).				To Juneau (wharfage additional—animals designated below, about \$1 each; merchandise \$2 per ton).			To Dyea anchorage or Skagaway Bay and Sitka.*				
	General merchandise and miners' ordi- nary supplies.	Horses or mules.	Burros.	Dogs.	Horses or mules.	Burros.	Dogs.	General merchandise and miners' ordi- nary supplies.	General merchandise and miners' ordi- nary supplies.	Horses or mules.	Burros.	Dogs.
Per ton.†	Per head.	Per head.	Per head.	Per head.	Per head.	Per head.	Per ton.†	Per ton.†	Per head.	Per head.	Per head.	
San Francisco (via Puget Sound)	\$11. 00	\$27. 50	\$19. 50	\$7. 50	\$30. 00	\$21. 00	\$7. 50	\$12. 00	\$12. 00	\$30. 00	\$21. 00	\$7. 50
Seattle, Port Townsend, Tacoma, Wash., or Victoria, British Columbia (wharfage additional, 25 to 50 cents per ton and per head on merchandise and animals, respectively)	8. 00	20. 00	12. 00	5. 00	22. 50	13. 50	5. 00	9. 00	10. 00 { 19. 00 }	22. 50	13. 50	5. 00
Portland, Oreg. (wharfage additional, 50 cents per ton and per head on merchandise and animals, respectively) ..	8. 00	20. 00	12. 00	5. 00	22. 50	13. 50	5. 00	9. 00	10. 00 { 19. 00 }	22. 50	13. 50	5. 00

* Freight rates to Dyea cover only to the anchorage, at which point the company's responsibility ceases. The company assists the passengers to land and also assists in the landing of the freight without extra charge. Live stock have to swim ashore.

† Forty cubic feet or 2,000 pounds, carrier's option.

‡ Sitka.

Minimum charge on merchandise and miners' supplies, \$1.50 from San Francisco; \$1.25 from other points named.

Freight charges on merchandise and live stock for Skagaway Bay or Dyea must be prepaid; also, on live stock for Juneau or Wrangell.

Live stock taken only at carrier's convenience, as accommodations for same are limited. Stock, except dogs, to be shipped under the company's live-stock contract, and valuations to be restricted to \$40 each for horses or mules; \$25 each for burros. Feed to be furnished by shipper. Sufficient for use of stock while on board will be carried free, but any excess delivered at destination will be charged for.

GOODALL, PERKINS & Co., *General Agents.*

SAN FRANCISCO, August 18, 1897.

U. S. Mail Steamer Dora, running from Sitka to Unalaska, Alaska, and connecting at Sitka with the Pacific Coast Steamship Company's steamer City of Topeka.

SCHEDULE OF RATES, ETC.

[Sitka and Unalaska mail route, Leon Sloss, contractor, 310 Sansome street, San Francisco, Cal.]

Sitka to or from—	Freight, per ton.	Cabin passage, single fare.	Steerage passage, single fare.
Yakutat.....	\$8.50	\$14.00	9.50
Kayak.....		23.50	15.00
Nutchik.....	9.50	27.50	18.50
Orea.....		30.00	21.50
Homer.....		35.00	22.50
Anchor Point.....		35.00	22.50
Kodiak (St. Paul).....	10.00	35.00	22.50
Karluk.....	12.00	39.50	25.50
Unga.....	17.50	53.50	35.00
Sandpoint.....	19.50	54.50	35.50
Belkofsky.....		58.50	38.50
Unalaska.....	20.00	70.00	45.00

Stopping also at Odiak, Saldovia, Chignik, and other points when warranted.

All merchandise received and delivered at ship's tackles. Shippers to pay all tolls, wharfage, boating, and cartage. All merchandise taken at owner's risk only. Merchandise on which freight has not been paid will be stored, as well as conditions will permit, at the risk and expense of the shipper. Freight will be taken either by measurement or weight, at the option of master or purser of the ship. Perishable goods only taken with freight prepaid, and at owner's risk.

In all cases when the vessel can not land at any of the different stations the ship's master reserves the right to land passengers and freight for such stations on the next return stoppage at same.

Sailing days.—From Sitka, on or about the 8th day of each month from April to October, inclusive. Intermediate ports at proportionate times. Regular connections for passengers to Cook Inlet will be made during the season. For further particulars see Sitka papers, or apply to Pacific Coast Steamship Company, or any agent of the Alaska Commercial Company.

For information, etc., apply to agent Alaska Commercial Company, 310 Sansome street, San Francisco, Cal.; or Unalaska, Alaska; or to Kodiak, Alaska.

Portickets, freight, etc., apply to Edward De Groff, agent for steamer, Sitka, Alaska, or to purser of steamer for intermediate ports.

For information regarding connections with other points in western Alaska and the Yukon River, apply to Alaska Commercial Company, 310 Sansome street, San Francisco, Cal.

The North American Transportation and Trading Company runs the steamships *Portland* and *Cleveland* from Seattle to St. Michaels, near the mouth of the Yukon. From St. Michaels they ply the river boats *P. B. Weave*, *Cudaky*, *Hamilton*, *Power*, and *Klondike*. For particulars write to the agent at Seattle.

The Alaska Commercial Company, of San Francisco, sends the steamships *Bertha* and *Excelsior* to St. Michaels, and the river steamers *Alice*, *Arctic*, *Margaret*, *Bella*, and *Yukon* from St. Michaels. For information, etc., apply to company's headquarters, San Francisco.

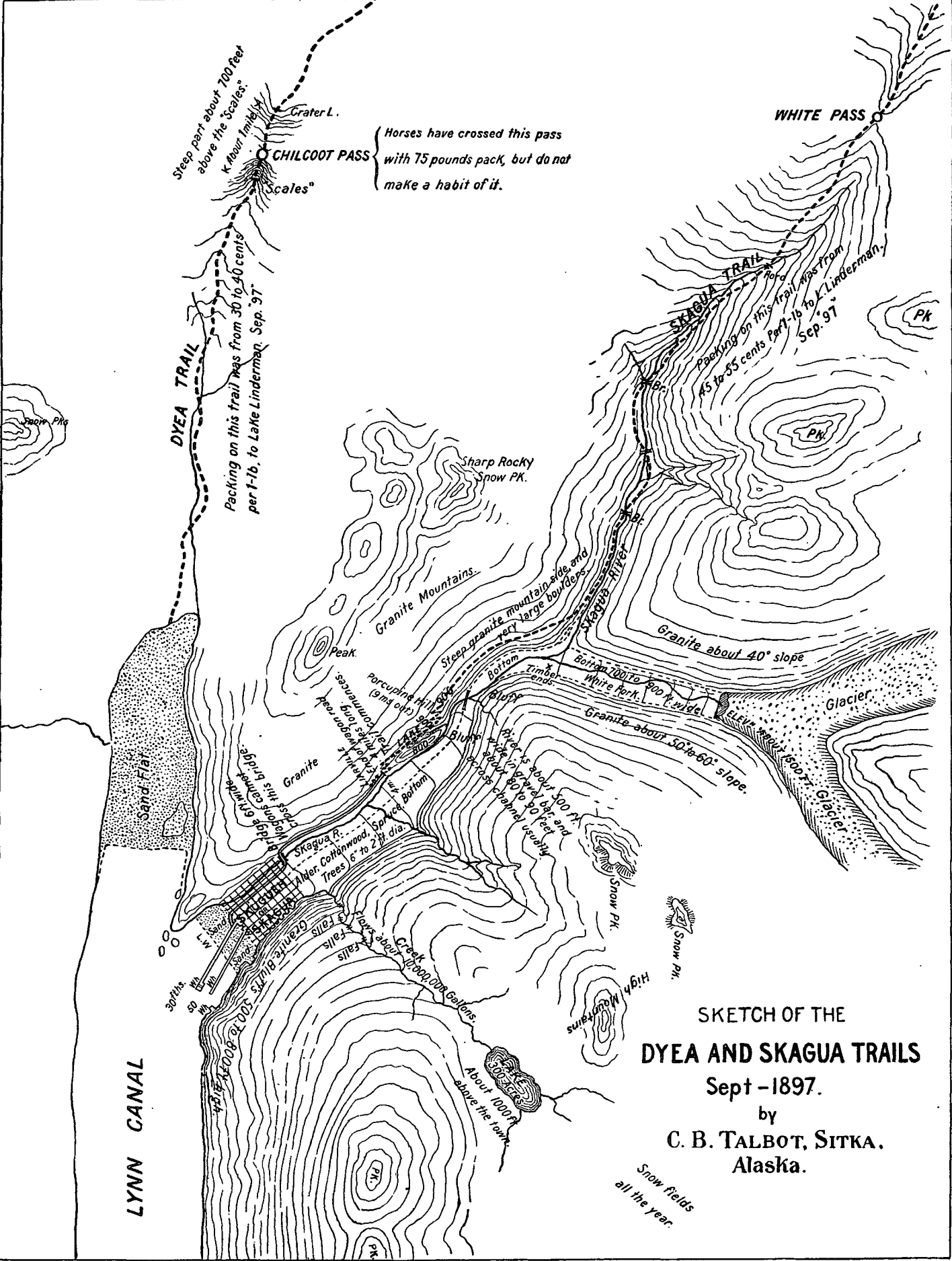
The steamboats *Rustler* and *Seotin* run from Skugua and Dyea, and charge \$10 for each miner and his outfit.

The tug *Baranoff* carries the mail once a month from Fort Wrangell to places on the outer coast of Prince of Wales Island as far as Jackson, and return.

APPENDIX D.

Newspapers.

The Alaskan, published at Sitka, weekly.
North Star, published at Sitka, monthly.
Alaska Mining Record, published at Juneau, weekly.
Alaska Searchlight, published at Juneau, weekly.
Alaska Miner, published at Juneau, weekly.
Northern Light, published at Fort Wrangell, monthly.



Steep part about 700 feet above the "Scales".
K. About timberly

Crater L.
CHILCOOT PASS
"Scales"

Horses have crossed this pass with 75 pounds pack, but do not make a habit of it.

WHITE PASS

DYE A TRAIL
Packing on this trail was from 30 to 40 cents per 1-lb. to Lake Linderman. Sep. '97

SKAGUA TRAIL
Packing on this trail was from 45 to 55 cents per 1-lb. to X. Linderman. Sep. '97

Sharp Rocky Snow PK.

Granite Mountains

Peak

porcupine Hill (9ms off)

Bottom

Skagua R.

Mer. Cottonwood. Trees 6" to 2 ft dia.

Gracie Falls

Falls about 1000 ft

Creek about 1000 ft

About 1000 ft above the tank

High Mountains

Snow PK.

Snow PK.

Snow PK.

Granite about 40° slope

Granite about 50 to 60° slope

Glacier

Glacier

Glacier

LYNN CANAL

SKETCH OF THE
DYE A AND SKAGUA TRAILS
Sept - 1897.
by
C. B. TALBOT, SITKA, Alaska.

Snow fields all the year

Sketch Map of
ALASKA
to accompany Annual Report
of the
Governor of Alaska.
1897.

