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G.P. KERSHAW GEOGRAPHY

ARCTIC JOURNAL AND OTHER WORKS

Including

Duall Dwelly, Of Prairie Rapparees

By

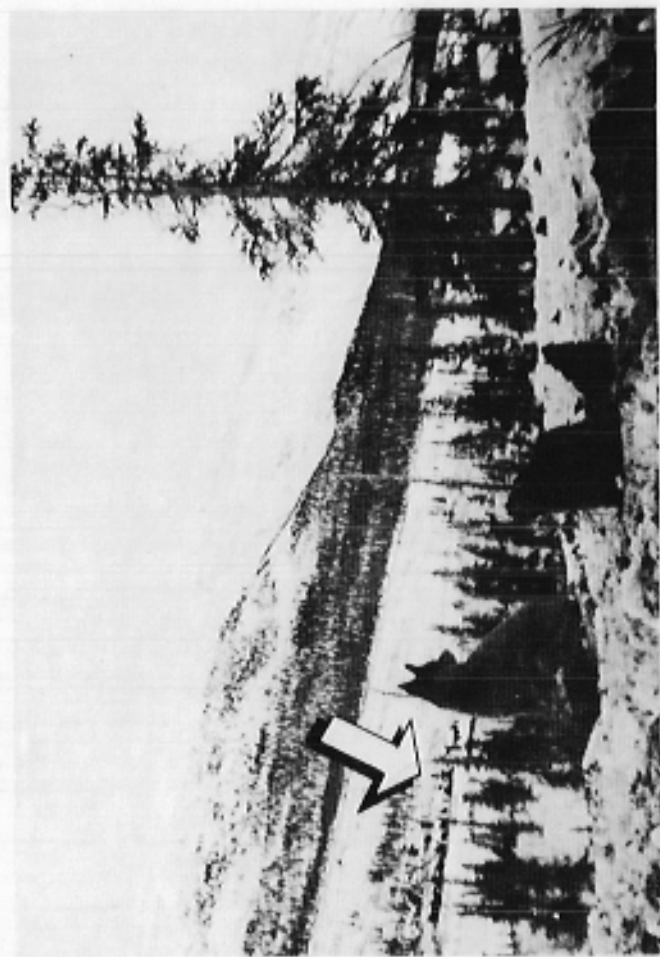
MILFORD FLOOD

Other Books by Milford Flood
GREEN ARE THESE MEMORIES

An edited and revised version of
BREEZIE LANGTON
by Capt. Hawley Smart—

PUBLISHED BY WETZEL PUBLISHING CO., INC.
LOS ANGELES, CALIFORNIA

WETZEL PUBLISHING CO., INC.
LOS ANGELES, CALIFORNIA



ILLUSTRATIONS

DODO BIDS GOODBYE TO CAMP 95 AND ANDY CREEK.
CAMP 95 IS INDICATED BY ARROW.

ARCTIC JOURNAL

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Ruall Dwelly,
Of Prairie Rapparees

By

MILFORD FLOOD

WETZEL PUBLISHING CO., INC.
LOS ANGELES, CALIFORNIA

OLTON
JANUARY

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purchase 3.15 F

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DEDICATED TO THE MEMORY OF MY BELOVED
PARENTS ALICE (ROBINSON) AND MARTIN FLOOD

ACKNOWLEDGMENTS

Photos used in this book were taken by co-workers on the Canol project and were purchased by the author. Although individual names are not available, grateful acknowledgment is made for their contribution; also to C. G. Mundy of the Mundy Map Company for permission to reprint the map, and to Herman L. Scherf for the photograph used as a frontispiece and as a suggestion for the jacket design.

P R E F A C E

MR. C. V. MYERS ends his book OIL TO ALASKA, CANOL UNVEILED, with the statement, "One of the greatest engineering feats in the history of mankind has been completed."

Before I left the United States in the fall of 1943 to work on the Canol Project, I had planned to publish (in one volume) my novel RUALL DWELLY, written in 1929-31; OF PRAIRIE RAPPAREES, a group of short stories written in or near 1934; and two of my remaining short stories. Then, for personal reasons, I should bid farewell to the art of writing, both as vocation and avocation.

During the long, boresome wait at Fort St. John for planes to carry us to the Arctic, there were many rumors of censorship of letters, and of general secrecy surrounding the project. It was then that I decided to keep a journal *for my children*, which I could probably bring out with me in its entirety, since by the time my contract ended the need for secrecy would likely not exist. Upon my return to the States, it was decided, because of their timeliness, to place these notes at the beginning of the forthcoming volume.

The project was named "Canol," after "Canadian Oil." Camp Canol, located on the Mackenzie River, was the construction camp for the eastern end of the pipeline. It lies fifteen hundred miles north of Edmonton by the water route. The end of the railroad is at Waterways, three hundred miles north of Edmonton. From October first to July first of each year airplanes provided the only transportation from the Canol region to the outside world. Between Canol and Whitehorse lie the Mackenzie Mountains, which form the watershed between the Mackenzie and Yukon Rivers. Rising to almost nine thousand feet, it was these mountains which provided the greatest obstacle to the Canol Project.

The canyon mentioned early in the journal is Dodo Canyon, which one enters twenty-five miles out from Canol. With walls 400 to 700 feet high, and with hot springs which keep the ice of its creeks thin in winter, today it is one of the most commonly-mentioned places of the Far North. But—and this is an illus-

tration of the almost blind groping with which the working men approached each phase of the project—I labelled it merely the "Canyon." In fact, throughout the journal, each incident was recorded as observed through the eyes of the working man—who, necessarily, was shut away from work-orders, project maps, indeed from even a broad view of the terrain as seen through the windows of a truck cab.

The abbreviations and Arabic numerals of the original manuscript—even though they may not meet the demands of good composition—have been left unchanged.

MILFORD FLOOD

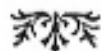
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ARCTIC JOURNAL,

By

MILFORD FLOOD



ARCTIC JOURNAL

Ft. St. John, B.C., Can.

Oct. 27, 1943

ONE MONTH ago this morning we received instructions in office in Petroleum Bldg., Los Angeles. Gathered at Union Depot at 5 P.M. Left about 7:30, in an ancient car at the end of a train pulled by a locomotive which evidently had a mechanical defect, to judge by the terrific series of jolts prefacing each stop—and it stopped many times during the night. They changed engines next morning; from then on till we reached Oakland at 4:30 P.M. it was better. From Seattle to Vancouver it was very uncomfortable. We had a fine-looking modern car, but the air-conditioner was broken. The sun heated the air at the top of the car, and the fan circulated it. Some of us were almost sick at end of that ride. Other portions of the journey were O.K., although none of it was like regular civilian traffic.

When we arrived at Ft. St. John, which is fifty miles past the rail-head, we were met with many tales concerning plane losses. Some of these tales were bona fide, such as the loss of about twelve men at Whitehorse, and the recent arrival of a plane from Canol with an engine missing so badly much of the baggage was thrown out to enable the plane to reach this field. These false rumors, and true tales, as well as the day-to-day experiences with the planes—some groups of men went to the air-field as many as three times, standing around at night and in the cold for hours; even flying out for two hours and being forced back—combined to increase the nervousness of the men. One plane has been bothering much with its magneto; and the men wondered—since several times they were there ready to go, when the plane was unable to take off because of the magneto—wondered what would happen if the magneto failed while they were in the air. No one seems to know, but the general impression is that a plane must reach Ft. Nelson or Simpson, or be lost. This lack of information is conducive to poor morale.

The soldiers here have tamed a coyote. It roams around the camp like a dog, plays with the dogs, plays around in front of men with sticks, etc., to show it is friendly. This morning I called him up to within three feet of me, and believe I could have petted him; but it was the first time I had seen him close and I respected his good judgment in being cautious. If I were he, I would not allow a stranger to pet me. I understand the soldiers pick him up and carry him around. About a hundred yards from here a citizen has chickens loose in his back yard;

so I guess the coyote must not bother them, so long as he is fed regularly. His eye was as gentle as the average dog's.

I have strained my eyes badly the past two weeks, trying to pass the time. I have been "broke" about ten days, and it is difficult to pass the time in a town like this without money. The 16mm. movie costs 55c, but is much harder on the eyes than any movie I have ever seen. A red light at each exit glares into your eyes from the front. The machine is so far from the screen that the picture is very dim. The last one I attended was a spy-in-the-dark mystery; and it *really* was a mystery, as it was so dim one could not even follow the plot. I heard some of our men say, "Never again."

We work 40 hours weekly while we are "standing by." Although the men instinctively dread the cold work ahead at Canol, they are very anxious to get at it. One man was so exasperated after going to air field twice, standing for hours, finally getting seated with baggage in plane, only to have the plane change its schedule and go to Edmonton instead—he quit this morning. Said he would be in Honolulu by Jan. 1. I suspect his wife in Los Angeles, and the warmth at Honolulu—which he left not too long ago—had some influence on him, as well as the wondering about plane safety to Canol. Many have talked of quitting. "Heavy" is always talking of going to his "friend Duddie, at Morris-Knudsen's office in L. A., and shipping out for the road-building from Delhi, India to the Burma Road." I—since I have no special ability, such as truck-driving, bulldozer operating—can't be so choosy, but just take things as they come.

I have walked a few miles in all directions from town, talked with several farmers and others. Figure I may have saved a horse's life Monday. I found it sick in a straw-pile, walked a mile and more out of my way, left a note in the doorway of the farmer (bachelor). Horses to me are almost human. This horse saw me coming, and did everything he could, without talking, to let me know he was sick and needed help. He was evidently foundered on wheat.

The Peace River bridge—placed only three months ago—has connected this trading post with civilization. Prior to that they depended on a ferry across the river. But I think the farmers are unduly optimistic. One old farmer, whose land borders the Alaska Highway, said his land is worth \$75-100 an acre. It does produce much grain—which they largely feed to bacon hogs for the English market; but when one looks at the map one realizes their remoteness. He homesteaded 22 years ago,

and each of his two sons also has a homestead close by; but I notice very few painted buildings, and the oldest grave-head I saw in the cemetery said, "Aged 61." What few grave markers there are—a very small percentage of the graves are marked—consist of wooden crosses and monuments made of plain gray concrete. Yet there is marble only a few hundred miles southwest, in southern B. C. As I see it—but the farmers won't admit it—one big drawback is the fact it is 300 ft. to water. They all build ponds, with a seepage well nearby; or depend on nearby springs and creeks. As civilization comes nearer, the latter will become more and more unreliable. The creek 1½ miles north of here already has hundreds of hogs running to it. The water at our camp is so "doped" with chlorine hardly anyone drinks it, and the coffee tastes like poison. A big hullabaloo at Vancouver now because the chlorine put in the city water has killed all the trout fingerlings in Stanley Park; newspaper argues that anything which kills them is also hard on babies. But our chlorine here is much worse than Vancouver's.

* * *

Forty miles west of Canol.
November 7, 1943

19° BELOW ZERO. We drove an hour and a half in the "Fud," covered with canvas. The "Fud" is the FWD, or Four-Wheel-Drive. Arrived at job site with very cold feet. Some of men built a fire and I got some dead timber. "Pete" said all experienced northerners knew better than to build a fire, as it only makes you colder. I told him my experience was that, after a long ride, it was better to warm your feet to a moderate extent. Then, when you start working, especially at something stationary like digging a hole in the ground, your feet will gradually get warmer. If you don't, your feet will stay cold a long, long time. When I worked at the hole I was plenty warm except at my hands and feet; those were the places I could not dress properly because of the unfulfilled promises of the company. If I had known they could not live up to their promises at Canol, I could have arranged differently at Edmonton or Ft. St. John.

According to Ewald, the 30-yr.-old German who worked with me past two days, the Linn trucks are half-tracks on the rear end, and pull a trailer on caterpillar treads, total load forty tons. Said he'd seen a caterpillar pulling trailers across Great Slave Lake, total load 800 tons. So much gossip about breaking trucks, etc., foreman Joe Wright said tonight nothing suitable for the country except the six-by-six (Six-wheel-drive Studebaker) and

the caterpillar. Gossip tonight at supper was that a certain man had just run his fifth truck off the road. He was sent away from this camp (Forty Mile Camp) because, with a load of men, he kicked the truck out of gear half way down a slippery hill, despite John Simpson's (another foreman) orders to hold it in gear to the bottom. And John Simpson is none too safe a driver. Yesterday he was backing us all up the great hill to the west, with a steep precipice all the way along our left. All of a sudden the truck-end was within three feet of the edge and we were backing straight toward the drop. About six of our men bounded toward the back door, which was highly dangerous, as they might have tipped the truck backward, or fallen down the cliff, at least might have tipped up one end of a pick lying on floor and injured some man. Of course John was just turning around, but he should have backed up toward the wall, not the precipice.

This was my second day of work, but because the "Fud" went dead half-way up the terrific hill to the west, we spent nearly all the morning yesterday walking up the hill and finding brush to build a fire. There was a stiff breeze through the pass, and walking back toward the "Fud" against it was pretty much backward. I had thought the work would start soon after seven o'clock, so had worn two pairs of light cotton pants, and had left my new sheepskin vest at the barrack. Instead, I was right out in the breeze, and standing around, much of the morning. We ate dinner at Camp 50 (the number always represents the number of miles from Canol), so I had to go the rest of the day in the light garb. The 1½ hr. ride home in the evening was plenty cold. This morn I put on my wool trousers and over it the issued "tin pants," size 44, the only size I could get (I wear a 36 trouser). The huge size of the trousers, plus the weakness of my dress suspenders, allowed them to hang so low I could hardly climb into the "Fud," which has a very high body, and no hand-helps to speak of; and could hardly climb around in the woods. It was laughable. At noon I stripped down, and really drew them up. I had asked the commissary man twice for these tin pants; and only got them when the superintendent herded all the men in together and ordered "tin pants" for them.

While writing this, the window fell down on the back of my neck. A nail narrowly missed me, but the pane of glass hit squarely and shattered over my neck and the table. I might have been hurt quite badly, a serious matter up here. The nearest doctor is 40 miles away; and the road is so bad that my new sult-case was completely ruined in just the ride from Canol out here. I handled it all the way from San Diego to

Dawson Creek, and handled it coming out of the plane at Canol and into the truck at Canol. But that one 40-mile ride in the back of a truck from Canol out here, completely ruined it. We crossed the creek about ten times, once making four tries at the opposite bank of ice before we could get up on it. (However, that crossing was not on the main road. It led across the stream to the saw mill.) They say there used to be 46 crossings of the creek. All of us men were jammed like sardines in the wooden-covered truck, with a stove. The back door, which was the only opening for light and air, had to be closed much of the time because of cold air and snow from the rear, so we could see very little of the "Canyon." It was majestic scenery, what I saw of it, with frozen waterfalls where icicles hang forty feet or more. It is a narrow creek valley through immense mountains.

Our camp, which we are going to move soon, is located in the midst of rounded mountains, a very peculiar formation. Looking out at them and at the moon, which shows now low between two of the mountains, it seems almost unreal. We are on the creek bottom, and the mountains loom up sheer. There are no foothill approaches to them. This is the "winter wonderland." Seven inches of snow lie on the ground; a half-hour after sundown the sky is an unearthly blue, and all the firmament except where the sun has set, is a series of gradations of blue—including the snow-clad hills and mountains. At the top of the big hill to west, one looks 38 miles across to the next range. Through a gap in the range show two mts. which belong to a range 100 miles farther on. But, of course, they look much closer, by about 80%.

We have several old northerners on the gang. They abhor carelessness with fires. Gossip has it that there is a turf-fire still burning after forty years. The holes I dug today are as follows: four inches of frozen turf, two feet of peat moss (mus-keg), one foot of rock and gravel, the remainder of the five feet sand. The top layer of moss of course would burn; and the peat below it looks so rich that it would burn. Thus, to put out a fire it is necessary not only to scatter all the burning timbers so that the snow will smother them, but to mix snow enough with the embers to keep them from igniting the peat below, and to keep the breeze from fanning the embers into a flame and blowing them against the highly inflammable spruce needles. A peat ember surely glows when blown against. The spruce here seem stunted and scrawny, but we find enough to make 25-ft. poles from. They say a spruce about 12-in. high is about 12 years old; that it grows only a 3-leaf height each year; in other words, that most of these trees, which are about 20-ft. high, are over 100 years old.

Up until this noon I had seen no living thing except ravens, the same bird which constituted almost the only living thing on San Clemente Island, which is almost sub-tropical. It was rather uncanny to see the same bird at the Arctic Circle. At noon I asked the cook at Camp 50 what that small bird was, on top of a spruce, and he said, "camp robber, or whiskey-jack." It was about as large as a small meadow lark, but impressed one as being far more fearless and war-like. Soon after, a red squirrel appeared in the snow, but I did not get a good look at him before one of the young men from Los Angeles scared him away. It is disgusting, under such circumstances, in the midst of a lonely wilderness, to hear some fellow shout, "Wish I had a Winchester. Wouldn't that make a good shot!" Gossip here is that at this camp five caribou were seen last month, also many wolf tracks. But caribou now are supposed to have migrated south, I believe up the Mackenzie River toward Lake Athabaska. There are two kinds of caribou: the "brush," which are heavier (these are "brush caribou"); and the "barrens," which do not migrate, but stay in the barren moss country. Reindeer are domesticated caribou.

As I see it, we are averaging about two holes a day for each two men. Counting fourteen men as the digging crew, that makes 14 holes a day, at an average distance of 155 ft., total 2170 ft. Anchor holes every corner. About one out of every four holes here has to be drilled by compressor and jackhammer, and dynamited either for frost or rock. Heavy wet clay has extended for about two feet in all but one of my holes, which makes heavy digging for the tools we have: a heavy spoon about nine feet long, and a spade about the same length. Also we have a long iron bar for rocks, pointed on one end, spaded on the other. A five-foot shovel for the top layer and the snow. I had no partner from noon on, until late this evening, when I went to help Carpenter (who is not much of a toiler) with his water-hole. A pole had to be set in a seepage creek (where the water runs about two feet below the surface). It was all gravel and rock. They "blew" it, then left him to dig it out. He had it down about $3\frac{1}{2}$ feet, and had a can on a stick, and a pail on a rope, with which to bail it out. The usual way, with clay and sand, is to use the "scissors" action. You punch the spade down along the wall, bend it over; your partner punches the spoon down behind it. Together you "scissor" your way across for about four inches (in clay); then you lift your spade up and chop around a block in front of your partner's spoon, and pry it toward him as he lifts his spoon. Sometimes you hold your spade against the block of clay all the way to the top. But in Carpenter's hole you can't use that method. You dip the water out as low as you can; jab the iron bar down

and work it around to loosen the gravel; then go to work with spade and spoon any old way. Carpenter is 21 years old, highly excitable, a woman (sex) chaser, a chronic moocher, moody, pugnacious at times. He has his good points, but is unconscionably selfish. I heard he has a discharge from the navy because of "emotional instability." Told me today his only brother is in the hospital in Texas, because of face and eye injuries by "potato masher" in Guadalcanal. I suppose part of Carpenter's character lies in the fact his father died when he was six. He has a quick-triggered mind, but it is superficial; and he has picked up many of Hollywood's worst attitudes. But he does not smoke or drink. Among other characters are: "Pete" the Serbian; Henry Lund, the well-to-do old prospector, now powder-man, who has lived in the Northland for twenty years. Henry does not wear a beard to protect his face; a third of the others have full beards. It seems as though a beard, especially a full blonde beard, adds a little character (or dignity) to a man. Two or three of the men rather remind one of Christ's pictures; Duncan, with a black beard, especially.

The easiest hole I have had to dig (described at bottom of pg. 17) is in "muskeg." In the spring and summer a man is said to sink half way to the knees in it. No wonder they want this telephone line and road built now. The weather will be cold, the roads will be slick, the engines won't run; but it is better now than next summer, evidently. This morning our "Fud," loaded with men, hooked on to the "cat" and pulled it a quarter-mile down the hill, trying to start it. At one point it slid the "cat" a hundred yards while the "cat" was in gear. They gave it up and got out the blow-torch, and the flame-thrower. I thought they should have done that first, at 19° below; but Joe Wright impresses one as knowing his business. Duncan runs the "cat," which pulls the "Schramm" compressor. It goes crashing through the "brush," which consists altogether of spruce—dead, young growth, and up to about twenty-five feet. He does not run over the big ones. We have dug holes to about mile 52; the pole-setters a half-mile behind; the road builders have a road—of sorts—to mile 132. We are all supposed to meet the gang from Whitehorse at Sheldon Lake, which is about mile 280.

November 8, 1943

List of men who arrived at Camp 40 on Nov. 5.

Name	Approx. Age	Former Occupation	Height	Weight	Date left telephone project
Carpenter	21	Sailor and L. A. taxi-man.	6 ft	150	Discharged for fighting, Dec. 1. Later worked in office at Canol for a month or so.
Bob	23	Marine, International construction.	5-6	150	Heavily bearded blonde. Nov. 14.
Paul	28	Construction worker.	5-9	180	{ Heavily bearded blonde. (These two men became "bull cookers" about Nov. 20.) Dec. 22.
Johnny	28	Construction worker.	5-7	155	
Haitman	28	Iowa farmer.	6-1	185	About Jan. 1.
Raker	23	Factory work and salesman.	6-0	175	Dec. 28.
Sam	32	Bought and sold bankrupt dry-goods stocks.	5-8	160	Heavily bearded black. Nov. 12.
Patswold	21	Factory work.	5-9	145	Nov. 28.
Ferris	43	Former soldier.	5-11	170	To Canol Jan. 20. Had sore back after injury at Ft. St. John.
Rice	18	Somewhat like the Dead End Kids.	6 ft.	150	Worked in kitchen from about Nov. 20 to Dec. 10. Went to Canol intending to quit, but "fell" into a camp truck-driving job, seven drivers having quit that day. Dec. 17.
Kenny	19	Ice cream factory.	5-9	150	Heavily bearded blonde. Dec. 28.
George	38	Chicago.	5-11	180	
Otto	45	Minnesota lineman.	6 ft.	180	
Flood	43-44	(The present writer.)	5-10	170	

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DUSENBERRY, a member of this party, went to work Nov. 6. But when the "Fud" died on the big hill about six miles out, he caught a ride back to Camp 40, and quit. Perhaps he was wiser than we. Foreman Joe Wright told me tonight: "We came down the hill on fourth speed, except at the last, the steep part, where we moved to fifth speed. Two or three times it slipped out of gear, but the driver caught it with the emergency brake and air brake. Some night we aren't going to catch it, and we'll hit the bottom at 90. The gears are rounded off, so that it is very hard to hold it in a certain gear." Later I asked Pomeranke (electrician) if anything could be done to have the "Fud" fixed. "No," he said. "The company has the telephone gang on the blacklist." (But that is not the word he used.) "They hire too few mechanics, and ask them to do miracles." Later, another man came in and asked Pomeranke if he had heard what became of the man who went over the bank a few days ago with another "Fud." "Died, I heard," was the reply. The man who had his fifth accident recently, was fired.

George and I spent all day with the water hole on which I helped Carpenter last evening. We worked almost without stopping. Pretty expensive hole. Six feet deep. There was not a ten-minute period all day in which one of us was not bailing it out. I expect it to be caved in tomorrow, but we left it ready tonight for the 40-ft. pole that goes there. It will be several days before a pole will be placed in it. I slipped on the ice once, likewise did George, both of us poking a leg down the hole, which was large enough to have allowed us to go down into two feet of water. I stepped in four inches of slush caused by the water I had thrown out on the snow; and I surely noticed it on the long ride home. It was a perfect day, but on the ride home a fair breeze arose, and we were all cold on arrival. Little things like wet overshoes mean much here.

Saw a 6 by 6 GMC truck today. The first number means the number of wheels (or duals) driven, and the last the number of wheels (or duals) the truck has. A "Fud" would be a 4x4. GMC also has a 4 by 6. Joe Wright still maintains the Studebaker 6x6 is the best, and that a Ford V-8 is worthless.

* * *

November 9, 1943

OF THE MEN listed on page 20, all left Los Angeles the evening of Sept. 27 except Raker, George, and Otto, who signed on in Minneapolis, and Ferris, who left L. A. a week ahead of

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us. I shall try to record when each leaves. I understand that last year only 3% finished their nine-months contract. Tonight Pomorenke, in our barrack, is packing to leave for Canol. He will see the War Manpower Commission about the "inside electrical job" he says he contracted for. If it is not given him, he will quit. He even quit work on the job today, coming in before quitting time. While packing, he showed us a natural wood growth he found, a perfect wood sculpture of a half-grown bird sitting in a nest. It had not been touched by a knife. He also showed us a picture he took of a mosquito about three feet in all its dimensions. The joke was: he built the "mosquito" out of leather and wooden branches, and photographed it. The old hands here say the mosquitoes are large, but that black gnats are the real torment in the summer.

It is difficult to write this journal. The only place I can write is the little shelf near the foreman's bunk. Every night, without exception, Barney, a large-nosed man from New York City, comes in and talks, loud and long. Between his and other conversations within three feet of me, it is quite a task to write a journal. Each barrack is equipped with eight bunks, four uppers and four lowers. When one considers that there is a stove, a pile of wood, a washbench with pails of hot and cold water; and that *all* the men's baggage, complete as it must be for all seasons, with books for reading, electricians' tools, etc.; and that the dimensions of the room are 10x24x9, one can realize how crowded it is. One bad feature is the heat in the upper bunks. A bed sack is meant for low temperatures. One cannot throw back the blankets or sleep between the sheets. Every night my summer underwear, which I wear while sleeping, is soaked in sweat before midnight; but later in the night, on cold nights, I get cool enough indeed. The bunks are too short; the only comfortable way to sleep is on the back. When I dress in the morning, I pull two pairs of socks from a rope across the ceiling, a pair of shoes from beneath Wilson's bunk, two pairs of trousers hanging from a nail by one window, a wool shirt hanging from a nail at another window, a sheepskin vest hanging on a hanger near my bunk, two coats hanging on the door on the other side of the room, a cap from beside them, and a pair of overshoes from near the stove. Fortunately, our barrack has only six men. Each barrack rests on a huge bobsled, and weaves whenever anyone goes out the door. The kitchen and messhall combined rests on two bobsleds. The bathroom and laundry combined is a tent with board sides. When one desires a bath or wishes to use the electric washing machine, he speaks a day ahead to the "bull-cook," who arranges to heat some water outside in the open. You build your own fire

inside the tent. (Now this Barney is shouting. This is probably the worst barrack for visitors, talking, etc. It is a kind of social center for the "old hands.") Our contract calls for board, lodging, and *laundry*. But one can see that most of the laundry will have to be done by oneself.

This morning George and I made a neat hole 3½ feet deep through six inches of frozen turf, and three feet of loose sand (which resembled decomposed granite). There we found the perpetual frost, and being frozen sand (very hard to blast) it had to have six sticks of dynamite, and even then it was not opened up sufficiently but required much labor by the bar and spoon to get it down to 5½ feet and large enough at the bottom to take the 30-ft. pole. The rule is: a 25-foot pole takes a 5-foot hole; then add ½ foot for each additional five feet of pole, except that a 40-foot pole takes the same as a 35. To show the variation in the soil: five holes in succession, in the same almost-level piece of ground, where low brush (unusual around here) showed it to have been (or still is, in spring and summer) a lake-bed. Ours was hole number one. The next hole had no sand. Below the layer of frozen turf was a five-inch layer of unfrozen black soil. Then black soil and ice, frozen hard. Ten sticks of dynamite were used on it. Below that layer came plain mud. The next three holes required no dynamite, but instead, a "can," which is an oil barrel with the ends knocked out. This "can" is pushed down by degrees, as the mud and water are removed from inside. The third hole in this series of five had water up to the bottom of the turf. Many spruce trees are dying of a fungus which shows black in the winter, red in the spring. The needles shrink to a web-like skeleton grayish-green in color.

In cold weather methods are different from those in warmer climes. When the men are ready to drill for dynamite, "Pete" the Serbian allows the "hammer" to run a while lying on the sled, evidently to warm it up. Then he lays one end of the auger (drill) over the exhaust, to warm it before the "bit" is placed on it. It requires two men to operate the hammer. It has a long handle so the two men can stand on opposite sides of the hole, and pull it up and down through the hole being drilled. Two, and sometimes three, augers are used, varying in length so that the handle is the proper height from the ground for the heavy lifting. During the drilling, water must be poured into the hole to permit the dirt to be raised to the surface. Each auger, after use, is disengaged from the "hammer" and fastened to a hose connected with the air tank. A blast of air blows the mud from the air hole at the "bit" end. At the end of the last drilling, a metal tube with a horizontal extension at the upper

end is placed in the hole, and the hose attached to the extension. Air is blown into the hole, throwing mud twenty feet into the air. I picked up a wrapper from the dynamite and noticed it is called "Polar forcite," a special blend for the Far North. Henry Lund, the "old Northerner," is the powder-man. He was born in Sweden, and in his words mined in "thirty shafts" in Canada, gold mines, often "many thousands feet straight down." However, he would not work lower than the one-thousand foot level. In the summers he was employed by big firms to prospect in parties of two or three, at about \$150.00 a month and a commission on anything he found. He is very fond of the North; says he has a fine garden every summer on a spot on Outpost Island.

Some oddities: George has a habit of opening his mouth and rubbing his upper lip with his tongue for minutes at a time. When he first began as my partner, his remarks bordered on the discourteous, certainly the domineering. He seems fairly well educated, but I suspect a German strain in him, which, because of his lack of imagination, makes him inclined to be "bossy." I did not retaliate, but I did various little things which in the course of two days have caused him to change somewhat, although his discourtesy *has* to show now and then. At first he would not co-operate at all; everything had to be done his way or not at all. I let him have his hard way all day, then when he was tired at the end of the day I went back to the method I had demonstrated earlier, thus making his way look silly.

"Whitey," who sleeps under my bunk, is ordinary around the barrack and at mess. Today we came back to Camp 40 to eat, whereas we have been eating at Camp 50 at noon. It was the first time I had ever seen the men in the truck by daylight, as the sun a month and twelve days from today will shine only fifty minutes. Today, going back to work, "Whitey" sat beside me, one leg thrown over his knee. And every twenty seconds the entire distance he spat saliva from the side of his mouth where a couple of upper teeth are missing. All the time he was intently listening to his neighbor on the other side. The drops of saliva were coming uncomfortably close to my trousers; and when I noticed three or four drops on my trousers I slapped the leg a couple of times with my mitten, expecting him to take the hint. He stopped for a minute and began again. I did not wish to say anything, so I slapped my leg again and moved a foot or so away on the bench. Only half the men had come to Camp 40 to eat, so there was some room. This reveals the power of habit. He does not spit in the barrack, he surely can't in the crowded truck, jammed to overflowing both morning and night.

Yet the habit was so strong that when Pomerence was forced by some circumstance to sit on a box in the middle of the floor, his legs being directly in line with the sputum, "Whitey" still considered spitting necessary. But only once. Pomerence, without making any sharp remarks, in fact with a grin, promptly rubbed "Whitey's" overshoe with his own "spit-on" overshoe, and spit out a mouthful of spit within an inch of "Whitey's" foot. That converted "Whitey." He uncrossed his legs, and began spitting between them. Some men call some of these queer habits "bushy," caused by having been hidden away here too long. "Whitey" was talking to himself at table the first morning I was here; and at night before going to sleep he said quite loudly, "Oh, God," and "Jesus Christ!", not as though he were swearing, but as though he meant it. He is a World War veteran, but in ordinary life would be considered entirely normal. Even as George would. It is only as one becomes intimately associated with men, at work and in living quarters, that one sees them as they are. I really believe George is a kind man who would be a good man to have around in a pinch; but he is a great aggravation to work with.

* * *

November 10, 1943

CAMP 50, where we have been eating dinner, is located at the east end of the bridge across the Keele River. (Note: Now that I am back in civilization I fully realize there may be many errors in this journal. Old timers told us our maps were not correct. All we could do was to call the rivers by the names the older employees used.) The bridge is about 100 yards long. The river bed is strewn with boulders. At this season there are three or four channels about five feet deep, quite swift. A few days ago four of us picked our way directly across the river to save walking. It was ticklish business, as the ice was covered with snow. In spots the water was open. Henry says in summer trout are to be found there. I did not get to see the Carcajou River, just this side of Canol, as the truck door was shut at that time.

I had Heitman as a partner today, and the day seemed short. Sensible conversation is the reason. Our first hole had about six inches of frozen sand at the bottom. We punched a hole with the bar through the center to the mud beneath, and enlarged it so that a stick of dynamite could be inserted. But when Henry arrived, he cut the stick into four parts. Joe Wright crawled down into the hole and with considerable difficulty poured or pushed the loose dynamite out of the paper into the hole. He

used a short stick to push the first two quarter-sticks down, after which he inserted the cartridge, tying the wires around a small bush on the ground. After inserting the next two quarter-sticks, he used Henry's long pole to push it down, but I noticed he did not apply nearly as much pressure on the dynamite with the "cap" in it as Henry is in the habit of applying. Heitman says he doesn't like to be too close to Henry when he applies the pole to five or six sticks of dynamite with the "cap" inserted; and I myself have noticed that Henry does not seem to make any distinction between dynamite with a "cap" and without it. I heard some men mention the other evening that it was the first job they were ever on, where the men on a truck not only ride with dynamite, but also with a supply of cartridges, even though the cartridges are in Henry's pocket, and the dynamite beneath the seat we sit on. I asked Henry about it. He rather hesitated, then said he carried the "caps" in his pocket, but that no dynamite was carried in the truck. But it stands to reason they would not send a truck all the way out, just to carry a sackful of dynamite, and I have an idea Joe carries it in the cab. Tonight we came home on the Studebaker 6x6. A piece of canvas had been thrown across the back to keep out the cold air, and it was dark inside. The driver had just arrived from Canol and nobody knew anything about his ability. He had been at Canol only a few days. He stopped at Camp 50 to fix a flat front tire, using a Karofuel Flamethrower to heat the wheel. Nearby, the camp "bull-cook" was using a brush-burner to heat some barrels of water to keep them from freezing solid. By the time the tire was fixed, my feet had become quite cold, and the long, slow ride home was rather distressing. I noticed that the men were quieter than usual, and I suspect the reason was that, not being able to see from the back as usual, they were subconsciously concerned with the truck and its new driver—how fast we were going, especially on the long hill with its steep bordering slope or precipice. My feet were so cold I was inwardly cursing the company for not issuing me the proper-sized footwear. To add to the distress, we arrived home more than an hour late, supper was over, and we were expected in the mess hall immediately, with no opportunity of removing our cold footwear. I wear two pairs of light woolen socks, a pair of leather shoes with a pair of steel arch-supports inserted, and the issued overshoes. At Edmonton the company issued me a pair of felt shoes too small to hold the socks one is supposed to wear in extreme winter, yet with soles too wide to enter their issued overshoes. The commissary man said I could and should exchange both felt shoes and overshoes at Canol. But at Canol the commissary man said he did not issue any felt shoes whatsoever, and would not trade me new overshoes for my used

ones; but that I could *buy both* at the company store nearby. As I had to use my money for more necessary items, I have to wear my leather shoes, which are much too cold for this climate. At Edmonton I was also told good mittens would be issued to me at Canol, and that I should buy some fillers for them in Edmonton. I bought two pairs of fillers; but at Canol the commissary man said he had not issued any mittens since last winter. I went to the company store and bought the last pair of mittens and fillers large enough for me, the so-called "hunter's mitten," with the trigger finger detached. They will be useless in extreme cold. Men are inclined to jest and grumble about their employers, and I am not yet complaining. Perhaps there is a reason for these broken promises, which were not nearly so serious in my case as in scores of others. But the common expression is: "B-P-C,—Bull-, Promises-, and Confusion." B-P-C ordinarily stands for "Bechtel-Price-Callahan," the contractors at Canol. Speaking of "Confusion": in the 18 hours I spent at Canol there must have been 30 men who came through a blizzard the five miles from Canol to the commissary, expecting to buy \$25.00 worth of clothes on credit. At the commissary they were told to go back five miles to Camp Canol and get a credit slip. Most of this traveling had to be done by hitch-hiking, because of limited time after standing in long lines. Why was not this credit business handled right in the company store? There seemed to be two persons there, one a woman, who had practically nothing to do. If this had been the arrangement, I would now have proper clothing. There were several other instances of confusion and lack of co-ordination.

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Nov. 11, 1943

A QUARTER-CENTURY has passed since the armistice ended the first World War. I have had as partner today a man who served in the World War in both the Canadian and U. S. armies. Afterwards he served three years in the army in Alaska. George transferred to the pole-setting crew under John Simpson. They have gained greatly on us, but are three-quarters of a mile behind. We are having to blast nearly every hole. Most of them are in frozen quicksand, and the blast, to penetrate anywhere deeply enough, has to rip out a regular cavern at the top. The hole my partner and I were on this afternoon was six feet in diameter and three feet deep. We still have to go two-and-a-half feet, and probably will have some hard and slow chipping with the bar near the bottom. All this dirt to be moved, merely to insert a small telephone pole into the ground. To add to the difficulties,

we have to eat at our home camp at noon from now on. Today, out of 10¼ hours we actually put in, about five were spent in travelling. (John Simpson's crew of ten did not have to come home for dinner.) Five hours spent riding in a canvas-covered truck, with the end open, in this climate, is not to be laughed at. I fared a little better today, having removed my steel arch-supports this morning, and added a heavy pair of wool socks—three pairs in all. But they were so tight inside the leather shoe that when I returned this evening my feet were almost numb with cold. Bob Lewis had three heavy pairs of socks, a loose pair of moccasins, and his overshoes, but for days he has been complaining loudly about his feet. The truck from the Canol commissary is here tonight; and Bob was served supper after every one else was through because he had stayed in the commissary truck waiting for the salesman so that he could be first served. He managed to trade in a new sweater on a pair of German felt boots. The truck did not have felt shoes or overshoes, so I'll have to wait until pay-day and order some from an Edmonton store. Since the truck carries only the same articles the Canol commissary has in stock, it had no mittens except the "hunter" style.

Soon after we returned to camp tonight, Art Johnson, who usually helps with the "cat" and the compressor, opened the door of our barrack and admitted a large dog. The dog made himself perfectly at home, stretching himself out by the fire. Joe explained that the dog, which must have some "husky" blood in him, is always coming and going among all the camps from Canol to Camp 132. He was in this camp three nights ago, and evidently is on his way from the west to Camp Canol, as the commissary truck is travelling that direction. Someone shot him completely through the side about a year ago, evidently mistaking him for a wolf. He is blind in one eye, and by his wise ways and in appearance seems about eight years old. When the cook beats on the iron bar to signal supper, the dog calmly rises from the floor, goes down the three steps outside the barrack, and joins in the race toward the mess-hall. Less than half the men can eat at one time, so there is always a race to get to the first table. The table is never so clean, or the food so hot, for those seated later.

This man Barney is in the barrack tonight, as every evening. He always seats himself near our writing desk, where our only suitable reading- or writing-light is located; and Wilson, one of the men on that end, has seated himself on a box before the writing table, although his bunk is right beside him. (The bottom bunks are too low to sit on with comfort; most men lie down while visiting.) So I am writing this on my knee, by a

light too weak and high, and too close to the stove. I now have a lower bunk, and that is a great improvement in a barrack which appears to be kept hotter than any other in camp. The wood is light and burns fast, and the stoves (which are made of oil barrels) cannot be shut off sufficiently at the bottom. I have had a continuous cold since my arrival, but I believe it will leave now that I have a lower bunk.

A place like this is full of rumors. So this journal cannot be absolutely relied on for facts. The following conversation took place on the truck tonight: Dick (my veteran-of-the-World-War partner): "Has anyone any idea how the war is coming on? Are they still fighting?" Ferris: "You can't prove it by me. It's about time someone started a rumor that they've quit shooting. There are rumors about everything else." To add to the rumors, here is the gist of some remarks made by Joe Wright, the foreman: "The telephone line is necessary because the Northern Lights cause so much disturbance in this region that radio cannot be relied on. They give you the impression that the planes flying from Ft. St. John have good radio guidance. Actually, they have practically none. Each morning scouting planes rise and circle the countryside near Ft. St. John and Canol, getting data on the probable weather. But when the big planes set out, the pilots can't tell what they're going to run into beyond the scouting plane's radius. Four hundred miles north of here, around Aklavik, radio reception is so good most Eskimos have receiving sets."

By the end of the three weeks that we waited at Ft. St. John, I was rather relieved by the impression which I had somehow gained, that the pilots to Canol were very experienced in this territory, and that radio was used here the same as elsewhere. When the news got around at 6:30 P.M. that seven army planes were coming during the night, one after the other, to take us to Canol, I did not feel so re-assured, because I thought among the seven there might be one who was a stranger to these lakes and woods; and even the experienced pilots would find it difficult to pick out a safe spot to land at night in case of a forced landing. I fully expected to be placed in the third plane, which probably would leave before 10 P.M., but after losing practically the entire night's sleep (from moving to other barracks, farewell parties, etc.), we went to the airfield at 6:00 A.M., and got into the air at 7:25 A.M. There were 18 passengers, and a great deal of baggage. The metal seats were very cold, and mine especially so as I was the farthest toward the tail. As I already had a head cold, this added chill brought on a severe headache which remained with me all day. We landed at Canol at 11:30, after flying non-stop more than 800 miles. It was 9:00 P. M.

before I was given a bunk, such was the confusion caused by sending in ten plane loads of men in one day, and sending out a similar number. The army, I assume, was making the best of a short break in the weather. By 4 P.M. the day we arrived at Canol, a brisk wind had arisen, and snow fell all night and the next morning.

* * *

Nov. 12, 1943

AS NEAR as I could tell, the moon went down in the north this morning. It was still shining bright when we reached the job. It was 19° below, with a foot of snow. I had taken off one pair of socks so that my shoes were not so tight, and when we got off the truck neither my feet nor my hands were especially cold. But the first thing I had to do was to grab the iron bar and start chipping the frozen sand at the bottom of the hole (which was so dark I could not see clearly). I soon got plenty warm around the chest, with my sheepskin vest, coat, and parka; but my hands and feet kept getting colder. The "hunter's" mittens, for which I had paid \$1.60 at Canol, were extremely cold against the iron, and reminded me that I had seen the same mittens and fillers listed in Eaton's catalog of Edmonton at 85c postpaid. Perhaps the leather is better in mine, but not that much better. Yet the Canol store is supposed to be selling at 10% above cost. There is something off-color there. I heard last night there are several men on out beyond Camp 50 who don't even have overshoes, an item which is supposed to be issued. Soon my hands got so cold this morning I told my partner I'd have to put them in the snow. He is one of the outspoken, "tough," war-veteran type, who actually are quite helpful in a pinch. He reached into his trouser pockets and drew out an old pair of mittens and heavier fillers, which, not having a finger free, were immensely warmer. He himself has an expensive fur cap, and a pair of fur mittens costing seven dollars. I wore his mittens in on the long ride to dinner, and then returned to mine. When one gets off the truck in the morning, the feet need some other exercise than that secured by lifting a bar up and down. Two or three of the young fellows had such cold feet they built a fire (despite Canol orders against it) and laid their iron bar across it as though heating it was their reason for having the fire. It is a fact that if one can warm his feet for two or three minutes, it is a big help toward enabling them to get warm while working; but it is frowned upon, not only because of the lost time, but because a fire is not considered best for the face and body.

The "Fud" has been used the last two days to pull the Schramm compressor, while the "cat" was pulling telephone posts up to the holes. We don't see much while riding on the "Fud" back and forth to camp, but we do see enough to realize a little of what goes on along this road. A trailer pulled aside to the ditch along the wall, of either of the two long, steep hills, means a trucker found the slippery climb too difficult for his load. This morning we found a truck and trailer both pulled to one side, but did not stop; evidently our men in the cab could see that the other men had given it up and hitch-hiked away. Last night, when we were all aching to get home, and we were coming down the longer hill, at about three miles from camp, our truck stopped. Then, a few moments later, it began backing up. That didn't fit in with our wishes. A little later a semi-trailer loaded with pipes roared past us; we had evidently helped him out of the snow-filled ditch. This morning we passed, on the same hill, a "caterpillar" loaded with lumber, pulling at the end of a 50-foot cable another "caterpillar" loaded similarly. At a bend in the road ahead, we passed another "cat" just unhitching from its cable to a similar "cat" loaded with lumber. I couldn't understand the arrangement, because there seemed to be only two men with the entire "train." Tonight, coming home, we passed on more level road two "cats" hitched close together, and a hundred yards farther on two more "cats," all loaded. No man was in sight, but if we could have had more time to see, we'd have noticed a man inside a cloth "cab" in each of the two front "cats." It must be hard on their kidneys to ride day after day on such a clattering vehicle, on hard unyielding roads.

Joe said this noon he had poured out on the ground this morning 120 gallons of mixed gasoline and Diesel fuel. He said that at Canol someone made a mistake and poured gasoline into many scores of barrels of Diesel fuel, and they were having trouble with their equipment all the way up to Camp 132. He said he still had several barrels of the mixture, but that he thought the superiors planned to get it to Canol to be refined. In our barrack there is an open teapot full of Diesel fuel standing within two feet of the stove at all times. The floor around it and over toward the door is soaked with it. When I first came here I noticed the men picking up the teapot and pouring the fluid freely into the top of the wood stove, and I casually asked if that was safe. They said it was "as safe as it is to pour in kerosene until one makes the mistake of pouring in gasoline." This wasn't a very satisfactory answer, for I have known of numerous instances of death from pouring kerosene into a fire. It's a good thing the fuel used here did not come from the mixed barrels.

When we came home this noon, Sam was gone. Just like that. He had evidently placed his baggage on the commissary truck, and gone without saying a word to anyone. He was better educated than the average, well-balanced, sober, willing to work. He told me he was born in England, raised in New York, and had spent the last several years in Los Angeles. Joe said he would have to come back here, anyway, to get Joe's signature to his discharge slip. Sam gave every indication of knowing his way around; and it seems strange he did not know he had to have his foreman's signature. It may be he made special arrangements with the General Foreman, Paul Scott, before leaving, and that Joe had not learned of it.

Henry Lund is bald all over his head, except a little on the left front side. A distended vein appears above his right ear and curls in numerous convolutions to the top of his head, and perhaps farther (for that is as far as I could observe it). "Pete," the Serbian, is quite sociable, and wants to talk, but it is quite a task to listen to him, especially above the drone of the truck motor when one is wearing ear-flaps and the head-piece of the parka. He came to the U.S. in 1912, sent his two younger brothers back to Serbia to look after the family's land. The Austrian government put them in the army, and soon they were dead. This pained Pete very greatly. He lived in Chicago seventeen years; lately he has been living in St. Louis. He has, up until now, done the hardest kind of labor, such as foundry work, etc. From his remarks I gather that, while he wants the Germans out of Serbia, he suspects any group which stands or pretends to stand for the old government of Yugoslavia. I let him talk, and did not ask him any leading questions. But underneath his almost double-talk—due to his desire not to come out too openly—I understood he thought Serbia, Bulgaria, and Russia, all being Slavic, should co-operate, and would, provided there was not too much outside meddling, such as that by France following the last war, which he described in detail and with much feeling. He had nothing against Croats; his enmity was for "kings"—and I knew he meant kings like Alexander—and "capitay-lists." He got quite bitter in his detailed explanations of the ways the "poor people"—one of his commonest expressions—were robbed every way they turned, in Europe. "The king wants taxes. The poor people have two goats and a horse, and the baby needs milk. The king's men send ten policemen out to get one goat. And what the poor people can do?" He shrugs his shoulders. "France wants pigs, cows, cheese, coal. France puts in a king who says he will get them. So what the poor people can do? And Michaelovitch do same t'ing." And I, not knowing how this latter's name is spelled, and under-

standing only a little of what he is supposed to be, nod my head, and agree, partly because I understand only half of Pete's words and partly because I suppose he ought to know, since, as he says, he has "many cousins back over there."

Nov. 13, 1943

WHEN WE were going up the long hill to work after dinner, we found a Studebaker 6x6 with semi-trailer loaded with pipe stalled about a third of the way up the hill. When we stopped, the driver pointed over the edge. There, about three hundred feet down, at the bottom of the 75° slope, were the remains of a new Mack All-Wheel Drive, with its load of pipe. The tracks in the icy road showed that it had been headed up hill, that it had stalled, then rolled backward. We were out of the truck only a moment, then ordered back in to provide weight for the "Fud" while it helped the Studebaker up the hill. Pipe trucks travel in pairs or larger groups, and this Studebaker driver told Joe (our foreman) that as he saw the Mack rolling back toward him he thought sure the driver was going over the bank with it. But the driver had managed to jump. The road was in very poor condition, icy, and in two or three places actually sloped out toward the edge. Whenever a truck is stalled on this hill (which is one of two bad ones which we traverse four times daily), the driver must wait for some truck returning toward Canal to send word to Camp 36 for help, usually a "bulldozer." At night this must mean a long, cold wait. Tonight, when returning from work, we met another Studebaker stalled at the same spot where the Mack had been lost and the 6x6 stalled. Our "Fud" fastened on it and backed up the hill with it. We men remained in the back for weight, although we would have preferred to be on the ground. We wondered, there in the semi-darkness, what there was to keep this semi-trailer with its load of pipe from losing its traction on the ice and swinging our "Fud," with its rounded gears, over the bank with it. Again, back down the hill we went, and at the same spot fastened to still another Studebaker and backed up the hill with it. Once we were pretty close to the edge, and half our men gathered at the rear end ready to jump. There was no real danger, as our driver was merely trying to keep the Studebaker from sliding into the ditch at the wall—a ditch which evidently serves no purpose in winter except to force trucks near the precipice. We all have learned to have confidence in this man's driving, but he will leave for the States in six days, and after that—what?

It was a perfect day. The air was so still a powder ring went sailing up into the sky from many of the dynamite blasts, and while coming down the hill the truck threw out perfect blue smoke rings from its exhaust about every thirty feet. The echoes from each dynamite blast resounded from the snow-blanketed mountains for many miles, sounding like distant avalanches. I finally located a pair of woolen gloves, which would fit inside my "hunter's" mittens, thus giving me two liners. In spite of that, soon after I seized the iron bar this morning my hands began to get too cold; so despite Canol orders I took the bar over to a small fire which two young men had built at the next hole. (Joe has been "blind" to small fires built to heat bars.) But the fire was too small to heat the bar over any amount of space to mention, and since my partner was waiting for me I had to take the bar back, heated at a spot where my hand did not touch it. It was a peculiar hole, and had to be dug entirely from the top, instead of having a ledge at the frost-line as usual.

My partner is a very forthright combination of sound philosopher, enterprising trucker, ex-farmer, homesteader under two national governments, anti-capitalist, pro-Russian, anti-Semitic, pro-Huey Long, pro-John Dillinger. While a soldier he lived with an Indian girl of seventeen for 18 months, who consequently had two abortions and when he left said she was pregnant a third time. Soon afterward he married an American girl, and one of his children is soon to be sent to the National Congress of the 4-H clubs, because of her prizes for four years. His son recently died from a hunting accident wherein the brain tissue was exposed for several weeks in the same manner as that of an American soldier in France who stumbled into my partner's shell hole and lay groaning all night. His motto: "Whenever they tell me I must not do a certain thing, that's the thing I'm going to do." That ranged from "running" Canadian whiskey to Oklahoma, smuggling his own Canadian wheat across into the States, disobeying army rules against drunkenness and mixing with the Alaskan native girls, failing to observe local or state laws against selling from trucks. Perhaps he has been unreasonably "anti-"; nevertheless, many people, myself included, probably could have used some of his attitude to advantage during the depression in the Mid-west. "After you have been to Europe, Canada, and every state in the Union, you come to realize that no one is going to help you but yourself. And I long ago made up my mind that others may suffer, but not me. It's here on this earth, and I'm going to have it, in spite of all the rules and regulations." Of course, this was all expressed in hard

language, but he was pretty familiar with governmental affairs since the 1929 crash.

The big dog went "haywire" at the air-drill today. Evidently the noise hurt his ears; he bit so savagely at the drill that he flew into a kind of frenzy and started to snap at the men who held it. They had to take him to the truck and put him inside the cab. On the way there he passed a bar stuck into the snow beside the road, and he began to snap at it, and snarl.

Nov. 14, 1943

BOB QUIT this morning. I expected him to stay much longer. He was a good conversationalist along those lines which he could discuss, such as life in Nicaragua, and in the Marine bases where he had been stationed. His English was very good, and he had a cheerful, friendly disposition. However, one can never tell. There are rumors that he would borrow and fail to pay. And he seemed to be putting on pressure for a better job, too soon after arrival.

It was much warmer this morning. When we reached the job, a full moon hung directly in the west, and all the principal stars, including the Big Dipper and the North Star, shone brightly. I have no watch, but about ten o'clock the sun arose, while the moon was still rather high. In this region one must accustom himself to the fact that both the sun and moon travel a much more horizontal line than in the States. For example, at eight o'clock the moon appeared about two hours above the western horizon. But at 10:30, the last I noticed it, it had sunk only about 50% and was pretty well along toward due northwest. The dawn preceding sunrise was long and beautiful, the color being almost wholly in the west and northwest. Not only were the clouds colored pink, orange, shades of blue and green; the mountain about 15 miles southwest of us was tinged soft pink. It formed a perfect background for the miles of spruce between it and our road, for the rustic bridge made of spruce logs which we faced directly, and for the patch of light-green ice on the near side of the bridge. All together, it was the ideal Christmas card picture.

It was so mild today that we all got a little sweaty this morning, swinging the heavy bars. That is not so good, especially if, as happened, we are still a little damp when we get on the truck for the long ride home. Joe said this noon that the camp would have to be moved very soon to keep the men from quitting. He has been waiting for the trucks for a month, and tonight

it seems certain that we move to Camp 52 tomorrow. Our two cooks left tonight; that makes four inside a week. So tomorrow we are told to try to get along for dinner on the road with warmed over fried potatoes. Of course, we shall not reach Camp 52 tomorrow. The long hill is before us, a mile and a half long, with an average grade of 17°. A tar-paper shack was placed at its base today, where a driver and his "cat" stay at all hours to help heavy trucks up the hill. "A fool locks his barn after the horse is stolen." It is rumored that a Mack truck of the new type which went over, is worth about \$13,000. Not only were the drivers of the Studebakers which followed later, rather unnerved, the one immediately following being so unnerved that his hands were visibly shaking; Johnny also, who has had two similar experiences with trucks, does not like that particular spot and openly says he is pleased when our "Fud" gets off that 100-yard stretch of slippery road.

Two airplanes passed overhead along the road today, about five minutes apart. They seem to follow the road despite its roundabout course. For the past two miles we have followed the road due south; at the spot we have now reached it turns due west. Both planes turned sharply when they looked down upon this change of direction. They must have been headed for Whitehorse. The one plane close enough for us to observe was a single motored plane. It is about 560 miles from Canol to Whitehorse. The other plane carried skis. These were the only planes I have seen since I left Canol.

* * *

Nov. 16, 1943

TWO WARM days. This morning a fair breeze from the west so warmed the snow that by the time we reached the job one could make snowballs. The wind made quite a sound through the spruce. At the point where we are now working there are tamarack trees every thirty feet or so. The full grown ones are about twenty feet high. The warm weather has brought out the songs of the "whiskey-jacks." They have about four different songs, one a series of about six short flute-like notes, the last one descending in tone. The "whiskey-jack" is grayish-blue, about six or seven inches long. Also saw a squirrel today.

The past two days we rode to work in the Studebaker 6x6, driven by a new driver. The new box recently placed on it for our winter use was not especially useful this warm weather. The cigarette smoke stays in it a long time, as it is built tight; and we have ridden too slowly lately to drive the smoke out.

We are dressed just as warmly now as a few days ago when it was 19° below. It is not wise to cut down on the clothing. But all those clothes are a little stuffy in the box, into which we are packed like sardines. As illustrations of why it does not pay to reduce clothing: tonight we rode home, all sprawled out on an open truck. And last night, when we reached camp, we found it had moved during the day to the high pass at the top of the long hill. A stiff wind was blowing, we had to stand around for an hour waiting for the rest of our barracks ("caboosees," we call them) to arrive. We ate supper at 7:30 P.M. in an unheated mess hall, with one door always open, and the other opened at intervals. There were no lights until 9 P.M. A mantel light was used for supper. The cooks had to prepare supper with no light whatever, except that from the fire.

Yesterday, on the way to work, the Studebaker began to stall early on the way up the hill. As the men watched the icy road from the back door, they kept getting more and more nervous. Only about three feet from the precipice, and yet we could not make ten feet in a minute. I, like the others, began to wonder what would happen if the new driver shifted gears, as had the driver of the Mack, or if it actually stalled. Henry was seated away in the front. Suddenly he forced himself across the seat which had been placed between the two side benches, and jumped out. In a flash, almost everyone was out. To cover the actual reason—fear—one began to push on the truck, and the others followed. The driver pulled into the softer snow near the wall; but because of the wetness of the snow the truck could get no grip and finally stalled. He turned out to the icy portion again, and with our help finally managed to get up the 100-yd. stretch where the Mack went over. It was quite a climb and push for us all, heavily clothed as we were for such temperature; and everyone was panting when we climbed in. Coming home in the evening the Studebaker stalled on the high hill this side of the Keele River, where the precipice is even higher than on the one I have called the big hill. Again Henry was the first off, taking no chances. No one jollies anyone about it, because it is no joke; but someone mentioned that Henry has been failing to come home for dinner, and getting off the truck before the going got really difficult, for one reason. He was in a plane crash a few years ago five miles from Fort McMurray, and he had to be removed from the wreckage by wrecking-bars. The two men sitting beside him were killed.

Five Linn trucks are pulling our caboosees, two behind each truck. Over the steep portion of the big hill, a "cat" hooked on to each Linn. A Linn is Diesel-motored, and is hard to start in

cold weather. So all night long we sleep with the drone of the motor in front and behind us. Last night they had them speeded up so that they shook the cabooses, but tonight they are slower.

This morning I was working alone in a hole which I had down to the 5-foot level, measuring from the original surface, but about 7 feet down from the ridge of rocks and frozen chunks surrounding it. I had had no partner for two days, and could not move the huge chunks by myself; so I had dug the hole along the powder charge, taking a chance on being able to get it finished without having a certain huge chunk slide in on me, although I had undermined it a foot. The compressor was a long way ahead, and down out of sight of everything I thought everyone was far ahead too. In the midst of my thoughts I thought I heard Henry cry, in his usual undramatic fashion, "Fire!" Gradually it dawned on me I ought to climb up to investigate, as a hole is a poor place to be when dynamite is exploded. But I was almost through with the hole, and to crawl out would probably dislodge some more rocks and dirt. Besides, I was sweating and the breeze from the west would have chilled me quickly. Without looking up, I heard the blast, louder than usual. I turned around toward it, and saw some rocks fly up over my parapet the usual height. I turned back to my work. Suddenly there was a thump just beyond my hole. A rock about the size of an egg had fallen hard enough that if it had happened to hit me in the head could have killed me. It must have risen in the air a long way, as the shot was a hundred yards away. Twice yesterday, when shots were close, I stayed beside my hole; and both times the rocks and debris peppered around me. The first time I stood in the midst of the frozen chunks beside the hole, thinking that if anything looked even close I would just step aside. The trouble is, you see four or five chunks up in the air and headed your way. You keep watching them. As they come closer, you both watch them and start moving. Finally, you just move. That was what happened. I figured there were two chunks which were likely to be close. I started moving directly across the hole (which was about two feet deep, and besides had ram-parts of chunks and rocks around it), at the same time watching the falling rocks. As I stumbled around on the rough ground, I stopped looking at the coming rocks, and tried to regain my motion. That was when I might have been hit, and in the back of the head or neck at that. One should get several feet away from a hole.

Joe Wright has been ill all last night and today, with diarrhoea. He was so weak he could not come out to the job this afternoon. Some of the others were quite weak, but went out anyway. Yes-

terday we ate dinner at Camp 50, as we have on several other days. Joe, being foreman, had made the arrangements earlier in the morning, evidently wanting to avoid that long ride back down the big hill. The Linn trucks with our cabooses he did not expect up the hill until evening. He said this morning that the cook at Camp 50 had been pretty mad, and said, "All right. This time, but never again." Part of the men ate at the truckers' restaurant nearby. All except a very few (of whom I was one) of those who ate at Camp 50 were ill, and Joe got the idea the cook put "croton" oil in the food to prevent our coming back. Our own cooks had to cook supper while the cabooses were jumping and jerking, without lights. They prepared a kind of hash, which I always dodge on principle. I had the idea that perhaps the sickness originated in the hash; but the argument that only those who ate at Camp 50 became ill was all-prevailing. We ate at our own camp today; otherwise, some of the men intended to have a full accounting with the cook at Camp 50. A new cook and a kitchen helper took charge of our kitchen yesterday morning. I first caught sight of them this noon. The helper, a fat greasy-looking individual, held an agonizingly dirty rag in his hand—for what purpose I don't know. But one swipe of that rag on a skillet ought to start diarrhoea, if anything would. (Joe cured the diarrhoea with three teaspoonfuls of black pepper in a cup of hot water.)

Nov. 17, 1943

WE WENT to work sprawled out on an open truck, 20 of us. There was a windbreak in front and a seat for 4; the rest squatted, sat, kneeled, hung their legs over the sides. As we had only three miles to go, and that with a faster truck than the "Fud," we arrived at the job much too early to see to work. The moon, which has usually furnished our light until the full dawn, was almost hidden under a misty cloud. A few of us, myself included, were starting new holes, and after locating our stake could work largely because of the whiteness of the snow. A few young fellows gathered around a small fire and gossiped until it grew lighter.

At 9:30 the five Linn half-tracks passed, pulling our cabooses. A few minutes later a wrecker went by, towing our Studebaker 6x6, which had burnt out a rod a mile from work yesterday afternoon, thereby causing us to walk that distance. A small matter in itself, but when you are so heavily dressed, a mile is not quickly covered on foot, and we had been halted an hour

already by a bridge gang moving their cabooses. It is difficult to get past a cooos on this highway. However, it can be done. Henry needed some dynamite yesterday morning, and Joe sent the new driver with the Studebaker 6x6 back on the long drive to our deserted Camp 40, after four cases of dynamite and two boxes of "caps." Johnny went along as "swamper." The boxes bounced back and forth in the back of the truck as they crept up the big hill, and Johnny carried the "caps" in his lap. The cabooses of the bridge gang were being pulled by "cats" and "bulldozers," on steep hills, one "cat" and one "bulldozer" pulling two cabooses. Johnny saw it was going to be hard to pass the cabooses, so he told the driver to press on his horn button. Then, as each driver turned around to see what smart-aleck wanted him to move over, Johnny held up the two boxes of "caps." There was no sign "Dynamite" on the truck. But the "caps" served the same purpose, and the cabooses were quickly moved over when possible.

This was the third time in a month that the Studebaker 6x6 has burnt out a rod. We have a good mechanic, nicknamed "Pop"; but at periods of excitement and strain, as at moving time, he sometimes forgets to oil the trucks. Drivers are given to understand they are to pay no attention to oil and gas in their trucks, and there are breakdowns as a result. "Pop" has been under a great strain the last three days, because the electric light generator chose this time to refuse to work. And if there is one time when one should have light, it is at moving time, there being so much confusion anyway. When we saw our cabooses rolling by at 9:30 this morning at about seven miles an hour, we supposed we would find camp already settled when we came to dinner. Instead, we had to idle along in the open truck at about two miles an hour, as the Linns cautiously pulled the cabooses down a long winding road which had been cut out of the side of the highest mountain within fifteen miles. A newcomer would laugh at the idea of building the road there, but if one looks down at the long valley far below he could, if he knew what muskeg is, imagine what that valley would be like in spring and summer. What looks like the only sensible place for a road would be an impassable bog. The present road is more slippery than the big hill, more winding, and longer. But it has the saving grace of sloping toward the wall sharply; also the slope down from the outside is only about 45 or 50°. At the sharpest turn a truck slid off two weeks ago, and rolled to the bottom.

These particular mountains—from the spot where the road begins its sharp climb across the divide west of the Keele River to the mountains surrounding this rock-strewn valley where

Camp 62 today was born—are bald, cheerless piles of rock, with the same rounded contours peculiar to all the lay of the land in this region. The first and largest mountain has a thin layer of grass on its steep, rounded slopes; but as one comes farther west the rocks become barer, until those which now surround us appear just plain rock. Some nice spruce about thirty feet high cover a few acres from our cabooses east; otherwise there is nothing but dreariness to see. The sun glances into this valley only about twenty minutes each day. Between two of the surrounding mountains one can see a massive snow-covered pile, which I suspect is the 8,500 ft. Mt. Keele. Perhaps one reason this valley looked so dreary to us was that, when we finally arrived at noon, or rather an hour after noon, we were quite cold; although the people who chose this particular time to move us must have an excellent weather prophet to advise them. If it had remained 19° below zero, what misery we would have undergone—in the high pass the first night, on an exposed roadside the next, riding in an open truck two days, eating in an unheated mess-hall with one door always open, gobbling food which was poorly and inadequately prepared while the cabooses were jumping and jerking down the road, or without lights. A good drink of hot water, or warm milk, or soup would have been a godsend. As it was, one had to fill up on strong, bitter coffee to warm the food which he had to eat to keep working. Three of the Linn drivers are staying in our cooos, every bunk now being occupied. This makes a very crowded condition. Everyone has to ask at least one person to step aside so that he can get to the stove, wash stand, or door. Trunks are piled in front of the writing desk, so I am writing on my suitcase by the dim light of a weak gasoline lantern. They usually give a strong enough light, but as all the lanterns were filled long after dark the gasoline was not too well guarded against dirt. Out of fifteen lanterns, five are not functioning at all; and this one will soon make six.

* * *

Nov. 19, 1943

LAST NIGHT Aurora Borealis was on display overhead. Perhaps a hundred miles south the lights appeared to be many miles in height, flaming with color. But in our little valley, hemmed in by mountains, one could only look up directly overhead and see the tips of the pink flames as they flared outward. If one did not know what they were he would be mortally afraid; they seemed so close one could reach up and touch them. Clear across the sky, from horizon to horizon, there were three bands of

light: one about 45° south, the next about 25°, and the principal one directly overhead. I was told that if the electric generator had not been running, I could have heard the crackle of the Lights.

It is still mild. I went without ear-flaps from 8 A.M. to 4:30 P.M. The "whiskey-jacks" break into song during mild weather, having a variety of calls which remind one of the mocking bird. They impress one as craving human company; otherwise, how does it happen there are always one or two near us each morning on the job-site? At first they stayed a hundred yards away; now they perch fairly close, preferring the very top of a tall spruce. They must have a reputation for fighting ability. I saw a raven dive at one six times as though it would like to make a kill, but hardly dared to. Each time the raven would manage to miss the "whiskey-jack" by a few inches, while the smaller bird sat undismayed on his tree-top. I have never seen "whiskey-jacks" in large groups, only alone or in pairs. Yesterday, however, forty-six ravens flew in one group toward the west, their slowly flapping wings and full-throated cry causing one at a distance to imagine a flock of geese going over.

The dawn this morning was beautiful, as there were clouds in the sky. About 4 P. M. a stiff west wind arose, driving the clouds into a bank covering the eastern sky. There the setting sun painted them all the colors of the rainbow, the light reflected from them falling upon us in such a fashion that we in a valley were in greater light than if it had been noon and a clear day. In the west clear, deep blues, orchids, and greens astonished the eye. Altogether, never have I seen such a sunset, and old men on the gang said the same. Yet at no time during the day had we seen the sun.

We have been working about four miles west of the Keele River, which flows through a deep valley at right angles to our telephone line. Yesterday, about 11 A.M., I looked toward the river. There, against a background of a stand of spruce covering the opposite slopes, I could see a shimmering, such as that which one sees in the States on a warm summer day over a moist field. Yet the sun was just barely visible over the horizon. If I looked too far upstream or downstream I could see no shimmering. It must indeed have been due to the sun's warmth over the spruce tops between me and the high hills across the river.

The record of our trucks is as follows: five days ago the Studebaker stalled, left us to walk a mile. They brought it to camp and put in new sleeves. After a period of riding an open truck they brought us a GMC with a box on it, which lasted one trip

and two-thirds. Gossip was: burnt-out bearings. Some more open-truck riding. Studebaker returned this morning; this afternoon, still two miles from the job, a connecting-rod broke through the engine block. This sounds like nothing. But if one saw the steep, winding, snow-covered road cut out of the side of the mountain, which we traverse four times daily, with the spruce trees far below looking like specks of soot on the ground; and if he were riding in a box with twenty other men, so jammed that if the truck started going over, hardly two could get through the single exit, then it seems more serious. The younger men, one who has had considerable experience as a truck-driver, and others who still think life pretty precious, talk a lot about the risk. Rice took a job as kitchen helper, openly stating he wanted to avoid the ride; and Johnny mentions matters to all and sundry which men with less experience with trucks would not think of. For example, after the rod went through the block this afternoon, he said, "Didn't I tell you this morning that's what would happen? And the brakes are no good." Each day we pass by the spot where the "Fud" carrying a gasoline tank went over two weeks ago. The gasoline tank lies half way down the 50° slope; the truck lies at the bottom. Gossip says the man was thrown out at the place where the gasoline tank lies, and was badly injured. Our own "Fud" has been used recently to haul the light plant from Camp 40, and to pull and push the cabooses into place. A "Fud" is very handy to have around. Lately I have seen several Ford V-8's with Marmon-Herrington All-Wheel Drive arrangements. "Fuds" are all right-hand drive; Marmon-Herringtons are both right- and left-hand drives, depending upon whether they are Lend-Lease or not. Linns are left-hand drive; and over these snow-covered roads they do best if they carry about 40 tons dead weight above the half-tracks (usually bales of sheet iron, etc., used solely for traction). Then they will pull a sleigh over these steep trails containing 40 or 50 tons of pipe (the article which they are now pulling). At the present time, however, they are carrying from 12 to 20 tons dead weight, and pulling about 17 tons of pipe. The long steep cut in the mountain causes trouble, as the snow is light there for heavy sleighs.

In our caboose we have had for the past three nights three Linn drivers. One of them, a serious young man about thirty who finished the eleventh grade at Peace River, and is now paying off the mortgage on his father's 320-acre farm, brought with him on this trip a copy of "The American Scholar" magazine, and when he and I were discussing politics and religion reached under his pillow and drew out a copy of Davies' "Mission to Moscow" to prove his point. He is enthusiastic about Alberta.

"It's the only province to break away from the two old parties. Maybe we did fall for such a line as \$25 a month to everybody; but eventually we'll move forward on a sound progressive program." As the son of Bessarabian parents, he has no use for the average Frenchman who places his nationality above his Canadian loyalty. He believes there is some hidden hand back of the French insistence on their language, their schools, and their church. Really a very learned young man, although he has strained his eyes badly reading under average construction-camp conditions. (Just as I am at this moment. The light tonight is very dim, and the writing desk is occupied.)

Instead of using the Schramm compressor and the air drill to drill holes for Henry's dynamite, Joe has placed on the sled a "steam boiler" manufactured by the Northern Commercial Co., of Fairbanks, Alaska. It burns wood and heats snow water and holds steam up to 240 lbs. pressure. This steam is forced down a six-foot needle, which melts its way through the frozen ground.

Nov. 21, 1943

MILD WEATHER still prevails. At times today I worked without my mittens. Fourteen "husky" dogs were brought here by truck last night and tethered in the spruce about 75 yards away. They comprise two teams, and their two drivers accompanied them, with necessary sleighs and harness for reconnaissance from the end of the line. Their direction and purpose were secret. Supplies are dropped to them from planes, and sometimes great confusion prevails when a plane mistakes an Indian's smoke for the exploring party. The dogs are about one-sixth wolf, and appear and sound very vicious, possibly the result of being always chained up. The truck driver said the drivers had to beat them with the whip whenever they start chewing each other's legs. One female was in the bunch. Some of the dogs enjoy riding, and can make the high leap into the truck easily. One of the dogs weighs 210 lbs.

Nov. 25, 1943

TOOK FIRST bath tonight since Nov. 2. Still quite difficult to get one. Two men washed clothes tonight; first time in month. Eight men in all cabooses.

One A. M.,
Dec. 19, 1943

MY FIRST night as "night bullcook" at Camp 76. Electric lights in messhall burning brightly. All evening the men strain their eyes trying to read, shave, or even to find their belongings; then a 40-watt bulb burns with about a 10-watt brilliancy. And 40-watt bulbs are about all there are. Arrived in Camp 76 on Dec. 1 via the cab of a Ford All-Wheel Drive driven by General Foreman Scott. Have heard several men say that when they quit or when their contract expires, they will either catch a ride into Canol on a truck, even the slow pipe trucks, or walk—but never will they ride another mile with "Supt." Scott. I can appreciate their attitude. Mile after mile of the road between here and Camp 62 was cut out of the side of mountains shaped like dump-lings or loaves of bread, and rising clearly from the edge of the Keele River. In most places there is a 1,000-2,000-foot slope from the road down to the river, with a grade approaching fifty degrees. The road bends every two hundred yards, most of the curves being close to right angles. Yet Mr. Scott sailed blithely around them at thirty miles an hour, on a road made slick as glass.

"The secret of success as a truck-driver here is to never be afraid," he told me and a young fellow crowded into the cab with him. Around a bend we went, and before us stood a bent and battered pipe truck and its "dolly" trailer, which had been hauled up from the slope after being wrecked. "Now this man had to be let go. This was his fifth wreck, the third in a week. Each time he got into a tight spot, he lost his nerve, opened the door and bailed out. Right down there was where he went over," he pointed to a spot ahead and five hundred feet down. The road made a turn at that particular moment, and our own truck kept right on in the direction he was pointing. The young fellow beside him rapped him on the elbow and placed a hand on the wheel, while I pulled back on the door handle.

"In case you met an oncoming truck, how soon could you stop this truck?" I inquired in a casual manner, as though discussing the weather.

"Immediately!" he replied. "I have an emergency brake. Besides, this road at practically all points is wide enough for two trucks to pass."

As he was the supervisor of both Camp 62 and 76, it was not for me to dispute his word. All I can say is that if an oncoming truck had suddenly met us as we came around one of the numer-

ous sharp bends, the driver of it would have turned sharply into the bank. Scott, in almost all places, would have had to make a quick decision whether to try to shave by with one wheel over the edge or to swerve to the wall and risk a head-on collision. Nine chances out of ten it would have been the latter.

Eight of us in one little caboose, the stove in one end and the eight bunks all jammed together. This same young man and I slept head to head on upper bunks. Woke up one night to find he had locked his hands together, swung them above his head and had a stranglehold under my chin. Each time he rolled over that night, I woke up as a natural precaution; but he finally caught me again with the same hold and I had to slap him sharply. Next morning I explained why I had slapped him, but he did not know anything of the night's events.

Robson, a man who had almost completed a B.S. course at the Uni. of Minn., slept on another upper bunk. "I always analyze any job I go on, weighing the percentages. I've worked at Waterways (Note: Point where railway traffic ends, and water traffic begins, to the Far North.), and in the shipyards at Seattle. But when we start going back up that hill to and from work, four times a day, with equipment the way it is, the odds will be the worst I've experienced. I don't want to quit, but I'll never forget that ride over here." He expected the change of route to come in about a week.

Before the week was up, all of the men in the uppers except me were sick with the flu, and one in the lower bunks. And after two or three days illness, all three in the uppers caught trucks to Canol. Robson took a plane out, Riddle—after recuperating—became a "cat" driver on a "train" pulling a shovel to 103, the young man probably is in the hospital in Canol, his flu being aggravated by injuries suffered in Hawaii when an anti-aircraft gun blew up.

At that time we were driving about eight miles down the boulder-strewn bed of the Keele River, supplementing the boulders as a roadbed with stretches of ice. All the men complained of feeling nauseated after each of the four drives daily. Backs ached at night. We were "piking" poles on the mountain-side, not an arduous task inasmuch as so much time was consumed in riding, and in climbing up and down the mountain. Came a Chinook wind which thawed the ice, and one morning our truck went through and stuck. Nothing less than the "Fud" could pull her out. There was no shock connected with this fall through the ice, as the driver was following the old track as well as he could in the darkness. But the following morning

he was skimming along at twenty miles an hour over what looked like solid ice, no broken trail, when suddenly all twenty of us piled together inside the truck, cracking heads and ribs and elbows together, the stovepipe torn down, the box in which we were sheltered lifted five inches ahead. The front wheels had dropped sheer two feet, and the "cat" had to pull the truck out.

The winch, both on the trucks and on the "cat," is most useful. Several times our truck has been stuck and we have run out from 75 to 150 feet of cable from the winch and up the hill to some convenient spruce, and both the winch and the drive-shaft put into motion. The last time was when we were stuck in a high wind and drifting snow at the highest point on that twisting road between here and Camp 62. It was so high that it required forty minutes for us at noon and night to climb from the telephone line up to the road; and yet the telephone line was so high from the river bed that it paid to climb down to it instead of coming up from below. After making repeated efforts to climb the drifted road, with a sixty-degree slope only two feet from our truck, we reeled off 150 feet of cable, pulled it up the hill and over the edge about thirty feet down to a spruce. Then we pulled up the hill. It was dark when this was done, the only light being that from the stars and the snow. I have not seen the sun in a month.

On this mountainside many of the poles could not be brought to the holes—let alone placed in them—by the "cat." Some we had to heave up the rock-strewn mountain by main strength—no slight task for five men and a foreman. Most of the poles are twenty-five feet long, but some are thirty, thirty-five, and forty feet long. They are green spruce, heavy with frost; and their minimum size is twenty-eight inches in circumference at six feet from the butt. Many of them are greatly in excess of this measurement. Naturally we did not like to move such weight if it could be avoided; and several times we could get the "cat" up to a point from which we could unwind enough of its five hundred feet of cable up the mountain, around a spruce, and back down the mountain to the pole. The winch would do the rest. I forgot to mention that the winch of the truck is used every day to dislodge a barrel of diesel from the ice, snake it to a rack at the front of the truck, and up on the rack. The truck thus carries men, tractor fuel, and tools at the same time.

The tools are a great aggravation. The inside of the box is dark. From fifteen to twenty-three men crowd into a place which should seat not more than ten. The stove always gets red-hot as the truck gains speed, thus increasing the draft, and the men seated next to it, dressed in their heavy clothes, really suffer.

Underfoot are a mass of bars, picks, five-foot shovels, long shovels, spoons, fire-wood, a can of diesel fuel. One morning I was searching in the dark for a piece of fire-wood. My hand came in contact with a nail. I had hold of a board about two feet long with four straight nails sticking up into the air. Somehow twenty men had clambered over it without a foot injury. Recently a foreman arrived here with several cabooses of old Camp 62, which is completing some digging and piking here before moving ahead to 103. I heard him say that a truck carrying men and tools in the Yukon a year ago went over the bank, and it was ascertained there were 44 different tools in the truck. I didn't catch the main part of his remark, but such a number of tools would greatly complicate a hurried exit from such a box.

Twice, at Camp 62, the rear exit (the only one) was blocked by a 50-gallon drum of diesel fuel. And five-gallon cans of gas were a common part of the load. One morning we were all made rather ill when a gas-tank from the Schramm, half-full of gas, and its cap gone, plus a five-gallon can of gas, were placed in the box. There is very little ventilation in those wooden boxes, and the gasoline fumes were always very noticeable. Some of the men deliberately smoked, partly to tantalize those who they knew did not approve of it. One man smoked directly above the open Schramm gas tank. When we carried five-gallon cans of gas, I noticed that those in front smoked, regardless how heavy the fumes were. So, using the argument that the gas can should be out of the way in case of a hurried exit, I moved the can to the front end. From that time on, that was where it always went, and there was no more smoking.

A week ago we began "piking" poles by the combined light of the moon, the "cat," and the truck. As we had only two miles to ride, and those straight down the highway, "piking" began soon after seven o'clock. To gain some idea of how early this is, it must be borne in mind that the morning star is still burning brightly at 10:45. It is not too difficult to "pike" a pole on decent ground by such a combined light as described above, provided you are not the one on the down-line side, where you have to face the two lights of the truck plus its spotlight. That was my lot that first morning. After I had bent over almost to the ground a score of times to kick my pike, or test its "ground"—all-important on slippery ice, snow, or rough terrain—I suddenly realized that, shoulder-high and barely four inches from my eye—the only one still of any use—there was the sharp point of a trimmed spruce tree. It was barely discernible in the light even after it had been detected, and when one looked toward the truck and its glare, seeking to follow the signals of the fore-



1—"Near Mile 119, a mountain seems to have split, this half to the right, another to the left of this picture." 2—"White horse side of Camp 102." 3—"The road winds and winds." 4—"Living quarters at Johnson's Crossing."

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man, and then turned aside toward the small tree, one could not see it at all. A man could easily have lost his eye there, and never known what struck him. This combined moon-, "cat"-, and truck light was also used every evening, up till last night. Evidently it was then decided the time lost in shoving at poles already frozen in their setting, or in digging them up for being too far out of line, was greater than the time lost in waiting for daylight, especially as there are many other things which can be done before daylight.

The new pole-setting foreman who started all this "hurry up" is also the "riding" kind, the kind who evidently before the war had to recruit his help from among the "winos" and other drunks. The first two days he was grossly discourteous, but gradually awoke to the fact that he was the most ignorant man on the pole-setting gang. His final lesson came this afternoon, I understand, when I was absent (I was this noon detailed to this night job). Last evening, he and the new Camp Foreman, let us know that when a pole is being canted about in the hole—that is, a man with a cant hook on the pole turns it any distance up to 180 degrees—the pikes were not to be "grounded" any more, but were to be jabbed into the pole as it spun around. Two of the four pikes are about sixteen feet long, and to jab accurately with them one should be at least five feet from the end. Even then to make it stick into a frozen pole requires considerable force, and it requires even more force when one is farther still toward the end, in the effort to locate a suitable "grounding" place or to be in position to kick the pike into the snow for a "ground." When, therefore, the pike hits the pole—always, on this occasion, away off center, in order to be ahead of the cant man—and the other three men are not braced for it, the pole is pushed to one side so that, when the next man jabs—as he must, since the pole is still turning and he can't hold his old "bite"—he jabs at a pole which suddenly is swerved to one side. If he misses, the cant man stands a good chance of receiving the very sharp point of the pike in his spine, neck, or head; at any rate a sharp blow which won't generate brotherly love in him. Even if the pike man hits the pole, the chances are it will be such a glancing blow that the pole will be still further swung from its orbit and the next man will miss. And if he misses, the pole will fall, and in this section, where the holes have had to be dug any way possible to get them down five to six feet—many of them being from five to eight feet, and more, across at the top—when the pole falls it often will fall clear to the ground. And somebody had better be moving. Thus the poor cant man, beside the pole, and anyone else who might be with him to give a shove to the pole when needed, stand an excellent

chance of being struck by one of the four pikes or by the pole itself. All this danger is increased in the heavy twilight of early morning and late evening of the Arctic. When the Camp Foreman told me not to "ground" my pike, it was already so dark I considered it quite a task to set the pole at all, especially as my "grounding" region was a heavy growth of young spruce which kept tangling my feet and the pike. I foresaw danger from that moment on, and when to it were added two frost-bitten fingers this morning, I decided to seek this night job. Tonight I heard that the new pole-setting foreman—who had earlier intimated that such was the proper procedure—had attempted to put it into practice this afternoon in the name of efficiency, inasmuch as it does save perhaps thirty seconds on some poles, and on down to no seconds, depending upon the degree of cant. But this evening, in the heavy dusk, while the foreman was right down in the wide hole steadying the heavy pole, somebody missed entirely, and over it came. When the tumult died, the foreman was so unnerved by his narrow escape he did not even order them to raise the pole again, but postponed the whole procedure till daylight. (Note: Old experienced pikemen may consider this attitude of mine "panty-waist." I ask their indulgence. It is 76 miles to the nearest doctor, over a road so rough that a Studebaker 6x6 truck—the most common here—requires 33 gals. of gas to make the run—empty.)

Ten days ago, on a beautiful moonlit night, a golden-horned, golden-eyed Rocky Mountain sheep was chased by three wolves, straight down the steep mountainside a quarter-mile down the road from our camp. At that point the road—"road" means the only east-west road within 500 miles—cuts across a ridge of the mountainside, leaving a wall of twenty feet uphill, a fall of forty feet down hill. Straight down the twenty-foot wall the poor creature slid, with one wolf to the left of him, one to the right of him, one directly behind him. He was a full grown sheep, the horns making one complete curl and being more than thirty inches from tip to tip. Perhaps he was the lone sentry which mountain sheep are said to post to warn the flock; else it is strange the wolves were able to get him by himself. Hunters I have talked with say that wolves have no desire to attack a group of full-grown rams. Even this semi-defenseless ram seems to have put up quite a struggle. The night cook and his helper, at the messhall for truckers across the road from our camp, heard the battle. Somehow the wolves were able to prevent the sheep from skipping down the forty-foot descent below the road and gaining whatever protection there might have been in a channel of the Keele River which the Chinook had freed of ice in many places. For sixty yards

up and down the road the death struggle raged, most of the action taking place near the up hill wall. But the sheep died a bare two feet from the edge of the road on the down hill side.

A few minutes later a trucker arrived at the "restaurant" reserved for these transient travellers, and wanted to know what truck had killed a sheep down the road, so recently the body was still steaming in the sub-zero night air. He was told there had been no truck from that direction in several hours. As this is a game reserve, and any person must have a permit to possess a rifle, firearms are scarce. But the trucker found a rifle, and with the cook and the "night man" returned in his truck to the spot. Part of the carcass had been eaten. The men cut off the sheep's head, and the restaurant men brought it back and kept it on exhibit for two days. The trucker waited an hour in his truck, hoping for a shot at one of the wolves. The sheep had been killed at about 2 A.M. The trucker left the body at about 4 A.M. Our pole-setting gang passed at 7, and still the body was so little eaten that our driver and foreman, not knowing the facts, told us at 8 A.M. that evidently a sheep had been struck by a truck. At 11 A.M. some of our men saw a large black wolf two hundred yards away from them. They howled at him, and at each howl he would stop and gaze back at them, then resume his trot toward a patch of spruce about a half-mile away, whence came at intervals the howls of two more wolves. When we passed the sheep at noon, two-thirds of the carcass had been eaten. This is rather remarkable, inasmuch as no trucker is reported to have seen a single wolf in that neighborhood that morning. And the sheep was lying almost a hundred yards from either end of the cut. A big black wolf—presumably one of the same pack—was seen again today by one of our small pole-setting gang, leisurely crossing the ice on the River Keele.

Six men of Camp 62 occupy a caboose at Mile 93, where they have gone to prepare a site for Camp 62 (now working with us before they move ahead). On nights when they do not leave a "cat" or truck running (such equipment usually is left running, but there has been a critical shortage of fuel all along the line from Canol for several days), wolves come up close to the three empty and one occupied cabooses, so close the men can hear them prowling around, but cannot see them because it is the dark of the moon.

I have seen red squirrels, field mice, a very odd-appearing owl, a few flocks of ptarmigan. The squirrels are smaller than the American variety, and when one hears them chattering among the spruce he would declare at first that a bird was singing. The field mice also are smaller than their cousins to the south.

The owl for four days followed us as we set poles along that extremely difficult line half way up from the river and half way down from the mountain road. He seemed to crave company in this great wilderness; anything that had life and moved about—even man, the enemy of all wild creatures—excited this owl's curiosity and called forth its companionship. He would perch on the top of a spruce about forty feet away, and gaze at us solemnly and intently. Whenever a man approached the spruce, he appeared altogether at ease, making not the slightest movement of fear, until when the man was directly under the spruce he would rise quickly and fly to the top of another, usually about forty feet away. Each day, although we would be a quarter- or a half-mile farther on, there he would be. He was about seven inches long, had a very large head as compared to his body. There is a monkey with a "mustache" which this owl closely resembled. He had practically no beak, and his eyes were very small. The ptarmigan I saw were in flocks of about fifty, and always in flight. I am sure that had they remained on the snow I should never have detected them. They are about the size of a turtle dove, white, with a black tail. If one follows their flight until they have settled again in the snow, the black tails are all that one can see, appearing like scattered pieces of small rock on the mountainside. I have seen a considerable number of rabbit tracks, but not enough to indicate that rabbits are at all numerous. I saw the tracks of a fox a few days ago, a fox which one of our men later claimed to have seen—a red fox. A truck driver recently described with enthusiasm his view of a "cross" fox which passed in front of his machine like a flash, his beautiful tail attracting the eye like a magnet. A "cross" fox is a mixture of brown and red, as I understand it. A moose is said to stay in the neighborhood of the sawmill (at Mile 25), but I have never seen any sign of one out here, although some of the men declare that they found fresh moose dung about a month ago.

At Camp 62 Henry Lund, the dynamite man who had lived so long in the North, could have provided me with many interesting facts and tales concerning the Arctic and sub-Arctic regions. As usual, I neglected this opportunity, and Henry, being naturally quiet, did not force his information on me. However, I did notice that he walked a great many extra rods each day—which, while dressed so heavily, is not easy in the snow—merely in order never to leave his small battery-box near the end of the wire until he himself was ready to "blow" the hole. It probably cost him a walk of two or three miles extra each day. It seems that once he worked on a big "job" in eastern Canada. Four dynamite men were busy arranging their "shots," when a

young inquisitive soul decided to attach the battery-box to the wire and playfully push down the plunger. He must have done it absent-mindedly, because—according to Henry—he was no fool, as one would expect, to judge by this action. As soon as he heard the blast, and realized his four friends had been killed, he started running. "He ran and ran, into the brush," said Henry. "When the people found him, after several days, he was nuts!" Which goes to show one cannot be too careful. The Signal Corps inspector told of an incident on a job where he once worked. The dynamiter stood about fifty yards from the "shot"; several other men about seventy yards from it. After the "shot" they returned to work; it was not until a half-hour had elapsed that someone noticed that a certain man was missing. When they found him he was dead, killed by a small rock at two hundred yards. This tale was told while I was at Camp 62; there Henry always gave us ample warning, and plenty of time to get at least one hundred yards away. Here, I notice that the dynamiter who blasts the bottoms of the holes—the only dynamiter near the pole-setters—never gives a warning. Of course, his charges are smaller than the dynamiter uses up ahead; but one is often surprised by the number of rocks which two or three sticks of dynamite can send up.

Henry's partner and fellow Swedish-Canadian, Oscar by name, is in my caboose at Camp 76. He was once a wealthy contractor, and missed a half-million dollars by an eye-lash. The depression cost him his fortune, but today both he and Henry can count their money in five digits. Occasionally he will tell some incident to the men in the caboose, which, better than a long story, illustrates life in the North.

"Once I and another man were driving a dog team near Bear Lake (Great Bear Lake). It was seventy degrees below zero, but we were not traveling fast—just trot a little ways, then ride a little ways. But we both developed the damndest cough."

(Oscar has a much better command of English than has his friend Henry; but as he was mature when he left Sweden he finds it convenient to express his emphasis by swear words rather than by dictionary English.)

"When we got to Port Radium we went to the doctor. 'If your cough does not end within thirty days,' he said, 'run like hell out of this country, for you have the t.b.' On exactly the thirtieth day, both of us stopped coughing."

From his brief description of the cough, I should say "damned-

est" probably expressed it mildly. His point was, that they had frozen their lungs, but not quite enough to cause t.b.

"Once at Bear Lake, an ex-mountie who had turned prospector, froze his privates. The privates are very easily frozen; but because buttons make the fingers so g—d— cold, most men leave a lot of buttons unfastened. That is why so many of us bought women's bloomers. They had elastic and could be slid down, and no matter how cold your fingers were you had to cover your privates because you couldn't walk with the bloomers down. This poor devil really suffered—large sores. He waited and waited for a plane to take him to a doctor. Finally one came. But he really suffered; tsk, tsk, tsk!"

* * *

Dec. 21, 1943

THE "RIDING" and discourteous foreman of the pole-setting crew, after barely two weeks here, went down the road this morning. Of the four pikemen who were on his crew at first, I was the first to leave. I did not give my actual reason for leaving, when I applied to the Camp Foreman for this night job; in spite of the fact that after the first two days he "laid off of" me (because, as I believe, I was almost his age and like him a World War veteran), it distressed me to work under him, as I was always on the lookout for an outburst of his temper or profanity. However, I said nothing to his superior. The next oldest man likewise said nothing, but quietly managed to make a niche for himself "swamping" for the "cat", that is, tying the winch cable around the poles, guiding the poles along the rough terrain and finally into the holes, and when the "cat" was busy elsewhere, placing insulators and other equipment on the cross-arms, and the cross-arms on the poles. Nominally still under this foreman, he was rarely within sound of his voice. Last evening I was filling gasoline lanterns in the caboose of the Camp Foreman, when a young Argentinian (raised and educated in Los Angeles) entered and quietly related that he had been "ridden" by the new foreman long enough, giving details, and adding, "This man filling the lamps will back me up. He was there." I was through filling, and ready to leave the caboose, and left without saying anything, as I knew then that the fourth and last pikeman had earlier in the day told this Camp Foreman that he'd have to have either a transfer to another detail, a new foreman, or his discharge. Since that meant the entire crew of pikemen had "evaporated" within five days, I suspected the Camp Foreman would have a few words with the foreman, and it would not be necessary, nor advisable (since I had not been asked for an opinion), for me to

say a word. I woke the foreman at 6 A.M., as I did everyone else, and have not seen him since. Around the cabooses he was always relating stories concerning his gangs: "The General Superintendent came to me and said, 'Donovan, we're losing money on this hole-digging. You'll have to straighten it out.' So I rigged up a pick-up truck, with barrels of water placed—" Evidently he considered his many years of experience, both as a lineman and as a foreman, too seriously to permit him to be rebuked, and he quit. It is difficult for these uneducated foremen, reared in the school of "bawling out" and unlimited authority to hire and "fire," to orient themselves to the new situation where his employees are better educated than he, where they are working not necessarily because they or their families would otherwise starve but because they want to do a job.

Incidentally, this young Argentinian has had two years of college work; and the fourth member of the crew, above mentioned, although he finished only the ninth grade, is half-way through my volume of Darwin's "Descent of Man." This, despite the fact that tonight, as most other nights, the lights were so poor the men could barely see to eat; and the bulbs in the mess-hall are sixty watts, whereas those in the cabooses are forties. The fact that the afternoons are mine to do with as I please does not assist me in my reading. During the day the lights are the weakest of all, the joke this noon being, "Strike a match, someone. I want to find the light bulb." As this was the shortest day of the year, and the sun so long out of sight we never turn toward it to see where it might be (although the skies have been clear), all the lights were turned on whenever the men were in their cabooses. But, as for myself, I cannot read by them; indeed, to wash out some handkerchiefs, towels, and an undershirt in the washbasin made my eyes strain. Camp 76 has no wash house or bath house.

The evening before I left Camp 62 I made up my mind to do my laundry, the first in a month. I had only four or five pairs of socks, the same number of handkerchiefs, a suit of cotton underwear, and a suit of woolen underwear. To accomplish that small laundry required 5½ hours. As soon as the truck stopped in the evening, I hurried into the caboose and grabbed the laundry (already gathered together), went to the wash- and bath-house, and threw it into the electric washer. That act reserved the machine for me. There was a stove made of an oil drum laid horizontally. On it were welded some braces which supported another oil drum which was three-fourths full of solid ice. I hurried fifty yards to the wood pile where covered by snow I located a number of un-split spruce logs of stove length. These

were all the fuel to be found; and it required two gallons of diesel oil to ignite them, in fact I was poking at them for the following two hours. Supper over, I returned to the wash house to guard both the washer and the water, only to find that the light bulb had burnt out and I would have to find a gasoline lantern. This was my first experience with a gasoline lantern; and after I had come to the conclusion it was going to explode it settled down and miraculously gave me good light until 12:30 A.M. Of the dozen I have handled since, not one has given me good light for more than two hours. By nine o'clock, after poking the logs around a score of times and throwing diesel oil into the reluctant embers, I had the ice in the oil drum thawed. Nine-tenths of the stove's heat did not affect the water, but blasted out into the room, scorching my face and lips and at times making me half nauseated. At ten o'clock a man saw my light through a crack, and being lonesome and unwilling to go to bed, came over to see what was going on. When he found an oil drum nearly full of water slowly approaching the luke-warm stage, he decided to take a bath, provided he could find room to stand under two lines full of drying clothes. This cheered me immensely, as I thought I could do very well with half the water in the drum, and if he would take out some pretty soon, my half would heat, before it was too late. But as time went on he became more and more discouraged, and twice decided to go to bed. I kept up his spirits, as well as the fire; in fact, I think my running back and forth to the wood-pile in the twenty-five below zero atmosphere, laden with snow-covered logs, rather made him ashamed to back out. I had the latest issue of "News Week" which had reached camp—five weeks old; and, after placing a log so as to keep my feet off the floor, through whose quarter-inch cracks a certain coolness was creeping, I sat down on an up-ended box, screwing myself around so that light fell from the lantern on the pages of the magazine, and read portions of the news to him, the heat from the fire blasting at my face from a distance of thirty inches. I had failed to talk my partner into taking a "cool" bath, and at eleven-thirty there was nothing left to do but to start my laundry with cool water. The sound of my bucket, as I poured water into the washer, roused him from the doze into which he had fallen; and, the remaining water becoming warmer and warmer, he became more and more cheerful. At midnight he was taking a bath in luke-warm water, and when he was through thanked me three times for "keeping at it."

"You sure have perseverance," he said. "I'd have quit long ago, and gone to bed. Now, I've had a bath! Oh, boy! the first in a month."

Sometime between twelve-thirty and one o'clock, I finished throwing the wash water outdoors, and retired.

Someone might say, "Surely you could have arranged a day ahead with the 'bull cook' to have a fire under the water all afternoon, so that you could have finished your laundry in an hour."

The fact is that inasmuch as our camp numbered fifty men or more, I assumed that there would be hot water in the wash house, since out of that number of men there would be one at least who would want to do some laundry or take a bath. Finding no hot water, and being all set to do the laundry (like a housewife on Monday morning), I persevered toward my objective. And it was lucky I did. The next morning at seven o'clock, I was notified to pack up and move to Camp 76. By the time I had gathered up my frozen laundry, my fingers were near the freezing stage. I barely had time to hang the clothes up in the caboose, build up the fire and thaw them out, and fold them still damp into my suitcase, before the truck left for my new location.

"Arranging a day ahead with the 'bull cook'" was not so simple as it sounds. Split wood which would burn was scarce; and many times even drinking water was not to be had until after supper. I am by nature opposed to anything in the nature of graft. A week before, when I took my only bath, I had disrobed and was in the act of stepping into the tub; when suddenly a man came in and rather petulantly said, "How come you're using my hot water? I paid the bull cook a half a buck this morning to have this water heated, and I built up the fire myself before supper to keep it hot." Then seeing me shivering there, all ready to step into the water, he "cooled off" and said, "Never mind. There's enough for both of us." My contract read, "Board, lodging, and laundry"; and the idea of a "racket" so disgusted me that I was all set to get dressed again rather than pay 25c as my share of the cost. But the man becoming so pleasant about it, I eventually offered to pay the quarter, only to have him refuse it on the ground that there was plenty of water for both. Thus I have no definite knowledge there was such a "racket." But I do know that at that time there was very little laundry or bathing done there.

I mentioned previously that three young men in the upper bunks of my caboose here at Camp 76 had taken ill and left camp. All of them had come from Camp 62. One of them (Riddle) went to Canol not only because of a light case of flu, but because of a skin disease which had developed across his back. Such diseases may become more prevalent in February and March, inasmuch as there are many here who have not had a bath or

clean underwear in months. Diet also may affect us. We have had no tomato, orange, lemon, or grapefruit, either fresh or in cans, for a month. Powdered milk has been our only form of milk for a week.

It is now 2:30 A.M., Dec. 22. The lights in the kitchen and messhall, where I am writing, have been full strength for two hours—at a time when no one but me can benefit by them. Of course, they are still not the same as a reading-lamp. This has been a quiet night. No truckers begging for gas, no cooks from Camp 62 asking me to keep a fire for their storeroom, no paymaster passing out checks at 11:30, no mail call at 10, no "cats" or trucks for me to listen to to determine whether they have "died" (in which case I should wake a mechanic). At 4 I shall replenish the wood box, build up both fires (which at present I am nursing along), wash some dishes. At 4:30 I shall wake the cook and his helper. At 5 I shall start building about fifteen fires. At 6 I shall roust them out. At 6:30 I shall go to bed, but because of the noise I shall not go to sleep until 7. So far I have had to sleep under such handicaps as the day "bull cook" replenishing the fire at 9, sweeping the caboose at 9:30, and building a hot fire at 11. A hot fire, when one is in his Arctic bed sack, is not one of God's gifts to men. But tomorrow I hope that all of these obstacles to sleep, except the last, will be overcome. I have had a talk with the day "bull cook" and both his assistants and I stand a fair chance of sleeping until 11:45, when naturally I shall arise and dress, there being no rest in a bed sack while the workers are in the caboose.

* * *

Dec. 27, 1943

THREE MONTHS ago tonight we left Los Angeles. In other words, today was the first day of the fourth month of our contract. Under the terms of our contract we are to be here on the job until nine months from Sept. 27 (or until the employer is through with us), and then we shall be returned at his expense to Los Angeles. All time spent in travel back to Los Angeles will be paid for at stand-by time rates—namely, eight hours a day straight time. This is all very important to the men. Most of them are kept from quitting primarily by that matter of the cost of transportation home. As of today, six of the fourteen who arrived at Camp 40 the evening of Nov. 5 have already left for the U.S.

At Camp 76 the pipeline, the road, and the telephone line leave

the Keele River, turning due south up the boulder-strewn bed of a creek which comprises the valley between two rows of these odd, rounded mountains which lie like huge loaves of bread end to end. Yesterday morning I turned over my night job to a man more familiar with machinery—the power generator, the "cats" and trucks—in short, the same mechanic I had been waking up each time one stopped, especially the generator. Recently an oil burner had been attached to the kitchen stove, as well as a hot-water system using an oil burner, both dependent upon the generator for electricity. Whenever the generator stopped, there was no alternative except to start a wood fire in the second stove. They had intended to take this wood stove out. But on Christmas eve, with seven turkeys ready for roasting, the new oil burner refused to function. The man who had come out from Canol to install this new equipment, as well as to transform the makeshift stoves in the barracks from wood to diesel oil, was still in camp. He and I took off the new oil burner and installed another, in an atmosphere greatly heated by the wood stove nearby. As we were both heavily dressed, this was far from pleasant. He spent four hours at the job, finally giving it up at 2 A.M. The second cook remained at the job of roasting the turkeys with the wood stove until 4:30, but must have failed to cook them sufficiently. Yesterday four men were quite ill with diarrhoea, some of them having to be brought in from work soon after breakfast. And all the turkey disappeared somewhere after Christmas day, although there was enough to have lasted some time. Our crew had been greatly reduced by the departure of Camp 62 for Mile 93, where they have established camp. The night before Christmas eve, the supply truck drove in at 11:00 P.M. Rather than wake up the kitchen help, I carried a half-truck load of canned goods and potatoes into the mess hall and kitchen. Again my heavy clothing made this unpleasant, because of the great amount of walking with the boxes inside the warm buildings. Yet at 4 A.M. I spent a half-hour outdoors beside the "dead" generator, at 30° below zero. This double indoor and outdoor job was not the best, and I did not grieve over its transfer to the mechanic. Since the kitchen duties will be much lighter now that Camp 62 has departed, undoubtedly the mechanic will not be expected—as I was—to carry boxes of groceries, peel potatoes, and wash dishes and pans. I really believe I gave the meat grinder the only washing it had had in two weeks, and I never eat ground meat anymore. In fact, many of the men—without my saying a word—have taken to eating at the transportation restaurant across the road.

The route of the telephone line up the creek bed to the south calls for nothing but compressor drilling and dynamite blasting

in either solid rock or frozen boulders and clay. Even an inexperienced man like myself can soon figure out that to drill a single hole five feet deep in solid rock and fill it with seven sticks of dynamite is not going to make a hole large enough, and straight enough on the line, to hold the telephone pole. While the compressor is there, that is the time to drill from two to four holes. Why don't they? Because the dynamite man uses as a detonator two dry-cell batteries which he carries in his pocket. He touches the two wires of his lead wire to these batteries. The power thus generated is not sufficient to set off two charges; a fact which a certain digger did not enjoy after he struck a "cap" with his crow-bar, only to find with it the wires leading to two sticks of dynamite, all of which he was standing on. So the compressor has been drilling one hole only; after the digger removes the rock from the hole, it is almost always found that the hole is away off the line, and even if it is not it requires one or two more dynamite blasts. There is nothing left to do but to tie a bundle of sticks of dynamite together, usually five, lay them in the bottom, cover them with rocks and snow, and touch them off. We did that twice to my hole alone yesterday afternoon, and even then I had to widen it for two hours with the crow-bar, after a total of about seventeen sticks of dynamite. I gathered from the foreman that there is no battery box or magneto box in Canol, and that he as well as many of the rest of us wonders why it is impossible to get one from the States, if this work is so vital to the war effort.

Yesterday morning I was down in my hole in the dark, working with the bar, with my ears covered by ear-flaps and the hood of my parka. Suddenly an explosion rocked the earth, and objects began thudding around. I could not see them in the sky, and just had to trust to luck I was not hit. One fair-sized rock lit about ten feet ahead of me; and I heard a "whizz" which indicated a good-sized one was passing over me. It made a considerable thud about twenty feet behind me. I crawled out of my hole and went over to the foreman, the new Camp Foreman being there also. I have always regarded the foreman quite well, as I knew he would listen to one's protests or remarks. I told him Henry Lund had always hollowed "Fire" five times, and that, dark as it was, every one should have a chance to crawl out of his hole, even though the blast had been a hundred yards off. So he informed all diggers to relay the word "Fire" as soon as the dynamite man uttered it—the latter, at that time, being seemingly unable to do more than murmur it. The rest of the day there was a great improvement, but I notice that as time goes on the tendency is for each man to climb out of his hole and say nothing. That is especially dangerous when the dynamiter

goes back down the line to blast some hole a second time. The men are not aware he is around; and in addition the bundle of dynamite is covered with loose stones which fly high and far. Quite often it is too dark to see these stones clearly, and even though one is not hit by them the strain of wondering where they are is considerable.

This country must fairly ooze water in the summer. The boulder-strewn bed of this creek spreads from the bases of the mountains on one side to the base of the road cut out of the mountains on the other side, there being no valley. Frequently, along the mountain side above the road, one sees a patch of light green ice, usually about forty feet in length and extending up the fifty-degree slope for about twenty feet. This feature prevails throughout the region: steep belts of green ice extending from mountainside down into creek, or the Keele River, some belts being a quarter-mile long and a hundred yards wide, some merely frozen creeks of a dozen feet in width but bordering the road for a mile or two at such a precipitate angle as would seem to prohibit freezing. The very falls and ripples of the water are retained in the green ice. Beside the place where we are now working, there is such a formation of green, reminding one of the pictures of the terraces around Old Faithful geyser, or of the surf on the Pacific coast. An oddity which I shall miss in the future, now that we are working away from the Keele River, is the view of a mountain which appears at the end of the canyon up the river. When I was on night duty, I would observe it about 2 P.M., a veritable Egyptian pyramid covered with snow and gleaming in the sunlight. It was the only place sunlight was visible, and was a gem to behold. I understand it is the highest point between here and Whitehorse, and is approximately 7,500 feet high. The sharp edge between the two sides of the pyramid seems perfectly perpendicular from this position, and each of the two sides of the pyramid looks as smooth as a pane of frosted glass.

A high Chinook wind is blowing tonight.

Dec. 28, 1943

THERE IS considerable agitation among the men because of the rocks falling in their midst while it is too dark to see them. We were busy digging in our holes this morning by the light of gasoline lanterns, when the foreman came to each hole and asked if we knew where the dynamiter was. It was still as dark as at midnight. Some of the men thought that perhaps the dynamiter

mitter had slipped on the icy rocks and stunned himself, and now was freezing to death; but I suspected he was hiding in some hole until it was at least as light as at daybreak in the States. For 45 minutes the truck went back and forth on the road, flashing its spotlight on each hole to see if the dynamiter had returned. At the end of that time, and while it was still deep dusk, I heard an explosion, and said to my partner, "They must have found the dynamiter." But they had not; the foreman himself had set off the charge. Later I heard that Ferris, one of the original fourteen of us who arrived at Camp 40 on Nov. 5, walked the mile or so into camp, and told the Camp Foreman that he did not come as an agitator, nor did he want to be fired, but he was not going to stand around those holes while dynamite was being exploded at night. The inspector happened to be present, the same man who had related the incident of the man being killed at 600 feet.

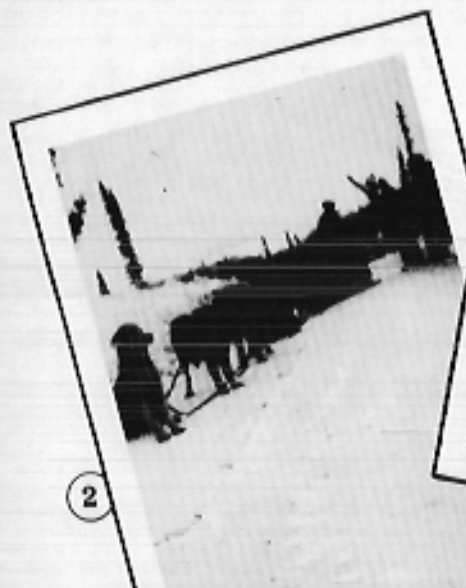
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Jan. 4, 1944

JOE WRIGHT, foreman, quit about Dec. 23. Reason: dissatisfaction over supervision. That term means primarily: Scott, General Foreman over the telephone camps and crews; "Duke," Scott's recent appointee as Camp Foreman of Camp 76 in place of Halverson, who was demoted (with no cut in pay) to foreman of the hole diggers of this camp, even as Joe Wright was foreman of the hole diggers who moved on to Mile 93. It was while Joe's outfit was camped with us that he decided to go home (Denver). Although he had nothing to say about his troubles with Scott, everyone knew that he could not get along with such a man. Like Halverson, Joe was not a bawling, sarcastic, "driving" foreman, but rather the type for whom workers will work just as hard (or harder) when he is absent as when he is standing over them. He was not as educated as Halverson, but both of them had the intelligence to know how to handle men. A few days later, Otto, George, and Raker passed through from 93 on their way to Canol, "to quit or find something better. We've taken too much manure too long." They had been part of John Simpson's pole setting crew. John, although good at heart, had the "driving" characteristic which Scott seemed to favor in his foremen. Since it was contrary to his real nature, it forced him to give many silly orders and go through many antics, which earned him the title of "Bushy John." The next day Heitman had a "run-in" with our new Camp Foreman, "Duke," and quit. Thus in 48 hours four good workers, strong, reliable, and conscientious, quit primarily because of this "driving" characteristic

which had already so aroused the men who forced "Duke" to let Donovan go down the road. Then came the climax. "Duke" fired Halverson. Most of the men did not hear of it until ready to go to work in the morning. Almost all the men were disgusted; but there was no time to get organized into action. Also, Halverson had not fully regained his strength after his attack of flu last December, and many men thought that perhaps, like Joe Wright, he might be glad to get home. But just when it seemed that the men could not or would not be able to express to "Duke" their feelings about his policy, he came into my bunkhouse about some matter, and the three of us who were there proceeded to tell him in no uncertain language. One asked for a transfer to Canol. I had already been asked by "Duke" to come into his office, and when I later did he asked me whether I cared to be "bull cook" for the wire-stringing crew, which had just pulled in between us and the road. It seemed that the cook, who had known me in Nebraska, had asked for me. "Duke" had been very pleasant about all this. His main argument about Halverson was that Halverson was not experienced, to which I replied, "I thought he was a lineman." "No," he replied, "he was not a lineman." It took two days for Halverson to catch a truck for Canol, and I just happened to run into him when I had a few minutes to spare. Briefly he gave a review of the affair, which I—having seen his papers—am convinced is true. Not only was he a lineman, but "Duke" had worked with him in Alaska as a lineman. I understand that Scott has, for several days, been absent because he was kept in Canol to do some explaining about the three men of Simpson's crew quitting all at one time. Halverson told me that, contrary to my expectations, he intended to tell his side of the story to "Personnel" of B.P.C., as well as to the War Manpower Board. Not because he thought so much of the job he had lost, but because such cliques, underhanded ways, and ignorant "driving" of men should be exposed. As for himself, he could get good paying work in Minnesota. This story of his, plus the many men quitting, plus Scott's past record in Alaska (where he was practically thrown out of camp by his men) may cause some changes. I had heard Scott say he got his position largely through an Army officer or company official whom he met in Edmonton while on a drinking party.

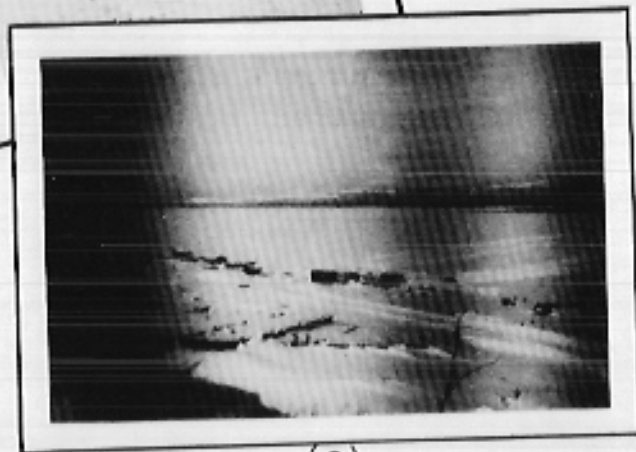
Of the fourteen men who arrived at Camp 40 the night of Nov. 5, only four remain "on the line"; that is, away from Canol. They are Ferris, Kenny, Paul, and I. And of these four, only Ferris and Kenny are working "on the line"; that is, actually on the telephone work. And of these, Kenny has done more kitchen work during his employment than any other kind. It is possible that of the group which recently went to Canol: Heitman,



2



1



3

—“Barges and four Diesel boats as seen from our messhall at Old Canol. They had travelled more than 1,000 miles from Waterways, the rail-head.” 2—“Dog team at Old Canol. These dogs are tethered 100 yards from this messhall where I write.” 3—“The small building on left is the newly-constructed home of the Scotch-Canadian trapper and his Indian wife. Three hundred yards to its left is where I saw the five wolves—of a pack of nine—on the ice of Mackenzie. Picture taken 100 yards from our messhall. Barges in foreground.”

man, and then turned aside toward the small tree, one could not see it at all. A man could easily have lost his eye there, and never known what struck him. This combined moon-, “cat”-, and truck light was also used every evening, up till last night. Evidently it was then decided the time lost in shoving at poles already frozen in their setting, or in digging them up for being too far out of line, was greater than the time lost in waiting for daylight, especially as there are many other things which can be done before daylight.

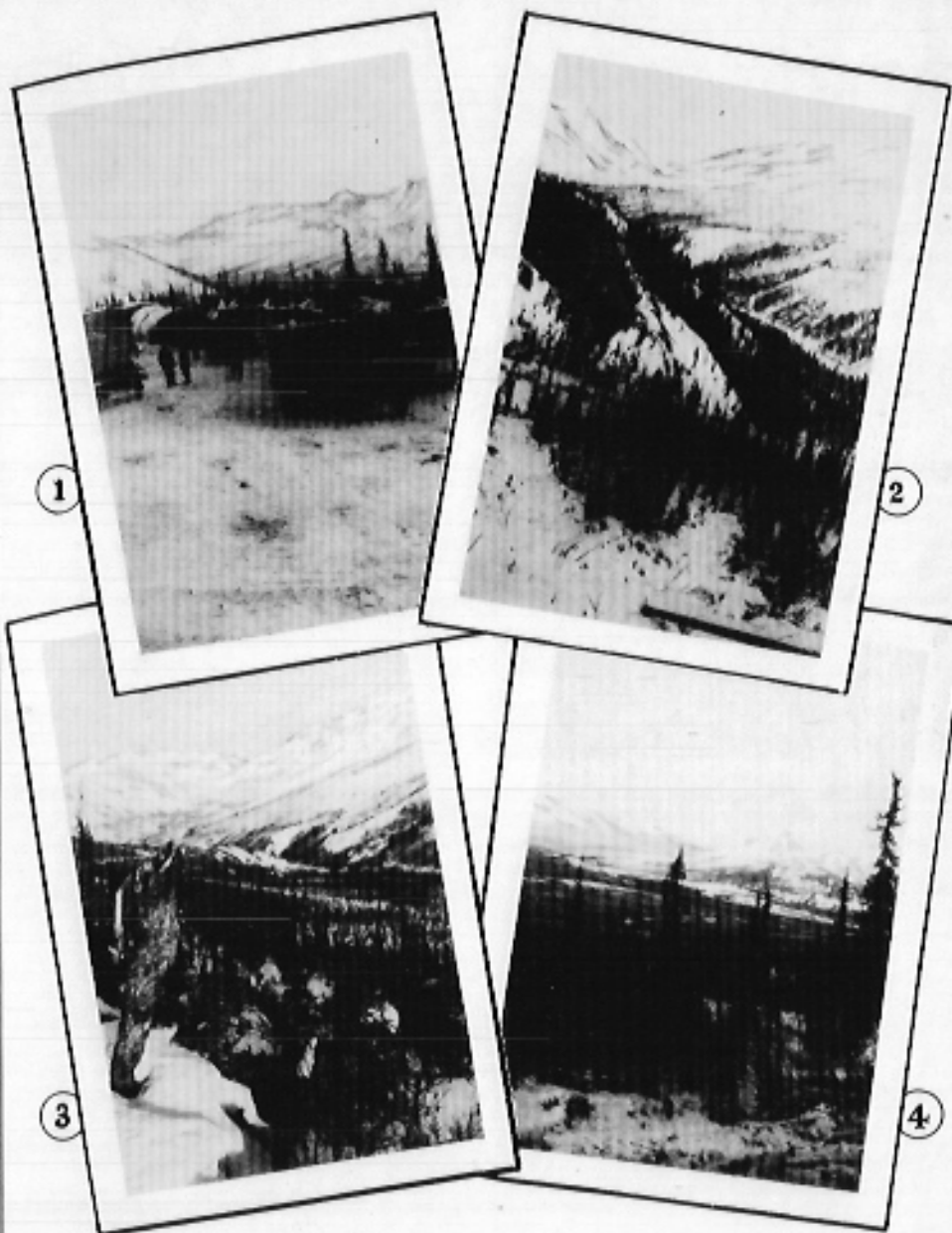
The new pole-setting foreman who started all this “hurry up” is also the “riding” kind, the kind who evidently before the war had to recruit his help from among the “winos” and other drunks. The first two days he was grossly discourteous, but gradually awoke to the fact that he was the most ignorant man on the pole-setting gang. His final lesson came this afternoon. I understand, when I was absent (I was this noon detailed to this night job). Last evening, he and the new Camp Foreman, let us know that when a pole is being canted about in the hole—that is, a man with a cant hook on the pole turns it any distance up to 180 degrees—the pikes were not to be “grounded” any more, but were to be jabbed into the pole as it spun around. Two of the four pikes are about sixteen feet long, and to jab accurately with them one should be at least five feet from the end. Even then to make it stick into a frozen pole requires considerable force, and it requires even more force when one is farther still toward the end, in the effort to locate a suitable “grounding” place or to be in position to kick the pike into the snow for a “ground.” When, therefore, the pike hits the pole—always, on this occasion, away off center, in order to be ahead of the cant man—and the other three men are not braced for it, the pole is pushed to one side so that, when the next man jabs—as he must, since the pole is still turning and he can’t hold his old “bite”—he jabs at a pole which suddenly is swerved to one side. If he misses, the cant man stands a good chance of receiving the very sharp point of the pike in his spine, neck, or head; at any rate a sharp blow which won’t generate brotherly love in him. Even if the pike man hits the pole, the chances are it will be such a glancing blow that the pole will be still further swung from its orbit and the next man will miss. And if *he* misses, the pole will fall, and in this section, where the holes have had to be dug any way possible to get them down five to six feet—many of them being from five to eight feet, and more, across at the top—when the pole falls it often will fall clear to the ground. And somebody had better be moving. Thus the poor cant man, beside the pole, and anyone else who might be with him to give a shove to the pole when needed, stand an excellent

George, Otto, and Raker—some may still be working there. But in the past, the length of time spent working in Canol by those who were dissatisfied "on the line" has been rather short. Conditions as a whole are better there, but the food is declared to be "rotten." Since the "poor system" on the line has already caused the men to take the first step toward going home, it usually is not long before they take the second.

While I was on night shift here, and sleeping in the day time, I remember one morning being disturbed by several dynamite blasts very close by. I knew they were digging holes along the highway, which is only 25 feet from my caboose. I thought, "I am safe, because they would surely not blast unless it were safe." Across the road, besides the "restaurant" igloo and the garage, there are four igloos for truck drivers and mechanics, each holding eight men. One of the blasts which woke me was especially loud. The First Aid man, who has his office in the third igloo, told me about it a few days ago. "The rock," said he, "weighed at least forty pounds. It not only went through the ceiling of the igloo, but through the desk on which I was leaning. If I had been seated there, as I usually am, I'd have been hit. Another rock, twice as large, lit in between the two igloos."

Before I changed back from night shift to day work, I managed to take a sponge bath in the wash basin. That was my second bath since about October 30. On Christmas day, a man in my barrack—the same who quit because of Halverson's discharge—drew up a petition calling for the *immediate* erection of a building for washing clothes and for bathing. He went around to all the cabooses for signatures, getting nearly sixty. "If we don't have such a building by New Year's Eve," he told "Duke," "we are going, all of us, to gather our laundry together, send it in to Canol, and stay in from work until it returns." Since the laundry is unable to do the work sent in by the men and women at Canol alone, such a threat would mean at least a 30- to 60-day strike. "Give me a week, and I'll see what can be done," said "Duke." So he detailed as carpenters three men who already were drawing wages equal to those of a carpenter, and they proceeded with great skill and speed. First, they had to build a sort of garage for the mechanics. Then the bath house took shape quickly. But there it stands, without a roof or doors; the lumber which was ordered weeks ago by the carpenter who first started it and then quit because of illness, has never arrived.

The day I left the digging crew, I saw a very large wolf track. Men frequently mention seeing this large track. Oscar, the old Northerner in our barrack, said it was a large black "husky" dog which he has seen, and which evidently has gone wild. But



1—"The igloo was the messhall of Camp 126. All other structures were tents. Camp was about 1,000 feet above the floor of the valley shown in near distance. Marvelous mountain views, not reached by camera." 2—"The telephone right-of-way appears on the opposite slope. At the foot of the near slope, I dug the last hole for telephone poles on the Canol-Whitehorse line. This gorge is about two miles east of Camp 126. Trout Creek Gorge on right. Pipeline in foreground." 3—"Looking up Trout Creek toward Canol from Camp 126." 4—"Looking from pipeline across the confluence of Trout Creek and — I believe — Little Carcajou River, near Camp 126. On opposite side are marvelous mountain views, which camera did not reach."



1—"Moving Camp near Camp 95." 2—"A picture of one of my co-workers. The work of the 'electrician grounded' (of whom I was one the winter of 1945-44) is primarily to dig holes 3—6 feet deep for telephone poles. Iron bars—such as the one standing in this hole—are cold on the hands at 35 degrees below." 3—"Mountains came down close both sides of Camp 111."

I heard another man say he saw a very large black animal near here, and it was a wolf, not a dog, a fact which could be determined by comparing their hind quarters.

The wire-stringing crew said that last week, a few miles down river, they saw a band of mountain sheep on the crags, and a lone wolf watching them.

It has been from thirty to fifty degrees below zero the last several days. Day before yesterday, many of the wire-stringers balked at going out, and their truck did not leave camp until after 9:30. Their (and mine, now) foreman talked with them in a sensible way; I did not listen in, but I do know that had Scott managed it, there would have been trouble. As it was, a few stayed in; but the only man talking of quitting is a lineman who froze the backs of both hands a few days ago, and is afraid they will be tender all winter.

The new oil stoves are a great hazard in this cold weather. Four nights ago the storehouse of the wire-stringers, containing two light plants, other equipment, as well as the drying laundry of several linemen, went up in smoke, at about 8 P. M. The following afternoon, as I was working fifteen feet away, a gallon can of "diesel" came flying out the door of a nearby caboose; and when I looked in, the floor was covered with flames. The flames outside we quenched with snow and a fire extinguisher, while the young man inside quenched those there with water. He had taken the full can of "diesel" and dashed some on to a wood fire, and flames leaped up to the can, over his arms, and seared his eyebrows. The following morning, at the same caboose, I poured some "diesel" out of another can on to the wood, and touched a match to it. It flashed up into my face, burning my eyelashes. All three cans of this "diesel" I had taken from the bottom of a barrel which the previous "bull cook" had emptied by pump into the barrels beside each caboose for the use of the oil stoves. From then on, I never empty the dregs of a "diesel" barrel. I understand that a few weeks ago a trucker was told to fill up the empty portion of his diesel truck, and by mistake filled it with gas. Since I have never seen any signs designating gas, white gas, or diesel, I am not surprised at his mistake. I also remember Joe Wright's tale about the 200 drums which were dumped out, because they could not refine the gas from the diesel. The oil stoves are hazardous in this way: they are so slow in warming up that the average person opens the valve and allows a stream of diesel to pour into the stove. If he happens to be a "bull cook" and has to run on to the next caboose, he leaves a fair stream of diesel flowing, because experience has shown that as long as the stove is cold, merely dropping diesel in drops per-

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The wire-stringing crew said that last week, a few miles down river, they saw a band of mountain sheep on the crags, and a lone wolf watching them.

It has been from thirty to fifty degrees below zero the last several days. Day before yesterday, many of the wire-stringers balked at going out, and their truck did not leave camp until after 9:30. Their (and mine, now) foreman talked with them in a sensible way; I did not listen in, but I do know that had Scott managed it, there would have been trouble. As it was, a few stayed in; but the only man talking of quitting is a lineman who froze the backs of both hands a few days ago, and is afraid they will be tender all winter.

The new oil stoves are a great hazard in this cold weather. Four nights ago the storehouse of the wire-stringers, containing two light plants, other equipment, as well as the drying laundry of several linemen, went up in smoke, at about 8 P. M. The following afternoon, as I was working fifteen feet away, a gallon can of "diesel" came flying out the door of a nearby caboose; and when I looked in, the floor was covered with flames. The flames outside we quenched with snow and a fire extinguisher, while the young man inside quenched those there with water. He had taken the full can of "diesel" and dashed some on to a wood fire, and flames leaped up to the can, over his arms, and seared his eyebrows. The following morning, at the same caboose, I poured some "diesel" out of another can on to the wood, and touched a match to it. It flashed up into my face, burning my eyelashes. All three cans of this "diesel" I had taken from the bottom of a barrel which the previous "bull cook" had emptied by pump into the barrels beside each caboose for the use of the oil stoves. From then on, I never empty the dregs of a "diesel" barrel. I understand that a few weeks ago a trucker was told to fill up the empty portion of his diesel truck, and by mistake filled it with gas. Since I have never seen any signs designating gas, white gas, or diesel, I am not surprised at his mistake. I also remember Joe Wright's tale about the 200 drums which were dumped out, because they could not refine the gas from the diesel. The oil stoves are hazardous in this way: they are so slow in warming up that the average person opens the valve and allows a stream of diesel to pour into the stove. If he happens to be a "bull cook" and has to run on to the next caboose, he leaves a fair stream of diesel flowing, because experience has shown that as long as the stove is cold, merely dropping diesel in drops per-

mits the fire to die out. While he is absent (or any other person), suddenly the fire takes hold, and the stove-ful of diesel turns into a furnace. Often the fire will die during the night, leaving the diesel to drip all night. The next morning, when the fire is lit, there is trouble and no way to handle it. If a fire happens to be extinguished while the plate is hot, never flood it with diesel in the effort to rekindle it. Last evening I was trying to make contact with one flickering flame by thus flooding it, with my eye a good two feet above the small hole at the top of the stove. Suddenly there was a flash, and flame seared my only useful eye, but not enough to injure it. All cabooses in the old Camp 76 have been converted to oil, because where they are going there is no wood. But two of the five stoves in the wire-stringer's crew are wood-burners, and the men of the other three cabooses are talking about ripping out their oil connections and burning wood.

The high, dumpling-shaped mountains on the road south of camp are absolutely devoid of vegetation. They are purely and simply mountains of rock. Even the creek bed, up which the pipe line and telephone line go, has nothing in it but a small shrub now and then.

* * *

Jan. 5, 1944

THREE 60-FT. poles have been set in this camp for a radio broadcasting station. Camp 76 is the first pumping station on the pipe line, and I understand the purpose of the radio station is to provide perfect synchronization between the pumping at Canol and the lifting from this station. If there is not such synchronization, the pipe has to be "bled" of the oil which has been pumped into it. There is a rumor that such a system so far has not worked across the Mackenzie River; but the fact that another radio station is being erected about Mile 172 would indicate that they have greater faith in radio here than between Norman Wells and Canol.

A foreman related an incident which, if true, shows the lack of judgment the Army sometimes shows. In his airplane trip between Ft. St. John and Canol, three excellent airmen, Army fliers, had command of the plane. But of the three, not one had ever made this trip; they had no idea of landmarks, peaks, possible emergency landing places, etc. They entered an immense cloud of fog, and turned to the left and to the right, and rose to 10,000 feet in an effort to escape it. Finally, since the fog was so dense that the ends of the wings could barely be seen, and time

was passing, the three excellent fliers decided to go down and look around. They sank to 100 feet, with the large load of civilians holding their breaths for fear of ramming into a peak or a bluff. At last, a flier saw the blue line of the Mackenzie River at a distance. The foreman said that even if the pilots had not told him they were lost, he would easily have guessed it, especially after the sharp turn the plane made toward the river, and the increased speed. If one of the three fliers had been over the route, the lives of a score of men would have been far less endangered.

Red Letter Days for me: About Dec. 25, Duckett, the man who carries mail for the telephone crews, and acts as special courier, etc., for the foremen, Camp Foremen, and for Scott, the General Foreman, and for Anderson, the Superintendent, arrived about 11 P.M. while I was on night duty. Some late poker player happened into the mess hall where I was waiting for the next chore, and said Duckett had a few pairs of ordinary mittens for sale in Scott's caboose. I bought the large size and a pair of *woolen* fillers, for the same amount I had been charged at Canol for hunting mittens (three-finger style) and *cotton* fillers. The cotton fillers were supposed to be sold for 55 cents, and were about the quality one would expect to buy in the States for 15 or 20 cents. (Canada probably has a tariff on U. S. cotton.) When I returned "to the line," I put *two* pairs of woolen fillers in those mittens; but I was never really happy about it for thinking of all the misery I went through at Camp 40 and Camp 62 with my hunter's mittens, with the cotton fillers at first and later with my woolen gloves placed inside the cotton. Since piking poles is excruciatingly cold on the best-clad hands, one can imagine the misery I went through with hunter's mittens. Each time I would remove them from one or both hands, the other men had to wait on me to worm my fingers into their crowded depths. The foreman must have taken pity on me, for Halverson (at that time Camp Foreman) sent word for me to come into his caboose, where he loaned me his diesel-soaked regular mittens. They were too small to hold two fillers, and with one filler they were colder still than my woolen gloves, for any leather soaked with oil is useless in this climate; that is, if one has to grip anything tightly. Thus, I worked fifty days wearing mittens that should not have been offered for sale north of Nebraska. Yet the commissary at Canol had a great pile of them, and on every trip the commissary truck made out to the line crews a large stack of those hunter's mittens was the first thing which met their eye. Since everyone had to have mittens of some sort, many of these worthless items were sold,—with the cotton fillers priced at 55 cents.

Another Red Letter Day was the eve of Dec. 14, one month

and four days after I had ordered a pair of size 13 overshoes from Eaton's at Winnipeg. A few days after arrival at Camp 40, while jabbing with the cutting end of my bar in the darkness, I cut a hole two inches across the end of my right overshoe. I found some electrician's tape, and laid four strips around the front end of the overshoe, on the inside, then folded some cardboard behind it so that my shoe would apply pressure against the tape. In a few days the tape came out, and afterwards each morning I would fold paper into the overshoe. All this time I was suffering greatly from the cold in both feet, but especially in the right because of the snow which came through the cut and melted. Finally, after I found two toes frost-bitten, I decided to investigate again whether the commissary man at Edmonton had told me the truth. He had said this overshoe would not go over the cloth shoe he issued me, and that he had no other sizes of overshoes and shoes, but that Canol would issue me the proper sizes. I had already worked some at getting the overshoes over the cloth shoes, after Canol had failed to give me any other sizes. But my leather work shoes actually threatening to freeze my feet, I sat down one night with the intention of either getting the overshoes over the cloth shoes or tearing them to pieces. After an hour or more I succeeded, and left the two together for four days until they were so wet that I had to tear them apart. [For one of the rules of the North is to dry *everything* out every night: overshoes, shoes, socks, mitten liners, and preferably underwear. All old-time Northerners wear pajamas; and one reason the newcomers have so much difficulty with the climate is that, because of limited baggage space, they have no pajamas, and wear their woolen underwear to bed in those warm bed-sacks, which in themselves are often too warm inside these small cabooses.] For five long weeks I waited for my overshoes from Eaton's, getting frostbitten toes, and bony callouses due to my crowding socks inside my shoes. Finally the package came, containing (among other items which should have indicated that it was a full-grown man who had ordered the goods) a pair of size 13 *babies'* overshoes. When at Canol I had understood the postmaster to say that packages sent out must be paid for at the rate of \$1.20 a pound; so I packed the *babies'* overshoes in my bag containing those items seldom used. A few days after Duckett had sold me the mittens, he told me the commissary had size 12 overshoes; and I ordered a pair despite the fact that the size 12 I had (which Edmonton had stated definitely were 12) would not go over my cloth shoes. When the new overshoes arrived, they went over them easily, a fact which shows either a remarkable variation in sizes, or a proficiency in fibbing on the part of certain commissary men. Lest one should think a size 13 overshoe must be an enormous boat to carry

around, last night my second order arrived from Eaton's, including my size 13 overshoes and size 12 cloth shoes. And the latter are still too small to permit wearing the half-inch felt insoles which every Northerner considers indispensable, and which so far I have not been able to wear. In brief, one should allow at least three sizes between his usual leather shoe and his Northern overshoe, to permit the wearing of suitable socks and insoles. Tightness of fit in either footwear or mittens is to be avoided like the plague. I knew all that before I left Edmonton, and could have arranged accordingly, had I not been led to think Canol would take care of the matter.

Red Letter Day so far as the project is concerned was about three days ago. Six Studebaker 6x6's, in much better condition than the usual Canol truck, arrived at Canol from Whitehorse via this highway. They carried pipe from Whitehorse, and after dumping their load where needed along the road, continued to Canol. There they picked up the last pipe which will be hauled from Canol. Opening this highway to two-way hauling should speed construction greatly. Even men considering quitting before their contract expires, are talking of riding (with limited baggage) by truck to Whitehorse, rather than wait the usual long time at Canol for a plane, with the chance they might be dumped down at Fort Simpson, or at some point along the Alaska Highway. Even at this camp it is not too easy to secure transportation. The man in my barracks who quit over the Halverson matter, and Halverson himself, spent two days here before catching a ride to Canol.

The rest of the lumber for the bath- and wash-house arrived today—soaked with diesel fuel. The one man who has been left here in camp to work on it is getting plenty of the greasy fluid on his clothes and hands. The same truck which brought it last night, brought also a large supply of fireproof padding which was intended for the engine- and store-room of the wire-stringing crew. Unfortunately it arrived too late: the caboose so used burned up three nights ago.

* * *

Jan. 8, 1944

TELEPHONE SERVICE between this camp and Camp Canol was initiated last night. Oil is said to have reached Mile 36 in the pipeline. I heard yesterday that all kinds of petroleum fluids—such as diesel fuel, gasoline, distillate—can be pumped in the same oil pipeline without mixing, provided their speed is kept at 3 miles an hour. I heard two Army officers say last night that

only 106 miles separate the farthestmost B.P.C. telephone crew from the nearest Miller Construction Co.'s telephone crew working from the Whitehorse end. Of course, there are many miles of gaps between our various crews. Latest word is that my former outfit—Duke's digging and setting crews—will move ahead to Mile 120 three days hence. That means I shall have to move soon from my lower bunk, with its private light at the head, to an upper in the wire-stringers' cook shack. Uppers are always too warm, and especially so in a caboose used by cooks, who because of their lighter clothing and thinner blood, want and need a warmer temperature than out-of-door men. I have postponed moving several days for that reason, but now it is compulsory. We had had an excellent bunch in this caboose, until about two weeks ago. I had no more than secured the bunk with the private light than two young men moved in. Since that time I have averaged not more than five hours sleep per night. I have to arise at 5 A.M., and it is easily midnight before I can get any sleep with those two loud-mouthed, inconsiderate, foolish and vulgar men around. I felt disposed to write "youths" instead of "men," because they give one the impression of ill-bred children. Yet the youngest is 21, and the other about 28 or 30 and the father of two children. The first was rejected by the Army for a punctured ear-drum; even as Riddle—who during his short stay here was almost as inconsiderate as those, though far more intelligent—was discharged from the Army for that reason. The other man, being a father, has never been called. I cannot understand the logic of those who would draft an 18-year-old boy, still in his puberty in many cases, and trying desperately to get a little education; and excuse these three men, who because of their age and their natural strength, feel themselves capable of working ten hours of day on six hours sleep night after night, and at the same time spoil the rest of others. This lack of order in these camps is, in my estimation, inexcusable. Many men have lost their tempers and "blown up" and quit or been fired; others have just gotten tired and decided to go home, all primarily because their outlook was distorted for lack of sleep. When Heitman flared up at Duke, and quit, it was because of Duke's sarcastic language following his mere observation. And after Heitman's flare-up, a foreman in full command of himself, would have modified his manner, instead of inviting Heitman's resignation. This loss of a good man can be attributed to the fact that Duke had been playing poker till late the night previous, and on several nights a week since his arrival. One inconsiderate person in a caboose, and certainly two, make life miserable for the others. Some compulsory hours would greatly increase production, and reduce turnover.

Some one will return to the States and say there was a radio-

phonograph at every line camp; and people there will say, "Those fellows had a snap." Across the road, at the transportation "restaurant," a radio-phonograph was installed about three weeks ago. I ate dinner there once because our dinners were being prepared by a commissary helper pending the arrival of a cook. A hill-billy tune was being scratched out on the phonograph. One night about eleven I went over in the hope of hearing some news by radio. Fairbanks, the only station they could get, was re-broadcasting a *Burns and Allen* program. Several truck-drivers were visiting, and as the program was indistinct no one paid any attention to it. A few nights ago, I went over again, in the hope I might be able to hear something resembling music. The old "cook's helper" was watching two men play checkers; so, believing him to be in charge of the machine, I asked him to play the phonograph. He put on a hill-billy record, and turned the switch. Nothing but an unendurable series of scratches and wheezes came out of it.

"Surely it runs better than that," I ventured.

"Been too many fellows bangin' it around, ha! ha!" he laughed in such a silly way I was provoked. "Now that's the only goldurned tune in the whole lot wuth a damn."

"Yes," I said, "but doesn't it need a new needle, or is the reproducing arm sprung, or maybe your radio reproducer is not turned on the right way?"

"I don't know a goldurned thing about the goldurned thing," he laughed. "Nope. Jist need a new machine, I guess." After a while he stepped into the kitchen, and I sat down in the place he had occupied before the machine while it was playing his favorite. He began whistling the hill-billy tune in the kitchen, and continued to do so at intervals for the following four hours, just the one tune and no other. As he had been working there at night since Dec. 1, his statement that he did not know anything about the machine exasperated me. To spend ten hours every night, with practically nothing to do and with hardly any company, and not understand the simplest thing about the machine, was a sign of idiocy. And his silly laugh at the end of each of his statements rather corroborated this description. I went into the kitchen and found some toilet tissue, with which I cleaned a record as well as possible while it was running. I wiped the lint and dirt off the old needle still in the arm (there were two others in the small receptacle on the machine). But when I turned it on it still agonized the listener. The various dials on the front of the radio I did not exactly comprehend, but I tried different levers and dials until I ascertained there was noth-

ing wrong there. I held the reproducer arm with my hand and found that I could clear the tone up as well as one could reasonably expect with a worn-out needle. At first I thought the arm had been sprung, but after playing two or three records of different makes I ascertained that the needle had to be set at different depths for different types of records. There were about \$100.00 worth of records, many of them relatively undamaged as they had not played those still in the albums as much as the hill-billy tunes left in the open. By cleaning the record and the needle each time, and adjusting the needle for different types of records, I spent a rather pleasant evening. They would have sounded better if I could have sat farther away, where the imperfections would have been dimmer; but I was afraid the old fellow would resume his place and begin to scratch away at the pile of hill-billy tunes. One truck-driver, I noticed, sat for more than an hour listening. There was no noise in the room the whole four hours. Any visitors who came were restrained in their talk. The Rudolph Friml melodies, the Jerome Kern medleys, and the Victor Herbert album I played almost in their entirety.

As I was leaving I said to the night cook, "Who is responsible for that phonograph? There are many fine records there which will be ruined by playing an old needle. Why don't they order some new needles?" "I don't know," he replied. "When the machine was installed, it had one needle good for 150 playing hours. It was all 'shot' in no time. Someone dug up these three old needles from God knows where. They don't have any needles at Canol." "But surely they are for sale in the States, or at Edmonton," I suggested. "I don't know," he replied, which is the commonest answer on this project, to any and all questions. Undoubtedly, at meal time when the waiter turns on the phonograph, or after meals when anybody who cares to grabs a record and starts the machine, the same shrieking and scratching comes out, just as with the old man who had been beside it for three weeks and did not know what was the matter with it.

WINTER ROAD DRIVES THROUGH!!!

As the best gift of all for the New Year, the men in the Line Camps and those especially in Bill McDermott's gang at the end of the line, presented Camp Canol with a road to Whitehorse, complete and ready for use.

The wire, dated January 1st, 1944, was terse and to the point: **NIGHT CREW HOLED THROUGH AT 3:00 A. M. STOP ROAD READY FOR TRUCK TRAFFIC 6:00 TOMORROW NIGHT.**

And thus is born a 550 mile road between Camp Canol in Northwest Territories and Whitehorse in the Yukon Territory—a road that winds itself through narrowing, treacherous canyons, across roaring turbulent rivers, over craggy, dangerous mountains; a road carved through the toughest country faced by any group of construction workers.

Its completion is a tribute to those men on the line who built it, who bulldozed their way over muskeg and frozen granite-hard earth. Theirs was the hard job, and the most thankless. Living under primitive conditions, working in all kinds of weather, foregoing many of the facilities enjoyed by Camp Canol proper, they did their work with a minimum of grumbling.

And so to the other B-P-C jobsites and to the Head Office at Edmonton, the men of the Line Camps in Camp Canol present the Whitehorse Road, probably the roughest, toughest 550 miles of roadway ever built on the North American continent!

—CANOL PIPER, Jan. 1, 1944

Jan. 11, 1944

SEVEN STUDEBAKER trucks passed through yesterday, loaded with supplies for Canol, en route from Whitehorse. I heard a mechanic say last night a station wagon was staying over night at the garage across the road, and its driver had asked him to come over (he belongs to the "telephone" outfit, and not to "transportation") and look at the motor. The machine had been driven all the way from Edmonton to Whitehorse to Camp 76. A mere glance at the map might indicate how many miles it had travelled, but not under what conditions. A large crane passed under the telephone wire at Mile 36, and ripped out a large section during the night; then, for good measure, after the wire had been fixed, came back the following day, and ripped it out again. Members of this crew repaired it both times. I heard Anderson, the Supt., say that this crew was to be on the lookout for breaks between here and Canol, and mend them immediately. He said that yesterday Washington had wanted to talk to Canol, and when the second rip-out prevented it, authorities had jumped all over him. The way the call was to be made was via Edmonton to Whitehorse to Sheldon Lake; thence by radio to Camp 76, thence by phone to Canol.

Eric Sanders is leaving four days hence. I shall miss him terribly. He was good company all the way from Los Angeles to the sawmill at Camp 25, where we dropped him the evening of Nov. 5. When I came to Camp 76 I just happened to move into the caboose where he was located. His experience is an illustration of one reason why morale on this project has been low. He has had much experience as a powder-man, and when he filled out his application at Los Angeles, he devoted most of his space to those firms he had worked for in that capacity. By the time he reached the job-site, the company had had over two months to check on his statements. But he was put to work peeling poles. After two weeks or more he was given a try-out at Camp 76, as the second powder-man; that is, the man who goes along with the diggers and blows any holes where the first blast had failed to crack the rock sufficiently. He was told then that his rating as a powder-man would start as of that date. Since two weeks pay is withheld, the failure to get this rating was not made apparent to him until he had worked as powder-man for over three weeks. He then went to Scott, the General Foreman, about the matter; and Scott asked him whether being a powder-man was not easier than digging holes with a crow-bar. He said all ratings were supposed to be made through him, to which Sanders replied that Anderson, the Supt., was the one who promised to see about the rating. He managed to control his temper, and told Scott he would continue as powder-man long enough for

the Canol office to have one full week's notice, but that if the pay check did not show the raise he would quit the night after he was paid. His wife had been writing, urging him to come home to her and their three small children. One night at mess, Sanders replied to some man's jocular remark that "a man had to be nuts to come up here in the first place" by the simple, joshing statement that "I've been wondering why I ever came here." Very few were at table, and one of those was Scott. With a supposedly amusing, but actually sarcastic smile, he said loudly, for all to hear, "Well, mister, there are no strings tying you here. One of the things this war is being fought for, is your liberty to leave whenever you care to." As this was a common remark of Scott's, it indicated total unfitness for his position. A certain amount of "griping" is always to be expected among a group of men, most of it being mere joshing anyway. And Sanders' remarks were purely to make conversation. The men wanted to feel they were vital to the war effort; they wanted to feel that their efforts were appreciated, and that they should stay until the job was done, regardless of pleas from home and lonesomeness for wife and children. But I never saw any evidence of any desire to make the men feel as though they were working for anything but the almighty dollar, outside of a few foremen who actually came into direct contact with their difficulties, men like Joe Wright, Halverson, and Bill Soderstrom. Sanders drew two checks at the new scale. He received a letter from his wife last night, no longer pleading for, but demanding his return. So he will quit Saturday night. Thus the company secured his services as a powder-man for better than a month, at ordinary laborer's wages.

I have known of several men who refused work as cooks, jack-hammer men, "cat" skimmers, etc., because no definite word could be given them as to when their new scale would begin. This morning both cooks of the old Camp 76 quit, and the two who have had charge of the kitchen of the wire-stringing crew had to "take over" on short notice. One of those who quit had full charge of the kitchen for more than a month, cooking not for just Camp 76 but, for about two weeks, for the many men of old Camp 62 (and the Linn drivers pulling them) who stopped here before moving on to Camp 92. His kitchen help were both too few and too inexperienced, and drawing more money than he was, for his rating was "Commissary helper," whereas they were field-hands working by the hour, transferred into the kitchen because of the emergency. The original cook had proved to be irresponsible, and this commissary helper had consented to "do the best" he could, which was as good as that of many others drawing cook's wages. If he ever got more than a "commissary helper's" rating, it must

have been just recently. Those experiences, repeated time after time, hurt the morale of the men. The wire-stringing crew were surly today. They had just discovered they had received no over-time when they spent the entire night moving, arriving here at 6 A.M. It was the only logical thing they could do at the time, I heard the foreman say. I did not pry into the details. The sum and substance was, they'd have had to spend the night amid a pile of rocks, in the bitter cold, without either lights or water. They were already cold and stiff from the day's work and a long ride in the truck, and did not feel like continuing the ride, especially as they could resume work on the telephone in the morning, by keeping the caravan moving. Someone who acted as though he had the authority, told them to keep on the move all night, and he'd get them the overtime. But there was none on their pay checks.

Scott was here yesterday, looking quite pleasant and cheerful. I understood he has either resigned or been fired; at least, he said to Nick, the second cook in the wire-stringer's crew, "Let's see, Nick. You're from St. Louis, aren't you? I'll be there very shortly." There was a rumor yesterday that F.B.I. men were on this job somewhere, ferreting out who was responsible for so much disaffection. According to my informant, it may not be such men as Scott alone; but some clique above them, who merely select them because they are the type they need to create dissatisfaction, and at the same time present the appearance of having qualified men.

This evening, as I came out of the messhall, I was struck by the beauty of the scene down the Keele River. A full moon was about 30 minutes up, and below it was a soft cloud such as one sees in the States in April. Close on both sides rose the rounded, massive mountains which border the Keele River. Yet I venture to say the same view would not have appeared so beautiful, if I had been all alone, and defenceless. Only the security afforded by human association could free one, so that one could look on Nature with a friendly eye. It has been so warm the last few days that the bed-sacks have been unpleasant in the extreme. One man reported yesterday that on one side of Hill 52 (Mile 52), in the shade (for the sun never touches any land except the mountain tops), it was 48° above. It was about 20° above, here, and at Canol it was zero. In other words, this is a country of great variation of temperature, and also of wind velocity. Early in the morning, the past two days, a stiff breeze blew for about an hour. Yet up the hill, near Camp 92, the wind has been so strong during this mild weather that the wire-stringing crew have come home each evening weary from battling it all day. If one had a decent bed, instead of a sagging affair

a full foot too short, without a pillow, and with a burning wool blanket kept close to one's skin by the same air-proof covers one would use at 50° below, one could appreciate this climate much more. As it is, the mild weather is perhaps more onerous than is zero or ten degrees below. Last night I turned my bed-sack inside out, and slept between the two outside covers. Yet, when I arose at 5, my night clothes were wet with perspiration. What one needs, living indoors as we do, are a pair of sheets and two blankets, in addition to the bed-sack.

Last night, after making merry the whole evening with shrill conversation which kept everyone from reading or writing letters, our 21-year-old youth decided at 11:30 to cut some pictures from a magazine and fasten them to the wall.

Emil, the tall, strong Swede from Minnesota who has been running the jack-hammer and compressor for several months, quit today. Jean Billidieux, a slight man (from the same town as Halverson) who has been building the bathhouse by himself — planning it and doing all the work, in a very creditable manner, too, despite the fact that for the past 20 years he was a furniture salesman—has been in the quitting mood since Halverson left. He actually seems to have lost weight, and looks more "peaked" and careworn, since the Halverson affair. As he and Emil were good friends, I suspect he will quit soon; I am under the impression only his rating — which is equal now to that of a heavy-duty truck driver, "cat" skinner, or lineman, without any of the physical danger — keeps him here. Prior to the building of the bathhouse, he was in charge of getting the poles from the places where the trucks left them, into the holes, and seeing that the cross-arms were put on according to the directions on a sheet of paper which lists every pole by number. This type of work was quite a leap for a furniture salesman to make, yet this is the second contract in the North for him. He tells us now and then, with a smile, how he would take rich draperies into a fine house, sit down to an electric sewing machine, and sew and drape as well as the most feminine of interior decorators. He does not apologize, either, for being no mean hand with the knitting needles. He weighs about 130 pounds, and is very popular with all classes of workers. However, there is a friendly war between him and the "jive and jazz" bunch — including Kenny — as to what constitutes music. He is strictly a devotee of what he calls "normal" music, as opposed to the "marijuana" type. Some of the younger bunch, besides being expert at pounding it out on pans, sticks, etc., and even by voice, can discuss "modern music" rather well, and a few can bring in the names of great composers, especially Tschai-kowsky.

The 21-year-old youth in our caboose just now poked his head

out of the window and yelled "Fire!" at the top of his voice. Now he is laughing about it, wondering how many men ran out into the yard to see where the fire is. And evidently there are some, to judge by the sounds. Aesop's fables seem to have gone into the discard, along with nineteenth-century music. This youth is from Minneapolis and can discuss all the latest pictures and radio programs, naming the stars. I am wondering what we mean by "education."

Last evening I had a talk with a Linn driver who has finished building a house about fifteen miles north of Ketchikan, Alaska. In 1939 he went to Alaska with the intention of making a home. He went as far as Seward, then returned to the States. At Ketchikan he had found what he wanted, in the way of climate, mountain and ocean scenery, and vegetables. He built a six-room house on a highway which stops only two miles farther on. He was getting \$1.20 an hour at common labor there, before coming here. He says he raises the finest of potatoes and other garden stuff. Milk is to be had at 20 cents a quart. However, he does not look for Ketchikan to "boom" as other places farther north. Fishing is the main thing there, he says. Personally, one of the saddest sights I ever saw was the lumber country in Washington. Evidently many people had the same idea this man had; they built their homes in a paradise. Then the lumber companies cut away the paradise, the towns fell to pieces, the countryside grew up to ugly fire-blackened brambles. Let us hope greater control is exercised in Alaska. I saw very little evidence in Alberta that the lesson had been learned. Straw stacks by the score had only recently been burned, thousands of acres of timber had been deliberately set fire to and burned. I am informed that already dust has begun to cover fences in the Peace River country near the town of that name.

This Linn driver (about thirty years old) very quietly said that the statements which I had heard, that wolves would not attack a man, were erroneous. He related a story of an incident on an island near Ketchikan. A certain trapper turned up missing. A group of men hunted for him, found his bones beneath a tree. He had been well armed with rifle and pistol. The conclusion definitely reached was that wolves got him. I told him that our dog here—a female, perhaps half "husky"—had pleaded so hard to be placed in the truck that some of the younger men put her in, despite the fact that a dog is a safety hazard around a piking crew. In the evening, no truck showing up, we had to hail a lumber truck, and ride about four miles at zero temperature. The men were cold, and yelling to me to hurry up; but I wanted to get the dog into camp, safe from the wolves. It was quite a

distance to the top of the lumber; but I managed to get hold of the dog and lift it up. All the time many of the men protested, saying that wolves would not bother a female dog. I had heard that before, but did not believe it. On the farm back in Nebraska, coyotes had killed dogs; so it stood to reason a band of wolves in mid-winter would consider a fat young dog like this a tasty morsel. I asked the man from Ketchikan about it. He said that if the dog was "in heat," there was a bare possibility she might be left alive; but he himself had had several dogs turn up missing, and the supposition was that wolves got them. "One must simply remember," he said, "that these wolves—some of which are eight feet from nose to tip of tail—are ferocious. You feel safe in this camp, but actually you would not be safe, alone at night, a mile down that road." I had, at that moment, just turned from a walk down to the spot where the wolves had killed the mountain sheep. It was a beautiful moonlight night, so warm the snow was melting.

* * *

Jan. 15, 1944

I AM STANDING up as I write, as this notebook is resting on the second tier of a steel two-bed bunk, on which are lying two mattresses and my bed-sack. All this makes a quite high writing desk. Night before last I went to the new foreman of the wire-stringers' crew (the old one had been appointed General Foreman to replace Scott), and asked him about some rumors I had heard concerning some of the men moving to Camp 93 the next morning. It developed, after some moments of questioning, that I was to go along. Early the next morning I hurried around getting the three cabooses ready to travel, two for Camp 93, and one for the road-building gang. As I had had my hands in warm water a great deal the past two weeks, scrubbing and washing windows, as well as in warm mittens while doing work that was not cold, my hands had lost their resistance to frigid temperatures. By the time I had pulled four chains tightly, helped fasten two "line-wires" around tongue and bumper pole, fastened a light chain around the bumper pole and from runner to runner on the front of the rear caboose, etc., my fingers had been "frozen" and warmed up a half-dozen times. That is, warmed-up by the common practice of curling the fingers into the palm of the hand. The worst feature of such jobs as "bull cook" is this living and working in two climates: one day washing windows inside warmly-heated cabooses; the next rolling barrels of diesel fuel around the yard, trousers and mittens wet with

diesel, or—as in this instance—gripping steel chains tightly for long periods long before daylight, and at 25° below. The young lineman who worked with me (in fact, in the tasks enumerated he took the lead, having helped move before, and having the line cutters so essential in handling that tough twisting stuff called “line-wire”), worked several months near Fairbanks, and has his application in with Standard Oil for a job as a caretaker of one of the pumping stations along this line, or at least one around Fairbanks. He says that his wife, a Norwegian girl, is favorable to the idea, he having shown her about a thousand pictures of the country around Fairbanks. He thinks that section has a good future. Fine vegetables grow there; but the strawberries and wild blueberries, which grow to astonishing size, have no sugar in them. However, he says, just add a little sugar to them, and they are very good. He says the company will put three nice houses at each pumping station, one for each man taking care of an 8-hour shift. The children of the three families will be educated at distant schools, away from the family, at the expense of the company.

This young man and I hurried around like mad to get everything ready, so that the Linn could be hitched on early. It was to be a hard pull “up the hill” and “down the hill” the 17 miles between Camps 76 and 93, and there were some jokes passed to me about it.

“How are you going to get there before night, when I saw a Linn stuck with just a load of pipe on top of the hill?” one asked.

“I wouldn’t ride one of those cabooses on that trip for \$50,” one older man said to me at breakfast.

We wasted two hours waiting for the Linn, which needed a small amount of repairing in our “telephone” garage, just at the time when the mechanics had to get the electric generator to going again so that dinner could be prepared. Without the electric apparatus to operate the oil burner on the kitchen stove, the Ray Burner is a total loss. A little time was saved by a second Linn, which had one track in such poor condition it could not hazard such a trip as this, but could pull and haul the cabooses back and forth until they were fastened together as tightly as possible. We ate dinner in Camp 76, and finally, at 1:30, we set out.

The Linn has 150 horsepower. We lost about 30 minutes, when one of the heavy wooden blocks on the side of a cooosie jammed against a rock on the up-hill side of the cut, when we had to move far over to permit a pipe truck to pass. This hap-

pened on a curve, at a place where the slope was so little that the cabooses would not slide downhill. So we had to crack the rock off as well as we could with the hammer end of a hatchet. It was after four o’clock when we passed Camp 82, a barren spot high on the pass “over the hill.” Back of us a range of mountains loomed up, somehow—perhaps foolishly—reminding me of the summer squash known as “scalloped” squash. The sunlight still shone on them; and back of them, and to both sides, nothing was to be seen but a mass of deep blue, divided in the center by a long horizontal cloud—lower in altitude than we were—which gave the appearance of a reef separating the two halves of an enormous sea. Above the farther half of the “sea” was the horizon’s northeastern coloring at sunset: deep pink ranging upward into green. As the dusk grew deeper, this sunset rim, extending a quarter way around the entire horizon, grew deeper red, falling gradually into purple. At this time the Linn was having plenty of trouble, and there were times when I thought we’d have to walk back to Camp 82. I did not dislike that idea, for I thought we’d arrive at Camp 93 so late that by the time we had shoved the cabooses around into position, fastened the electric light wires, let down the steps, got some diesel fuel to put into the fuel tanks, and—coldest job of all—loosened those cold steel chains, and removed the heavy iron tongue and bumper pole and hoisted them up on top of the Linn, it would be so late that I’d not even want to eat a supper. All our possessions inside the cooosie would be “one hell of a mess,” to put it in the common parlance of the linemen. I had myself gone through both cabooses and moved everything that was loose from the walls, placing them on the floor or inside the bed-sacks. Two electric light bulbs which I fastened securely at the start of the trip, had crashed to the floor at the end.

The driver of the Linn was the man I had talked with concerning wolves, the man from Ketchikan. He kept the Linn weaving from one side of the road to the other, seeking every advantage. The snow “on the hill” was much heavier than at Camp 76; but, although Parrett, the driver, claimed the Linn pulled better in heavy snow, he had tough going from Camp 82 to the first sign of “Hill 90.” This first sign marks the beginning of the descent. At that point you feel that you are at the top of the world. Far below you, to the west, a valley stretches out, topped with what you think is a never-changing canopy of fog or low cloud. Eventually, after you have reached the bottom, you learn that it was the reflection of a fairly level stretch of snow-covered terrain, which, in the dusk created by the enormous range of mountains west of it, caused you to imagine that it might be an inhabited, table-level, valley. As we climbed the last

mile or so toward the first sign of "Hill 90—Third Under Drive," waves similar to the heat waves of the States danced off the snow; but they were "cold waves," caused by the rapid lowering of temperature after the sun went down. This was the first ground (or snow) I had come in contact with for at least six weeks, which had felt the direct rays of the sun. We had arrived at it too late to see the sun; so today, Jan. 15, is the first view of the sun itself I have had for at least that period of time. It seems strange, too, because, since we are in a valley, I naturally expect to be in the shadow of some mountains, that having been my previous experience here. So far, only the tops of the mountains have been touched by sunlight. But this is a wide valley, or low region; and the mountains which yesterday seemed to hem in the valley, today seemed far away. Over their rim, the sun shone so long that several of the men working on the line wore their snow-glasses.

Early in the descent, Parrett stopped the Linn and put rough lock chains on the front runners of the rear caboose. Murray, the young lineman, having suffered a headache from the fumes of the diesel engine while sitting in the cab, and also because it was his "turn," took my place in the front caboose, and I went to the cab. I enjoyed this much more, as it was about 15° below zero, and to see any scenery from the caboose one had to stand in the open doorway. Also I was glad for the change because, on the descent, Parrett stepped up our speed. Indeed he stepped it up so much that at one point he ran the Linn off into a snowbank at the upper side, saying with a grin, "I always do that on this hill, when I can't hold them any other way." We passed sign "Hill 90—Second Under Drive," and two more like it, each about a mile apart. The hill was an inclined plane, too steep for direct descent, and the road down it was a series of sections almost straight in line; that is, zig-zag. And they were connected by almost right angle turns. Parrett was so much at home dragging cabooses down this descent that he took these curves at about eight miles an hour. At each one I would open the door and lean out so as to look past the first caboose, for past experience had shown that usually Murray could be seen trotting along behind the caravan. He was worried about those rough-lock chains, and on his signal I told Parrett twice to stop the Linn, for he had either broken or lost a chain. The last time I told him he said, "Tell him to get in the caboose. We're going in." By this time it was well past supper time, and the occupants of the cabooses (who had been hauled to Camp 93 after their day's work) were probably wondering where they were going to sleep. Also, we were cold, tired, and hungry. So, in we came to Camp 93, with only one rough-lock chain

(which condition threw the rear caboose askew). A flashlight in the road signalled us to turn right, where we parked until we had eaten supper. Then a truck was called to pull a "dead" truck out of the way, two of us grabbed a long timber and held up an electric wire, and the caravan moved around the camp-site to a sloping area and stopped on the edge of a small field of ice. None of us knew this was a field of ice, bordering—of all things!—a river, until the next day at noon when in the light of day one could see that as he scrambled down the slippery steps of the two cabooses he had better continue to watch his footing, because that innocent-looking snow actually covered ice, and in places—holes. One hole about six feet from our caboose I located today was about three feet deep. I covered it with a plank; but some night, in the dark, amid the rush for the dining hall (since the table here is set from two to three times) somebody may push against the plank, slide into the hole, and break his leg. The main channel of the river flows about twenty feet from our door; and each morning, by moonlight, I help another man fill four barrels with water from a hole at the small bridge just forty yards downstream. All the garbage and dish water from the kitchen are thrown on to this ice field, and there is a fairly steep slope leading from the garbage to the stream, above the water-hole. But no one is worried about it, because it probably is frozen long before any of it reaches the water. On the other hand, the water of the river flows free of ice much of its length at this altitude. It is strange to hear the gurgle of a brook (for that is what it is at this season), and to see a cloud of steam every three hundred yards, when the temperature is forty below.

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Jan. 16, 1944

FOUR CABOOSES from Camp 76 arrived tonight. They included the caboose that I occupied a month and a half, and which held that wonderful lower bunk with private light which made life worth living for all of three weeks. Now I have the highest upper bunk in camp, as the upper of a steel bunk is about six inches higher than the upper of a built-in wooden bunk. The ventilator (a stove-pipe which is stuffed full of rags at this time of year) comes down within 18 inches of my bed-sack. I have built a small shelf near the head, and within five inches of the ceiling, to hold an alarm clock which I have borrowed as long as it is my lot to awake the entire camp each morning (omitting the cooks). Between this stovepipe and the shelf I have to control my movements, both in going to bed and upon

being awakened in the morning. As I tie the strings attached to the "collar" of the bedsack, around my neck each night, so that the woolen flaps will stay up around my neck and shoulders, I can't make any violent movements when the alarm goes off. If I do, I'm likely to knock the alarm clock off to the floor; and up here, where they can't be bought at any price, that would probably cause me to be excommunicated. I tie myself into the bedsack, despite the heat which is held near the low ceiling as I retire; because, at 30 or 35 below—as it was last night—by four A.M. a man needs those small woolen flaps around his neck. He would like to have a cap over his bald spot and indeed over his ears; but without a ladder to get up with it is difficult to have all the conveniences of civilization close at hand.

Although Camp 93 was established about a month ago, it was not until tonight that heat was provided for the toilet. Perhaps I had something to do with it. The next day after my arrival I heard a commissary helper complain about the frightful cold of the toilet and the fact there was no light. Although I was practically an assistant to the resident "bull cook," so long as the wire-stringers remain here, and therefore subject to his orders, I made some pointed remarks in his presence about the importance of heat in a toilet, and especially of light. For light I had to "swipe" a bulb out of my own barrack, the remaining barracks having been stripped to a minimum. I also rummaged around until I found a case of paper which had not been brought to the "bull cook's" attention, and which, in view of his later industrious (?) labors, and great tendency to talk about nothing, he would not have learned about for another week. And he, himself, being experienced at pipe work, found the missing portions of the pipe leading from the diesel tank to the stove, and had it installed and burning by the time the four cabooses from Camp 76 came sliding around the bend. Now those 25 new men probably think that Camp 93 has had heat, light, and paper in the toilet for a month. There were two tiny nails in the studding to hang one's coats on, provided one could find them by match light; but during the noon hour I drove in three spikes. This "bull cook" is the Barney I mentioned early in this journal. He was ill about a month during the winter; and his illness cut down on the volume of his voice by about 75%. Between that and not having a tooth in his head, he is now very hard to understand, especially by anyone with his parka hood over his ears. So now, instead of being unable to write because of his loud talking, I am often confused by his directions uttered in such a manner that I can't understand them. He is a World War veteran, having spent six years in the Navy. At this hour I don't know whether we shall take care of the four cabooses

from Camp 76 the few days they remain here before moving on to Mile 110. At the present Barney and I take care of ten cabooses,—not counting the washhouse, and the two cabooses which comprise the kitchen and messhall, both of which we provide with water and diesel. One of the cabooses nearly burnt up this morning. As I came out from breakfast Barney's own caboose looked like it was doomed, as flames were shooting from the chimney for five feet. I went inside, and found the stovepipe red-hot clear to the top; but fortunately it was better protected than most at the ceiling aperture. Someone else had turned off the oil a moment earlier, and had evidently decided it was safe. But, after he had left it, the large amount of oil accumulated in the stove made a roaring furnace.

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Jan. 18, 1944

ONE OF the worst features of camp life is the rush and noise at meal time. Not more than 8 minutes after we had sat down to supper, and when no one—no matter how fast an eater—had yet finished, the "head waiter" said, "Now, men, let's do more eating and less talking. We have thirty more men to feed." To avoid all the confused passing of food back and forth, and to insure warmer food, they set an entire second and third table, ringing the bell each time. The "bell" is a piece of crowbar bent in the middle at right angles. One end usually swings over the steps leading into the kitchen. My second morning here I had forgotten to remove my glasses before going to carry water into the kitchen. Having frosted them heavily I banged squarely into the end of this iron bar in the darkness, missing my only good eye by a half inch. If I had broken that spectacle lens, I would have had to return to the States.

A very loud and boisterous card game is going on within three feet of me.

Thirty yards from this caboose, a piece of canvas has been raised five feet or so on a stick, on the ice of the first channel of the river. Inside is a box on which some member of this camp—unknown to me—sits while grasping a neatly welded small fish-spear. I have seen the spear in one of the cabooses; the three prongs are not more than four inches long. Yesterday I saw a pail full of small fish sitting beside the kitchen; the fish were from 6-12 inches long, had scales and a projecting lower jaw. One man said, "Perch"; another said, "Greyling." The canvas, I understand, is necessary to permit a view of the fish

in the water, which at this spot is about three feet deep. Many speckled trout are speared, also.

Barney and I broke a new water-hole in the ice today, in the second channel of the river, about thirty yards over from the first channel. Someone had objected to drinking water taken from below the garbage dump.

Each day the beautiful colors of the sky appear, just as I described them while I was digging holes for the telephone poles. But now I have no opportunity to observe them, and to appreciate them, as I then did. An occasional glimpse, usually while going after water in the morning—the second trip, as the first is by moonlight long before daybreak—is all that I have of the unbelievable dawns and sunsets of the Northern winter. No painter could paint them; no technicolor movie could reproduce them; no words can describe them. In the main, the best coloring is in that portion of the sky opposite the sun: at about 10:30 A.M. a little west of north; at about 3:45 P.M., a little north of north-east. To be honest, I have not observed the dawns and sunsets enough recently to be able to give the time and direction, being "on the go" constantly from 7 A.M. to 6 P.M. In addition, I arise a half-hour earlier than the remainder of the members of "my" two wire-stringers' cabooses—"mine" because I am responsible for having a warm fire in each of them, and for having the members thereof wide awake by 6:15. One of the cabooses is still a "wood burner."

A very loud dice game is now going on beside the stove, although it is 85 degrees in here if it is one. The famous drawing in the Saturday Evening Post entitled "The Dice Game," does not depict the characters, facial characteristics, or body contours of the dice players I have observed on construction jobs. These are men of normal intelligence, most of them with family and a house—and a job waiting for them when the war is over. Cards with high stakes, or a dice game at lower stakes—usually a dollar a throw—give them quite a lot of "fun." I notice that such people seldom suffer from strained eyes; also, they are good-natured. This is the first regular dice game which has ever occurred in a barrack of which I was a member, since my arrival at Canol. Card games usually take place in mess halls. I heard of one man a few days ago who lost \$300 in one night. In general, however, very little money is permanently lost. One of the strangest features is to see a lineman come in to tell some man he has been working with for months, "Say, Al, these token checks, you forgot to endorse them." "By God, so I did! Give 'em here." He takes four or five checks—each for \$16.50 (Canadian)—from his friend, scribbles his name on the back, "Want

to get these back tonight, Al?" "Hell, yes. I'm a hundred behind this week." In general such men are less a nuisance in a caboose than many others, unless they get into the habit—after sleeping through the evening getting rested for the game—of building up a hot fire about 9:30 before setting out on the evening's entertainment. The nuisances are those who keep the lights on late, reading; and therefore keep the fire up. Also, those who manufacture "fun," by loud conversation, mimic jazz orchestras, etc., till midnight. Nearly all diesel oil stoves are left running all night; but in my caboose at Camp 76, where I felt more free to exercise some authority, I turned the stove off on all but the coldest nights. There, as a result, we all slept better, and felt better the next day. Many of the stoves throw off fumes; no person with any experience was placed in charge of preparing the stoves. A small pan and a saucer were placed in each one; and somehow word passed around that the men were expected (or *could*, if they wished) to hunt up some nails or bolts and place them in the saucer. Hence, the fumes. Experimentation goes on steadily, in the effort to devise some system of spraying the diesel fuel in the stove so that the fire will neither burn too hot nor go out entirely. The caboose which nearly burnt up three days ago has a small window hinge hanging in mid-air about three inches above the saucer, supported inside the fuel pipe aperture by a wire fastened to the top of the stove. The latest method I have heard of, is the cap which is placed on the end of each 40-ft. length of steel pipe until it is welded. Turn that upside down below the dropping diesel, and above the pan full of nails.

A Linn pulling two cabooses the 17 miles from Camp 76 to Camp 93, requires 35 gals. of diesel, counting the 12 hours or so it must idle during the night. All Linns, trucks, "cats" are kept running constantly; even then, there is great difficulty in having them ready when needed. It is truly a battle of equipment. A man made the statement tonight that surely as many as 100 trucks of one kind or another, passed on the highway today, headed for Canol. At 7:30 this morning, as I was standing beside the road, four Studebaker 6 x 6's, with empty pipe dollies, roared past. They were really making pretty good time, to be going through a camp, and by moonlight. One could almost imagine himself on some highway in the oil fields in California, when business was good.

Recently clippings from Minneapolis newspapers have appeared on caboose and mess-hall doors, with the heading, "\$134,000,000 Canol Project Denounced as Mistake; Continuance Unpardonable." One reads the charges of the Truman Committee and of

Knox, Ickes, and Nelson; and the replies of Somervell—all as in a sort of dream. "They are too far away. They don't understand," is one's immediate thought. Knox, Ickes, and Nelson are supposed to have recommended that the project be abandoned immediately, and that all material possible be salvaged. Off-hand, that makes a man feel low indeed. To build a road, to lay a pipe-line, to construct a telephone line under these conditions; and then, when they are within four or five months of completion, start tearing them up for salvage! It makes many a man wonder why, or if, he had ever been born. Senator Kilgore deplored that "thousands of men have toiled through Arctic temperatures as low as 70 degrees below zero on a project that never should have been started." Actually, most of the miseries I have observed have been man-created: overheated and ill-lighted bunkhouses; mismanagement as regards clothing, equipment, and some food items; and a few head foremen, or those over them, who had the same idea toward labor that prevailed before 1923. Many good workmen were transported all the way from Los Angeles, earning less than the cost of their board for the better part of two months, only to "tangle" with some smart-aleck foreman or other superior within a week or a month after arriving at Canol. And back home they went, in disgust or high dudgeon. As for climate, the "70 degrees below zero" looks and sounds terrible—in Washington, D. C. But many a poor child, in his cracked oxfords and thin breeches, on city streets or windy, slushy farm roads, is going through far more misery from cold than the average workman on this project. A man soon gets so he enjoys the cold, if he is properly clothed. A day never passes that I don't consider asking for the privilege of being sent back "on the line," instead of spending one hour sweeping floors in warm cabooses, dressed in full winter's costume, but with my coats off; and the next hour gripping the hose from a diesel tanker truck as it pumps diesel into barrels, hands and mittens soaked with diesel, face and clothes spattered and smeared with it. The principal reason for keeping this job—which I never asked for—is that I don't have to put out so many foot-pounds of force on it as in digging holes; and, at my age, that is important. I do, however, put out as much effort as most truck drivers, pole-setters, and linemen; with the added disadvantage of living in two climates.

We still have the dog with us. I was chopping ice off the steps of a caboose this afternoon, when I thought I heard a peculiar whine inside. I kept on chopping, when there was a sound as of force applied to the door. I opened it, and out she leaped, very playful and happy. A dog with "husky" blood does not have the

same kind of whine that dogs of similar size in the States have; it is much lower and fuller in tone.

Four more cabooses from Camp 76 came up last night. They stayed beside the road here, with their Linns, and continued on their way to Camp 111 this morning. When the rest of them arrive, in a few days, and especially when the *kitchen* arrives, the four which are here now (and which Barney and I care for in addition to our ten) will continue on to Mile 111. Drilling has gone through this camp today; blasting will go through it tomorrow. But the hole-diggers are three miles or so back "up the hill." Scott used to blame the diggers for failure to dig more holes, when we had only one Schramm, and either it or the "cat" was out of commission. Now they have three Schramms; and the dynamiter does not have to worry any more about diggers down in some near hole—they are three miles back.

One caboose here is literally plastered—walls and ceiling—with pictures of nude women, most of them framed in nature's setting, such as lakes and forests, but many of them the so-called "artistic" type. The plastering was done by a foreman; I'll not give his name, for such sexual interests are deemed unnatural, or even, debasing, by many people. He is a very powerful man in physique, with perfect teeth, strong eyes, and probably regular features. I have no way of knowing about the latter, because, although I have known him since Nov. 5, I have never seen his face, as it has been completely hidden by an enormous red beard. He is married to a good-looking woman considerably younger than he, and they have two nice-appearing children. I gather, from literature around his bunk, that he is a Catholic. As stated above, most of the pictures are from nudist's magazines. However, since none of them include any male figures, and since not only the "artistic" nudes but the colored, magazine, near-nudes and the "sun-bathing" pictures themselves tend to stress the sexual attributes a little more than just the plain joy of living, I gather that his interest is more than philosophical. The bunk which I am considering moving into tomorrow is in that bunk-house. It is the only "lower" in camp; and the men in that caboose keep regular hours. Besides, the caboose seems better ventilated than most. A night man stays there who can wake me up when he comes off duty, so that I can get along without the all-important alarm clock I have here in this caboose. But I don't relish the idea of spending my days and nights with all those pictures. This foreman gives the appearance of being a little "screwy," saying queer things at the wrong time. He has difficulty with his men, has lost several

good ones. However, he never quarrels with them; they always say, "He is good at heart," but that his words and actions get on their nerves. He is known as a "pusher;" he keeps the men busy, even if a machine is free at hand to do the work for them. If there is anything to nudism as a philosophy, it would seem that up here, away from all women, is a poor place to stress one phase of it so realistically. Some of the younger men have taken a cue from him, and have placed a few such pictures around in their cabooses. Sometimes, they stress the sexual side of the matter to the point where no other appears.

The reason I have written so much tonight is this: our second night here, a lineman in this caboose started writing a letter at 10:15 P.M. The room was very warm; both ventilators had been "plugged" with rock wool, and only one window could be opened, and it only four inches. Being linemen they had access to light bulbs no other person could even dream about; and the one about two feet from my face was (and is, still) a 150-watt bulb. I could not cool the room off by opening the door, since he was writing his letter, and we had been on the best of terms. So I lay, and I sweat, and the light and the heat kept me awake. Twice before twelve o'clock he turned off the light, and went out, slamming the door as he went out and as he came in. Then he turned the light on again. At 12:30 he retired. It was 1 A.M. before I got to sleep, since that was enough to "rile" any man for the full night. Tonight he started another letter at 10 P.M., and I decided it would not pay to go to bed with that powerful lamp burning so close to me. So I kept on writing, too. Now, at eleven, he has gone out. If I go to bed, probably in a few minutes he will be back, turning on the light. However, the room is beginning to feel cool, as it is cold outside tonight; so maybe he will decide to go to bed. Some of these men seem to bear a burden on their minds; they shun going to bed, or being alone. This man, besides being a veteran of World War I, narrowly missed death in this one. He was to take a boat from New York City for Southhampton Island, six hundred miles north of Churchill, in Hudson's Bay, to work on an airfield there where the wind constantly blows from 35-44 miles an hour, and where terrific gales of much higher velocity come at certain times. He was strolling along the city streets, window-shopping, and missed the boat by fifteen minutes. That ship and another in the same convoy were torpedoed, and more than 425 people were drowned. He went by rail by way of Winnipeg, "the Paws"—Le Pas, and Churchill.

Jan. 21, 1944

I MOVED into the caboose with the pictures of naked women. I thought it would be quite a problem to find places to hang my clothes. As my tin pants and my parka are quite soiled with diesel, I don't like to push them on to the same nail with cleaner garments, and my diesel-soaked mittens and my wet overshoes need to be hung in the air to dry. But the foreman aforementioned not only has his clothes and baggage occupying half the caboose, but has "his" pictures on every wall (and the door), and by some unwritten law has managed all these months to keep nails from being driven amid those pictures. A ventilator two feet by three feet in dimension, above the stove, and now kept closed, has been used by the men as a place to drive nails for clothing. It is a most ludicrous situation, to see a long pair of greasy pants hanging down four feet from the wall, while the walls themselves are unencumbered. Since overshoes simply will not dry on the floor, and since there was no other place to hang mine, I buckled them on a nail directly over the water-pail. This water-pail had no business anyway on the only seat in the room, the remainder of the said seat being occupied by a large wooden trunk belonging to the foreman. Thus it appears that his interest in pictures of nude women has evidently not been conducive to unselfish care for the welfare of his fellow workers. Wholly aside from the fact that he has occupied all the wall space of half the caboose for his own clothes (some of which are in the nature of a luxury up here; for example, a bath robe and a Northwestern jacket kept for dress occasions), he has failed to promote the improvement of the caboose by such simple means as a shelf to hold the water-pail, wires across the ceiling for mittens and overshoes, and nails on the wall for garments. Today he went to Canol to see about—among other things—getting ten or fifteen men. Lately he has been a foreman without a crew.

The lights are now going out and I must close. They are going out just as the kitchen force are in the midst of their work clearing up after supper, and preparing for breakfast. In the dining room about eight representatives of the Miller Construction Co. are interviewing the men here, a barrack-ful at a time, and securing their signatures to a new contract. Miller Construction Co. are taking over the telephone work from B-P-C. Two days ago many men quit here—including Barney—preferring to go to Canol and fulfill their original contract with B-P-C, or catch a plane to Edmonton at the expense of the company. Only one of the dozen or so who left has come back. Between the loss of those men and a high wind on top of

the hill, with heavy drifting over a stretch of about three and one-half miles, there has not been too much accomplished the past two days. "My" wire-stringing crew not only could not do anything the first day (the day of the wind and some light snow), but sat all day yesterday at Camp 76 for lack of transportation. One gang sat in a cold, unheated truck on top of the hill all night, arriving home at 6 A. M. One of the men had been hurt the previous evening, receiving a couple of sprained or cracked ribs and a possible fractured right arm. When I saw him the next morning in his caboose, his arm in splints, he had the caboose like an oven. "I got enough cold in me last night," he said, "to last for a week. I'm thawing out." Yet it had not been cold; if it had been they would have frozen to death. A major, a captain, and an official of some sort — either U.S.E.D. or of B-P-C, slept in the caboose next to mine until noon. They had been stuck in the same drifted place; a "cat" came to pull them out, as it had been pulling a lot of other trucks. But the "cat" man said to them, "We have been working twelve hours a day now for some time, for ten hours' pay. We're going in to Camp 82, and the next shift will come out and give you a lift." When I heard the captain say to the major, at table, "If it had been really cold, we'd have been done for," I did not know what he was referring to. Many men are now hoping the major will be able to change the policy of *always* paying only for a ten-hour day. Several times men have volunteered to do extra work for the good of the project; but, as far as I've heard, they rarely, if ever, receive any pay for more than a ten-hour day.

The light is still going, but it is fluctuating so rapidly and deeply that I cannot continue writing. However, it will not cause great inconvenience in the kitchen or in the meetings in the mess-hall. There is very little to write of now. Six "whiskey-jacks" hang around our garbage heap. They are a pleasant bird to see in these lonely spaces. A trifle larger than a prairie horned lark, and built somewhat on the same order, though darker in color. There is a lighter band under the throat. Each night some of the men take gasoline lanterns out on the river and spear fish. Last night they had a fish-fry in the kitchen; but one enthusiast made the mistake of rolling all the fish, not in flour, but in powdered sugar. His mistake spoiled the occasion. I looked inside the tent on the ice yesterday; sat for a moment on the box and looked down into the water. It is remarkable how clear such an arrangement causes the water to be. The rocks about three or four feet down looked as though reflected in a mirror. The recent warm weather has thawed the ice in unexpected places; the hole under the tent was much larger than formerly, and I quickly rose for fear of crashing through. One of the hole-

diggers the previous night fell in about two feet of water. His German (felt) boots shrank so he could no longer wear them; so I sold him mine for \$1.00 to cut down on my baggage — necessarily a continuous process here.

* * *

Jan. 25, 1944

I SAW a Sterling truck today. They are a 4x6, without a dolly, and at present are used mostly for hauling 20-ft. lengths of pipe. They are 10-ton capacity. This morning one was reminded of some busy industrial region, by all the roar of the motors of Linn's, "cats," generators, trucks, and Schramms. A Linn makes a terrific racket. Caboosees from 76 and 82 have been pulling in here for the past two days. This camp has been feeding 80 men lately, whereas ten days ago the same camp force — cooks, commissary helpers, bull-cook, etc. — were caring for only 30 men. 22 Miller Construction Company men arrived day before yesterday by truck from Whitehorse. One of them, a young man, was sick, and has been in bed since. The ride required four days. Instead of saying, "Whitehorse," they say "Johnson's Crossing," which is an Army and construction camp 80 miles down the Alaska Highway from Whitehorse. This road reaches the Alaska Highway at Johnson's Crossing. These 22 men rode a Greyhound Bus from Dawson Creek—50 miles below Ft. St. John—to Johnson's Crossing, in 36 hrs. Two drivers on each shift, and three shifts of twelve hours each.

In spite of the shortage of beds I reserved the bunk of the foreman in this caboose, who had gone to Canol to see about getting men. This morning he was in it when I arose. Soon afterward he began packing his plentiful baggage, for his return to California. He had only a month of his contract to run. B-P-C offered him his contractual \$1.90 an hour at Canol at non-telephone work; but he did not care for that and chose to take his free passage home. This was possible for him and for others whose contracts were dated prior to Nov. 1. He took down almost all the pictures of nude women in his half of the barrack, and evidently packed them in his trunk. Tonight some of the men built some badly-needed shelves over the wash stand, and covered up some of the pictures. A few others have been removed. I hardly recognized this foreman this morning. He had had his beard shaved off.

He is a fairly intelligent man, but there is no doubt that he had gone slightly "bushy." Today he told the men in this ca-

boose, "I am a farmer." Knowing that he lived in a certain large city, I later asked him, when we were alone, how large a place he had. I thought perhaps he might have five or ten acres of orange trees.

"A five-room house and a lot," he replied.

"Then you must have been renting a farm," I said. "You said, 'I am a farmer'."

"I am a farmer," he replied, angrily. "Do I have to rent a farm, or own a farm, to be a farmer? I was raised on an Iowa farm until I was twenty years old."

I quickly changed the subject, because experience has shown me that, when they get that way, opposition merely sets them all the harder in their opinions.

Evidently he is quite a fashionable blade; he had a bright tie on today, the only tie I have seen here except on a few Miller supervisory personnel. And he said he would be glad when he could get his suit (inside his trunk) pressed in Edmonton, and put on his new Florsheim shoes, which he also has in his trunk. He is looking forward to buying a new hat in Edmonton. But, above my bunk for several nights, has slept the man responsible for the "survey, erection, and operation" of the *entire line*; a youngish looking man with a sprinkling of gray in his hair. All his clothes are strictly utilitarian, even those which look rather luxurious. Evidently a college graduate, he rates about tops as a man. Some day, perhaps, he may wear a tie, but so far I have not even seen him with his shirt collar fastened.

A thing happened last night which is typical of this country. When "my" two cabooses arrived that night from Camp 76, they were moved between the camp and the first channel of the stream (which I have since learned is called Andy Creek. In fact, I ate supper the other night with the man after whom the creek was named. He was an old prospector—without the beard—who had driven dog teams through here, surveying the line, after planes had surveyed each 20-mile strip from the air.) Where these cabooses rested, it appeared only a few inches lower than where the next line of cabooses were, and several feet above the channel, which was about twenty feet away. Early this morning I hurried through the dark to build a wood fire in one caboose, and turn up the oil in the other—and almost broke my leg after slipping on the ice which, in the darkness, appeared to be everywhere. As indeed it was. Somehow the creek on which we had unwittingly placed the cabooses, had been so thoroughly covered by snow and ice, that it was positively unrecognizable. Only last evening, at six o'clock, I had

observed nothing to indicate it was the very center of a creek-bed running down from the high hill over which the highway runs from Camp 82. But this morning it is a clear sheet of ice, about 25 feet wide at the cabooses, 35 feet wide a few feet farther up hill, and ten or fifteen feet wide for the next hundred yards or so. A few feet from the last caboose is a hole two feet deep, and the water can be seen rushing along toward Andy Creek. How could that happen? Last night it was about 15° below zero. The only way I can account for it is that a "cat" going along the pipe line two or three hundred yards upstream, may have ripped through the ice, so that the water ran down over the ice, under the cabooses, and into the main stream. No wonder they wanted to build this project during the winter.

One of the foremen who went to Canol rather than transfer to Miller told me a strange tale about a certain telephone pole at the foot of the dangerous hill just this side of Camp 40, the hill where the new Mack truck went over. This telephone post hole, he said, was dug four feet off line because, being in muskeg, they were allowing that much for movement of the ground. But *already* the pole was four feet off line, in the *opposite* direction. This showed a movement of the muskeg already of eight feet. His point was that a large force of men would be required to maintain the telephone line after construction is completed. However, I reserve my judgment of all such matters because there are many rumors and exaggerations about everything here. (Later inquiry revealed that it is only a stretch of four poles, which will have to be continually replaced and re-strung. Had it been on the other side of the creek, it would have been a mile. Similar movements of earth are observed in Pennsylvania. The facts: hole dug on line, but pole set four feet off line. So new hole dug, and pole set immediately on line, but already pole is off line.)

Of the fourteen men who arrived at Camp 40 on Nov. 5 (evening), only three of us remain "on the line."

Two cabooses leave tomorrow for Camp 111. They are the last of the four from Camp 76 which have been here about ten days. Two cabooses—camped directly on the newly-risen creek—from Camp 82, hold men who are placing and welding the pipe line across Andy Creek here. All river and creek crossings were left unfinished, as the pipe line progressed ahead. Now small crews are filling in such gaps.

Jan. 27, 1944.

STARTED THE fifth month of my contract this morning. I ran my first tractor yesterday, a D-4. I had to run it in order to get water for the camp. But it was just my luck to be within five minutes of completion of the job, and of getting off the road, when four empty pipe trucks with dollies came up from one side and two full ones from the Canol side. As the road is too narrow for passing a stone-boat on the creek crossing, I held traffic up about ten minutes. I'll have to run the D-4, an angledozer, every day now, give it its diesel and oil; also oil the electric generator.

I saw a new bird yesterday, by the garbage pile, where the "whiskey-jacks" usually stop. This bird was about the same size as a "whiskey-jack," but was plain gray in color, and had a short tail. Also it seemed wilder, more timid, than a "whiskey-jack"; each time it settled on the ground, it sprung its legs at quick, regular intervals, as though preparing to fly.

Four linemen, including their foreman, and the "cat" skinner for them, quit this morning. That leaves "my" two cabooses, the ones I escorted up from Camp 76, almost empty of men. When I had an upper bunk in the linemen's caboose, one of the reasons why I considered moving to this caboose with the pictures, was that there was almost no chance of a lineman quitting or being transferred, as in the case of hole-diggers and pole-setters. Thus I'd probably have the upper bunk for the duration. But now that caboose has only two men in it, and one of those is considering leaving with the others. It seems these linemen have been setting poles for quite some time now, using the same pikes we used when we were setting them in country very much rougher than this, and also when we were setting them by headlights. Also, they have been getting from \$37½ to \$41 an hour more than we were, for the same type of work. In spite of that, one of them, a quiet man whom I am inclined to respect, said that the equipment was an aggravation, and rather than put up with it anymore, they had just quit, nothing else seeming to have had any results. The pikes were dangerous, he said; and according to him the "cat" skinner was quitting because the boom on the "cat" was broken clear around, and liable to kill a couple of men any time. In the darkness of early morning and late evening I used to look up at the cable to see if it was liable to slip or break, but I never thought of the boom breaking. It seems this "skinner" reported the broken boom two weeks ago; and feeling himself responsible in case of any accident, he quit. The foreman told me he was tired of having

to meet some sort of indefinite schedule of production, with a small number of men and worthless equipment. He says under the new foreman, the one who succeeded Donovan, many of the holes are dug out of line; and the pole-setters are required to dig them wider or deeper, or in new locations, using bars that are as dull as anvils. In the morning he will be promised more men by noon; by ten o'clock he finds they have taken away two of the few men he did have. (Just at this moment I had to locate six bunks for new arrivals, so that argument for quitting hardly holds good. The fact is, that foreman is rather impatient, and inclined to be arbitrary.) Murray, the lineman who accompanied me in charge of the cabooses from 76, and who wanted to settle near Fairbanks, has been restless for some time, probably on account of his wife and small children. The other lineman who quit is reported to have said he was \$1100 ahead at poker since coming on this project. As he owns three filling stations, he was "ripe" for quitting. The other man, whom I listed as a lineman but who actually was drawing \$37½ to \$41 less than the others, but doing the same kind of work the past few weeks, told me that he owed \$1000 on his 40-acre farm, and that he had intended to return home to his family when he had earned that amount. Since he has accomplished that purpose he quits with some sense of satisfaction, although I believe he would have finished his contract had it not been for, as he put it, "the aggravation of the equipment, and the policy."

"Every foreman is trying to protect himself," he said. "The hole-digging foreman marks down so many holes dug, knowing that the big shots don't know that a fourth of them are out of line, or too shallow, or too narrow. Each foreman hollers for more men and more equipment, when by working together they could make better use of those they have. It takes so many men to pike poles; if you don't have them, the sensible thing to do is to get a few hole-diggers. But no! That isn't the way they do it. This morning, and on several days, they had fifteen men placing poles on the sled. But every time when, on a downgrade or upgrade, the poles slipped off, being as slippery as glass, Murray had to put them on all by himself, walking back and forth, back and forth, from the top to the bottom of each pole."

For two days the wind has blown the hardest I have seen it in Canada. Tonight it is 10° above zero. A thin sliver of new moon moves almost horizontally across the tops of the mountains west of us. I heard a trucker say tonight, "It was really dangerous driving out from Canol today. We were supposed

to stay fifty feet behind the truck ahead of us. But in many places we could not see the truck ahead on account of the flying snow." Since the wind is always much stronger "up on the hill" where the pole-setters are working, than it is down here beside the creek, I suspect that the wind may have had something to do with the men quitting.

The men are spearing fish every night by lantern light, getting large numbers of both greyling and trout. They do not serve them at regular mess, however. A shipment of fresh salmon arrived last night. Yesterday morning we had fried eggs—the first eggs except powdered eggs which I have had since leaving Edmonton. These cold storage eggs had a stronger, different taste than the cold storage eggs of the States.

* * *

Jan. 29

I HAVE spent the past half hour looking for my fountain pen. Am almost certain it has been stolen. I had always been in the habit of placing it in my larger suitcase, with this notebook. I have searched both suitcases twice, also shelves and clothing. I have long expected it to disappear, but now that it has happened it leaves one with a sense of melancholy. Up here, one comes to respect his comrades, no matter how rough, illiterate, profane, temperamental, talkative, etc. But petty thievery is the one thing that causes a man to suspect all those who stand between him and the wilderness. To understand what "wilderness" means, a truck driver passed through a few minutes ago, and said the temperature at Camp 62 is 48° below zero. It was blowing and snowing this morning when I arose, evidently part of the storm which struck Canol. This same trucker said the wind was so high at Canol that all the fires in the igloos were extinguished for fear that if there were one accidental fire it would spread and destroy the camp.

One must be constantly on watch. An oil trucker three days ago filled the barrels in the diesel yard, in front of my caboose, with gasoline; then went up the hill to the garage and filled the gasoline barrels with diesel. The camp manager told me that the mistake had been discovered and ordered some men to roll the diesel barrels the eighty yards down to camp, and to spot some of them in front of cabooses where I needed them. It was dark, the trucks were waiting to take the men to work; and as each barrel came around the corner of this caboose I helped the man roll it squarely under the fuel tanks of various cabooses, standing it so the bung hole was located

just right because the hose of my tiny pump is quite short. Then I got my pump, and prepared to fill three tanks. But as I came to each barrel, I smelled and tasted the fluid, and found that three of the barrels were either gas or half-and-half. So today I had to test about fifteen barrels, and have about the same number left to be tested tomorrow. Those with diesel I roll around behind the barracks immediately, so that they can't possibly be mixed again with the gasoline. Some of the diesel barrels have a strong gasoline smell; and the only sure test is to pump some out on the snow and touch a match to it. In a hollow place gasoline will sink immediately into the snow, whereas the diesel requires some time.

Out on the road is a new sign, "Want Fuel, Tel. Camp." Underneath it is a loose board marked either "Diesel" or "Gas." I went out tonight and stood the "Diesel" board up; but if we have a wind such as last night's it will be down in the snow by morning. The commissary helper who I wrote earlier was such a good hand to secure order in the messhall, arranging to have the men eat in shifts, instead of passing everything to each individual as he came in, decided today to go "on the line." A tall, thin, young man, now in my caboose, will take his place in the kitchen. He arrived with the group which made the roundabout bus-and-truck trip from Dawson Creek via Whitehorse, and was in bed for three days after arrival. He had spent the past three years in the Army in New Mexico and Arizona. He spent a couple of days "on the line," but came in today at noon, and said he just couldn't take it in the condition he was in. He hopes to get rid of his cold, rest up, thicken up his blood, and then try the line a while before getting a truck-driving job. The commissary man who is going on the line is really going to suffer for a while. His blood is thin, the indoor work has made him soft; and we are in the midst of a periodical cold spell.

* * *

Feb. 5, 1944

(Written with the fountain pen I feared had been stolen.)

THE INCIDENT of the lost pen, now that it is concluded, seems very negligible. But the fact is, in such a crowded place, a person becomes almost frantic when anything so vital as the pen was to me, turns up missing. After searching in all the more likely places, I finally decided to inspect my baggage. In the meantime, my heart and stomach had become heavy, for if anything tries my faith in humanity, it is to suspect a thief under

such conditions. Suspicion had caused me to omit a few of the slow, methodical steps equivalent to making a complete inventory. I had examined the lining of the suitcase; but, because of the poor light and the fact that I had to kneel on the floor, had missed contact with the fountain pen which I finally found standing on end in one corner of the case. Now that I have the pen in my possession and my associates have been absolved from blame, I must admit that I am greatly relieved. What would seem a trifling loss anywhere else becomes a major catastrophe in a place like this where things are so hard to obtain.

My days are so crowded with details, and I am so weary at night, that the keeping of this journal is becoming quite difficult. Although I am called "bull cook," actually the duties commonly associated with that term are left by me until the very last, and often are not crowded into the day at all. Added to the multiplicity of details, the plain greasiness of handling so much diesel oil with almost no equipment, and the physical exertion involved in being constantly on the "go," from 5:45 A.M. to 6 P.M., with another short stint of it after supper, there is the disturbing factor of human relationships — complaints from men who imagine that because they have not seen me doing any work, necessarily then I have not done any. I do not have the relaxed mind, nor the opportune time and place, to survey Nature any more, as I did while working "on the line." Since my pay is no greater than before, I have often thought of asking to be sent back to digging holes or piking poles. But we have a very conscientious General Foreman (in place of Scott); and egotistical though it may seem, I know his already overburdened schedule would be greatly added to, if I were to quit. Also, I know the men in the camp would not be made as comfortable as they are, despite the complaints of a few. And lastly, the gossip is that the project will be completed within a month, and my diesel-soaked clothing will just about last that long. If I go back "on the line" I shall have to buy a new parka and a new pair of "tin pants"; "the line" being clean work, I could not tolerate dirty clothing while doing it, in the midst of such pure whiteness.

A full moon is shining at this moment. The stars are brilliant; and the mountains on all four sides of us (for the twists of Andy Creek up- and down-stream soon lead your eyes to a mountain) offer a spectacle which leaves one awed. Yet there are very few of us who see it, because the men are content to rest and absorb warmth. I myself had to carry some water into the kitchen and into the wash house; and had to go up the road a way to take down the "diesel" sign below the "Fuel Wanted.

"Tel. Camp" standard planted beside the highway. I placed the sign there at 8 A.M. and the tanker drove in at 7 P.M. A good thing, too, as we were getting quite low on diesel, and it is up to me to keep a check on our reserve, and see that we have a supply. Since not only our stoves, but also almost all of our equipment, such as tractors and trucks, operate on diesel, it is quite a task to keep account of it, in the midst of all the other details. I did not know I was supposed to keep such an account; knowing we were dangerously low, I took the initiative and put the sign up myself. Evidently no one knew he was responsible for the gasoline supply; and the result is that tonight we have only fifty gallons on hand.

In the midst of this bedlam of broken, balking, freezing equipment, what should arrive a few days ago but a team of work horses via truck from Ft. St. John. They weigh 1450 and 1550 respectively, and are in good shape. Oats and baled hay accompanied them, as well as their Canadian driver, who says his father was the first white man ever to settle in Ft. St. John. They will be used mainly to pull the telephone wires straight up the line, in rough country where "cats" can't go. Incidentally, one "cat" slid twenty feet down a mountain slope yesterday. The driver stayed with it, but he took quite a chance. A tree stopped it from going on to the bottom.

The mountain goats are quite unafraid; one of the men took a photograph of six today, within fifteen or twenty yards. There were two rams in the group, and they made no attempt to run. The same bunch has been seen watching the crews for several days, and never acted frightened until yesterday when our female part- "husky" dog set out barking after them. Her barking, however, I am inclined to believe, is rather an attempt to become acquainted. The day after the horses arrived, I went up to "service" the "cat," and found the dog barking furiously near the heels of the horses, which were standing at the rear of the garage in a shelter which had no roof, no side opposite the garage, and no rear. In other words, the horses were protected on only two of five sides. It was easily twenty-five below zero, and their blankets were thin and had several large holes. Yet I do not believe one could say they were abused, for I understand they have been in use at several camps between Whitehorse and here. I saw the horses were somewhat excited by the dog's barking, and suspecting she had been at it for some time, I chased her by stick and stone a matter of seventy-five yards; then I returned to my "cat." Almost before I had reached it, there she was again, barking at the horses; and I was so

aggravated I really meant business as I aimed rocks and sharp sticks at her. The next time she came back she observed the horses in silence. I was so busy I gave the matter no more thought; but an hour later I noticed that she was beside me, watching me half-cautiously, but evidencing a desire to become reconciled. And as I thought about it later, at leisure, I thought that this animal, born in the wilds between Canol and Whitehorse, and never having seen anything but wild animals and man, had shown almost human intelligence in going about the business of investigating this strange pair of huge, "dangerous" animals—the horses. I actually believe the reason she returned so quickly to the second "attack" on the horses, was to check on her original impression that the sticks and stones I had rained at her were associated in some way with her barking at the strange beings. Having checked on her first impression, and having found it to be correct, she was satisfied. She was no longer afraid of the horses, for she knew I wanted her to leave them unharmed. This dog had never been especially friendly with me; I had never "made over her" as other men had. But she had known I was not unfriendly to her; and she decided very soon after the episode to look me up and show me she had no ill feelings about it.

Animals such as horses and dogs, make a strange impression on a man up here, more than twelve hundred miles by road from Ft. St. John. The day following the episode just related, I watched the horses drag a bunch of dry logs into camp for firewood. A glimpse was all I had time for, but as I watched I almost had to blink to keep the tears from starting. What marvelous friends of man are these animals. It was a heavy load, dragging along in the snow; but their powerful legs dug into the hard driveway as they twisted and pulled the weary burden (and the driver, who was borne along by the lines) the last few yards to the wood-pile. In the last extremity, animals like these could save lives. The evening before the electric system failed, so we could not use diesel to cook supper with. We had had to fall back on wood, of which we used almost the last stick. On the following day I planned to use the "cat" to go out and drag in some wood; but something had happened to the clutch which raises the blade. Not until the following day was this defect repaired; and on the chance that the light system might fail again, the horses were used to bring in the wood.

The most marvelous exhibition of "sun dogs" I have ever observed was seen here within a quarter-mile of camp two mornings ago. The fog which rises each morning from the four open

places in Andy Creek within a half-mile down stream, had evidently overlaid the stream with a light mist. As I drove my "cat" after water, I saw the two brilliant "sun dogs," far more brilliant in hue than any I had ever seen. They appeared, however, to be rather high in the sky, as others had in the States; it was not for several minutes that I saw that they continued on down to the creek bottom, and that their resting place was less than a quarter-mile away.

To indicate how hardy animals and men become, I saw an open truck go by today, when it was easily twenty degrees below zero. In the truck, and peering eagerly over the edge, were several dogs; and at the rear, standing with his parka up against the wind, was the man who evidently cared for them. It was probably a dog team returning to Canol from a survey expedition near the half-way mark on the way to Whitehorse. A wooden stable has been built on logs cut so as to slide either direction on the snow, and today the horses followed it toward the south as a truck took it to a point closer to the work. A moment ago I heard some men say in this caboose that the driver now melts snow to provide water for the horses; and this afternoon, when I went into the General Foreman's office with some water and found no pail, I asked him, "What became of your pail?" and he replied, "I gave it to the horses."

A few days ago a group of men arrived from Wisconsin. Most of them are the type who do not read; but aside from that, being new men, they are resolved to spend every minute in rapid chatter. I am the only "old timer" in the caboose; all the others, including one full-blooded Iroquois Indian, are from the same region in Wisconsin. It is the gathering place, also, for others from the same locality. For the last hour there has been rapid, and often loud talking, which has rendered concentration on this journal quite difficult. They will settle down, as time goes by, into quieter people; although there is one man here tonight from another caboose who will be a loud talker until he dies.

Feb. 7, 1944

HAD I BEEN a hole-digger yesterday I would have seen something that a certain type of men gladly go hundreds of miles and spend small fortunes to see. Although it is against the law to shoot wild game here without a permit, it seems that it was agreed among a few of them that an effort would be made to kill one or two mountain goats. Someone had a 30-30 rifle, another man had a .32 revolver. But it turned out that the only man who

knew how to hunt was the Canadian who drives the horses. (His father, for 45 years an employe of Hudson Bay Company, had married an Indian woman. Hence, this man is half Scotch, half Indian. He has a speech impediment which causes him to seem less intelligent than he actually is. By accounts, he must be pretty bright, for each summer he organizes his own hunting parties to take well-to-do Canadians and Americans after wild game—and whiskey. On his last trip, he says, out of eighteen horses he had in his string, two were used solely for carrying the whiskey the "hunters" brought along.) These mountain goats around here have been so unafraid of man that they have stood calmly and watched him at twenty yards distance. The Canadian therefore decided to take along only five cartridges, but somehow the rifle and four of them were left in care of a truck driver whom everyone has regarded as "wild as wild," having worked on construction jobs at Midway, Hawaii, and the Aleutians. When this truck driver saw eleven goats, he evidently thought they were as wild as those where they have been hunted, for he made no effort to sneak up on them. By the time the Canadian could reach him and get the gun, he had pumped all four cartridges at them, wounding one. The Canadian took the gun and crept closer, fired the last shell, and wounded another. This last lay down in a crevice in the high ledge, and the Canadian crawled up above him and threw a large rock at its head, barely missing it. Both the wounded goats escaped with the flock, leaving a trail of blood, one having been shot in the shoulder and the other through the fleshy part of the neck. So close were certain of the men that they could tell where the wounds were by the blood discoloring the long fine hair of the goats. The man with the .32 revolver followed one of the wounded goats, which had strayed off by itself, and finally dispatched it. The other, although lying down whenever the men came near it, managed to escape, although it was thought that it would die soon from cold or the wolves. The hair on the goats was so long that as they ran it seemed to ripple in waves. Down below, the men looking up at the high ledge were surprised at how large the goats appeared as compared to the men chasing them. Some said they must weigh two hundred pounds.

All this has been discussed, in whispers at the table, and in quiet tones in the cabooses. If it is ever revealed to the Canadian authorities it will be inadvertently. No one ever mentions the reason given by the government for preserving the game of this region, primarily to provide sustenance to Indians and Eskimos. Some one sums it all up in the only statement made on the subject, "What difference does it make, way up here?" The vast

majority of the new men—that is, men of the Miller Co., who are new to us B-P-C men—are enthusiastic deer hunters from Minnesota, Wisconsin, and Michigan. To them it seems that the pleasure of seeing the animated beauty of the live animal does not compare with the thrill of killing it. As for meat, our diet is so full of it that the cook, after devising all kinds of schemes to present it in different forms, has to throw it away by the pail. I personally have not eaten a pound of meat in the past three weeks. So why should I kill a thing of beauty, which has sought refuge on a rocky ledge from the vicious wolves of the wilderness, only to meet the unknown terror of a being who can end its life at a distance of two hundred yards?

My wrists are quite sore every evening, and have been since I started handling diesel more than a month ago. I bathe them in cold cream, which allays the irritation until the following morning. Of course, I provide the cold cream, as well as the additional clothing which this so-called "bull cook" job uses up. We understand we shall move camp within two weeks; otherwise I would go back "on the line." While other men are watching a goat-chase, or observing Nature, I am working with my hands so soaked in diesel that it goes all through my system, and I am spitting it for hours at a time. With tiny, leaking pumps, which must be screwed into each barrel I come to, necessitating my handling the oil-wet hose over and over again as I swing it around repeatedly, I spend three times as much time and ten times as much effort, and experience many times as much cold—for gripping a small pump to steady it, with fingers wet for hours with diesel, is not comfortable at thirty below, as it was yesterday—as I would if I had a regular diesel pump. There is a rumor we are to occupy wood-heated tents at our next camp. These cabooses are quite comfortable, and the men will hate leaving them. But, for myself, so long as a proper pump has never been furnished me, I shall not weep over the change.

* * *

Feb. 8, 1944

THE NIGHT man stays in my caboose. He came off duty at 6 A.M., and said that while he was up toward Camp 102 servicing a "cat," he saw a great flame ahead. Driving up to investigate, he found that a tanker had slid off into the ditch, had called a large "cat" and a small one from Camp 102 to pull him out, and, that failing, had dumped out 3,500 gallons of diesel, moved the truck back 100 yards, and touched a match to the liquid.

It is about thirty below this morning, a fair breeze blowing. The worst feature, so far as cold is concerned, is that at this camp there has never been a fire in the mess hall. Plates and other utensils are always ice-cold at breakfast. A large hole at the juncture between the two cabooses (the kitchen and the mess hall) tends to keep the heat inside the kitchen, instead of allowing what little there is at 6 A.M. to enter the mess hall. The ironical part of it is that, all the time, there has been a complete diesel-stove combination in the mess hall, and a full fuel tank hanging on the wall outside. But the stove-pipe, of small diameter, instead of leading straight up from stove to ceiling, makes a right-angle bend in order to reach the hole which was cut in the center of the ceiling, as in the standard caboose. The stove, unlike those in cabooses, had to be placed next the wall to allow room for the table. One man, with the proper tools, could have cut a new hole through the roof in a half-day; but the argument, unvoiced though it is, seems to be that any group of men can put up with anything for a couple of months. Somewhat like the story of the Arkansas farmer who did not mend his roof because when it rained he couldn't mend it, and when it was not raining the roof didn't need it. We have excellent cooks, but their best productions mean nothing at breakfast. Even the coffee is luke-warm by the time one can drink it. Honey for the pancakes is just a semi-solid mass which one eats regardless whether the cakes are sticking to it or not. On those mornings when citrus juice is placed on the table (we have had more offered us in the past two weeks than in all the previous three months), many men fail to drink it because they are already so cold they can't force themselves to drink anything ice-cold.

The toilet fire is very seldom burning, because the building is so open that the fuel pipe is nearly always frozen so that the flow of diesel can't be regulated, unless someone stays there to keep it regulated, which of course is impossible. A few stoves in barracks are the same way. They go out during the night; and the men, rather than take a chance on a fire, turn them out during the day.

Two airplanes, both Canadian, passed overhead yesterday, a couple of hours apart. Both circled over camp as though surveying. They were the first I have seen for more than a month. The past two days I have had to hitch-hike transportation for my stone-boat and five barrels of water. The "cat" had a frozen (or plugged) fuel line. I catch a Linn driver, or a truck driver who has stopped near the kitchen, and I talk him into giving me a pull down to the water-hole. Nearly always there is a traffic jam

as a result, and before he can get straightened out I have half of the barrels full. Whereas I had said that two or three barrels would be plenty to hold me until after dinner, when he finds that I have only two or three barrels left to fill to last all day usually he will volunteer to take the buckets as I hand them up from the creek and will finish the five. I always have to beat about a barrelful of ice out of the barrels in the afternoon, which I carry into the wash house.

Both my cheeks were white this morning for about twenty minutes, from the cold. The breeze downstream at the water-hole was pretty strong, and I had taken off my parka because lifting and carrying the water is pretty warm work. The hood of a parka gives a great deal of protection against cold, but shuts off a great deal of view and makes hearing difficult. The instructions are, when one has frosted a part of his body, not to pat or rub it, but to hold warm flesh against it. By the time I had pulled off both icy mittens, and put on my parka, my hands were not warm enough to help the cheeks much. The man who broke his arm during the storm a few weeks ago was helping me with the water. Not wanting to keep him waiting, or doing my work for me, I patted my cheek vigorously, but justified it on the argument that it was only a slight frost and would quickly disappear. However, it was five minutes before my face was normal; and even then, when I returned to the kitchen, I was told there that my cheeks were white. I was freshly shaven. One can understand why so many "cat" and truck drivers wear beards. Hole diggers, on the other hand, being able to turn any direction, seldom wear them. If I had been working "on the line" in that breeze, in a place where I could not turn my back to it, I would have worn my face-protector, a woolen garment which covers all the face but the eyes and nose.

This morning the full moon sank slowly directly up the valley. It was a marvellous sight. A few minutes later the sun appeared at the opposite end of the valley. One can never get used to such unusual lengths of time the heavenly bodies are in view. Last night, at 9:30 P.M., the moon was high. One would naturally expect it to be down at 7 A.M., but it did not set until about 10:30. And rose again, above a mountain top, at 5:30 P.M.

* * *

Feb. 11, 1944

WE HAD goat meat for supper last night. Pork also was served, and most of the men thought the goat meat was just a beef

broth, with bits of meat, on some very good dumplings. Toward the end of the meal someone mentioned "goat meat," and then we realized that was what had been served. It was good, and had the "wild" taste so common to all wild game. There was very little discussion of it, either at supper or afterward, in recognition of the fact that it was illegal food. Yesterday noon I saw a man carrying about eight ptarmigan. It seems they had been shot, one at a time, by a .22 rifle. I have not made any inquiries, or asked to see the dead birds, for fear of being regarded as a snooper. At a distance they appeared very beautiful in plumage, their whiteness being tinged with pink as they hung with wings spread across his shoulders. I was surprised so many could be killed with a rifle; I had supposed they would be quick to fly. But a man in my barrack says they are not afraid of a man on foot, merely keeping about twenty feet away from him.

Yesterday at 2 P.M. it was 28° above zero, and the mild weather continues this morning. Many of the cabooses have their windows sealed against the cold, or nailed shut, or otherwise prevented from opening. And the oil flow in the fuel pipes has been so regulated by the valves that, in most instances, it would take a little trouble to reduce the flow and still keep the fire going. As a result, during such warm spells, many cabooses are greatly overheated; and, for myself, I should prefer to have the temperature hold around zero (that is, at noon temperature).

We are preparing gradually for the move to Mile 126½. Yesterday we checked the caboose sled-runners to find how many would have to be replaced. However, we shall take along only four or five cabooses. A carpenter arrived yesterday to put sinks and shelves in the kitchen, after all these months. I don't think he has had orders to cut a new hole for the stove-pipe in the mess hall, since the mess hall will not be moved to 126½. This affair of the carpenter indicates the former lack of system on this project. Other kitchens, even while feeding only twelve or fifteen men, have had plenty of shelving, and a convenient sink made of a barrel split in half. Yet this kitchen, with excellent cooks for over two months, and feeding as many as eighty men, has been little else than an empty caboose with the addition of two stoves, a refrigerator, and a couple of side tables. Their water storage is less than that of the wire-stringers' kitchen at Camp 76, where fifteen men were fed.

A lineman quit day before yesterday noon, and is just leaving for Canol this morning. Yesterday the General Foreman received orders that any man quitting should be sent out toward the west; that is, via Johnson's Crossing, about eighty miles down the

Alaska Highway from Whitehorse. This would have meant a land trip, much of it by hitch-hiking, of about 1,600 miles to the rail-head at Dawson Creek. Of course, any man whose contract expires is sent out by air from Canol, unless he is past the 300-mile mark on this pipeline. I don't know what this lineman's chances are of getting on a plane at Canol, in view of the new order.

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Feb. 12, 1944

I FOUND the ptarmigan dressed in one of the cabooses. They are larger than I had thought, weighing close to two pounds dressed. A wing which I found was six inches long from its elbow to the tip.

There have been several instances lately of delayed dynamite charges failing to go off, and of being dug up later by hole-diggers. One notices it is always new arrivals from the States who keep talking about these violations of safety rules. All the men in this caboose except me are recent arrivals from one rather small city in Wisconsin. They spend every evening talking about the work. They were not at all pleased when one of them dug up two wires, called the powder-man, and saw the latter calmly fasten his battery-box to the wires and touch off two sticks of dynamite. Another man from a different caboose, also found two wires, called the powder-man, was told by the latter that the wires were loose and that the dynamite had been fired, used the bar some more only to dig up the caps and two sticks of dynamite. Under those conditions, jabbing the bar into a hole when it is too dark to see what is at the bottom, is not too safe.

The new men also get quite excited about hauling gasoline out in the trucks with the men. All this while—that is, since arrival at this camp—they have been hauling a 55-gallon drum full of gasoline in the box containing the men and, usually, a hot stove. Often the bung would be open, and the gasoline would splash out. They have been promised a small truck which would do nothing but carry gasoline and other supplies to the equipment, but they have no confidence in the promise inasmuch as the telephone line should be completed by early March.

Another thing which has kept the men guessing is what to do when we reach another area. At present we are in the Canol area, where, under the B-P-C contract, we drew 12½ cents an hour more than the men in any of the other four areas, and had our board free. Soon we shall be in the Whitehorse area. Some considered quitting and going to Canol to see whether B-P-C

would hire them back; but others are curious to see the country ahead, although they dislike to take the cut. Finally the gossip got around that the Miller Company gives its men board free of charge regardless of which of the five areas it is in. That would mean, therefore, a cut of $12\frac{1}{2}$ cents an hour, or \$10.63 a week.

The powder-man is the same man who sat up in the "bath-house" at Camp 62 until close to midnight, waiting for me to get the water hot. He spent 18 months on Kodiak Island, and says it was not nearly so monotonous there as here, as they had movies and other recreation. A powder-man does not have to exert himself nearly so much as a hole-digger; and I have often had the idea that his job, besides drawing higher pay, is far less monotonous than digging holes. This powder-man now has a cut in his skin about an inch long beside his mouth, where a rock hit him a week ago.

Feb. 20, 1944

A DAY or so after my last entry in this journal, the truck carrying about fifteen men of the hole-digging crew turned over on its side. Everything was lucky for them: there was no bank there for the truck to roll down; there was (for a wonder) no 55-gallon drum of gasoline aboard; the usual open can of diesel fuel kept to start fires in the truck was on the down side of the truck and did not turn over; the fire in the stove was practically out; most of the tools (such as heavy bars, picks, spoons, long spades, etc.) had just been unloaded; and the truck itself was traveling slowly, in low, to pass two pipe dollies coming toward them. In spite of all these favorable circumstances, one man was a stretcher case, three others were painfully hurt, and nearly all the others received cuts or bruises. All of them were highly excited at the accident, and kept remarking about what might have happened had everything been as usual. When a box, closed all around except for the door in the rear, goes over, the imagination functions at a remarkable rate; so I did not wonder at the report that the men in the front of the box, the farthest from the door, were all out before the men piled on top of one another around the hot stove could disentangle themselves. Smoke and flying soot made the box so dark the men could hardly find the door in the light of early morning. Sudden and unreasoning fear caused men to trample the stomachs and faces of their best friends in the effort to get to the door. Paul Duncan lay with the stove burning his leg, and called repeatedly for assistance, but nobody stopped. As a result, he now has his hands and fingers bandaged, as well as the leg. The Iroquois Indian in my caboose still suffers pains in his stomach where some one placed a heavy foot.

The First Aid man arrived from Camp 102 soon after, and about two hours later came another car with an interviewer. Before evening the mess hall was plastered with Safety First posters, such as "The Safe Worker is no Sissy. He's Just Plain Smart," and "On the Spot—Every Time You Take a Chance." To add to the irony of this anti-climax, two days later, when we occupied a new camp at Mile 126, with brand-new tents and an igloo for a mess hall, the mess hall was found plastered from end to end with the Safety First posters. As if they could atone for all the months of violation of the simplest precautions, despite the repeated protests of the men.

This illustrates the value of unionism on such a large project. A labor co-ordinator, such as one found on the premises at such huge projects as Camp Pendleton, the largest Marine base in the U. S., would have been quickly approached by some laborer or union representative, because the co-ordinator was selected by the union, and at least half of his salary was paid by the union. When he, in his turn, mentioned a certain violation of safety to the heads of the company, he would be speaking for hundreds or even thousands of laborers. But up here, the average man grumbled to himself or to his near friends, once in a while mentioned the matter to his foreman, or—if he was unwilling to "take the chance" so glibly spoken of on the posters—he quit and went back to the States. The Paul Duncan mentioned here is the same man mentioned at the beginning of this journal, as the man in charge of the "cat" and the Schramm compressor, and as so closely resembling the artists' conception of Christ with black beard and hair. He is a very likeable person.

The scenery as viewed from Camp 126 is so majestic that I am sure if a hotel were established at this point, and if the whole area, thirty miles to the east and north, and a hundred miles to the west and south, were removed to Europe or the United States, it would be labelled one of the very finest resorts of the world. We look down many hundred feet across the narrow valley of Trout Creek, which the highway follows for several miles before reaching its confluence with the Twitya River. From Camp 126 we look up the valley of the Twitya River for many miles, with pointed and rounded mountains rearing high on both sides. Back up the road a short distance, one finds himself on the side of a mountain whose plane-like sides come to a point above the clouds. This mountain may be the one I mentioned when at Camp 76, as looking exactly like a snow-covered pyramid. Each morning I get five barrels of water from a spring gushing out of its side; the green-tinted falls, about fifty yards up from where we have dynamited a hole in more than two feet

of ice, show where the spring issues out of the ground. I say "ground" advisedly, because the embankments along the highway reveal a mixed clay-and-rock formation, which supports a fairly heavy stand of spruce quite high up the mountain sides. Snow is much heavier here than we have heretofore encountered, the men often finding themselves up to their waists in it as they clear a path twenty feet wide through the timber for the telephone line. Some of the spruce they are cutting or sawing are sixteen inches in diameter and sixty-five feet high. The men see many wolf tracks, some of them very large; and the half Indian-half Scotchman from Ft. St. John saw a mountain sheep today. Two or three mountain goats have been shot since our arrival here; one of them was only half-grown. I hear whispered remarks, and see men leaving at night, so that I know they are preparing the hides to take home with them; but it seems to be someone outside the camp who does the actual killing. One man here saw a red-headed woodpecker near camp, or so he says; and indeed the climate seems so much warmer on this side of the pass above Andy Creek that woodpeckers do not seem impossible. A herd of forty caribou has been reported at a camp about fifteen miles toward Whitehorse.

The night after our arrival, the truck which we had to get our water at the spring a mile and a half from camp, stalled. We waited in the dark for about forty minutes, when a weapon-carrier from camp—the last transportation unit in camp—arrived, much to our relief. There were five of us, yet the silence and majesty of the wilderness led us to imagine what our reactions would be were each of us alone. As there was no kitchen at our camp, we were informed we could go in the truck to Camp 111 to eat a belated supper. Some of us took the chance, although we had no confidence in the motor which had just stalled, and not much more confidence in the young driver whose desire to speed to a late supper might lead to sudden death on such sharp curves above the steep slopes of Trout Creek. Sure enough, the motor stalled again, a half-mile past the spring. The weapon-carrier, having waited for us some miles up the highway, came back for us, and again the mechanic aboard her, fixed the battery. By this time we were ready for bed, supper or no supper; so, at about 9:30 P.M. we turned in at the B-P-C transportation camp at Mile 122 and asked for a sandwich and coffee. The cook was very courteous, and offered to fix us a meal; but we had been "on the go" since 6 A.M., and too tired to have an appetite. We drank some soup, ate some pie, a slice or two of bread in some powdered milk, and called it a day. By daylight one can see a trail winding along Trout Creek several hundred feet below the road to Camp 122. It is the trail of wild animals.

The new tents we live in are sixteen by sixteen, contain five bunks. We found them bare, and fixed such essentials as a wash stand and writing desk "on our own time." They are lined on the floors and up to the eaves with celotex, so that, on quiet days and nights the air has a tendency to become stale. At this moment I have just returned from the mess hall where, in spite of the poorer light, I went to write in this journal. I went there, not only because there was so much talking in this tent—the most conversational in camp—but also because the five persons in it plus the three visitors, plus the stove, used up so much oxygen that the air was stale and consequently my mind was foggy. Now I have a block of wood propped against the door, unlike all the other tents; and by opening up the fire a little I have a pleasant atmosphere. However, I can expect that as soon as certain members start returning from the card game in the mess hall, the prop will be kicked away, on the general principle that a door must always be shut, regardless. (At this moment that is what happened. The Iroquois Indian shut the door, and already the air has started to become still, and consequently, lifeless.) A tent like this should have a ventilator on the lower side, opposite the door.

We former B-P-C men are constantly confused by terms we hear frequently from men who have been working for Miller since they started building this way from Whitehorse. We have been used to saying "back down to Canol" so long that "back down" means in that direction. To Miller men it means the direction they have been coming from; namely, Whitehorse. At first, when we heard them saying "zero" we thought they meant Canol, although we had never called Canol by that term; but our camps were all named after the number of miles from Canol, as for example Camp 126. But to Miller men, "zero" means Johnson's Crossing, where they started the line leading from the Alaska Highway. Some of our former B-P-C men—Ferris, for example, one of the four of us left of the fourteen originals—are at Camp 141. But today I heard a trucker talk of "eighty-four"; and, although quite busy, I took time out to ascertain that he meant "384," which meant that number of miles from Johnson's Crossing, and therefore—as nearly as I know it—our Camp 141. That probably accounts for the fact that, when an east-bound trucker stops on the road, twenty feet back of this tent, and shouts, "What camp is this?" and I shout back, "Camp 126," he just stares for a moment, then drives on in silence as though perplexed.

Feb. 25, 1944

YESTERDAY I went back "on the line," during the few days remaining before we move either to Canol or directly to the Alcan Highway. Several crews have converged on Camp 126 to finish the ten or twelve miles of line left. We are feeding about 100 men, out of a kitchen suitable for feeding not more than forty. Yesterday I helped the half Indian-half Scotchman from Ft. St. John, who had some particularly rough land to get telephone poles over, from the highway to the holes. He had his horses in the stable on the highway about six miles up Trout Creek. It was probably between fifteen and twenty degrees below zero, and my hands, as I helped harness and do other chores, got quite cold. The past ten days of tending wood fires had considerably softened my hands, compared with their condition when I was soaking them in diesel fuel. In fact, they are beginning to look like the hands of a human being. As Duncan and I prepared the horses, a truck drove up and a young man got off and said he was to handle the other team. This team consisted of a buckskin, and a bay stallion brought clear from Manitoba. We had already fed them, in their tent down the grade from the highway. Duncan (that is his given name) had, in his hesitant speech—for, besides having a speech impediment, he speaks not only Scotch-English but three Indian dialects, including Cree—already expressed to me his feelings about the way this other team was being handled. The buckskin was showing the effects of it. The night before, Duncan, on his own initiative and without added remuneration, had removed from this team their heavy harness, which had been on them constantly for thirty-six hours. The harness naturally had added greatly to their coldness, the tent not giving one-tenth the protection which the other team enjoyed in their stable built on skids. The stallion—a five-year-old—was docile and intelligent, and the young man hauled telephone poles with him alone, in the morning, allowing the buckskin to stand in the tent. Most of the day I was plunging through snow from knee-high to hip-high, either following the pole or "cutting across" from the highway to meet Duncan at the hole, or breaking through the crusted drifts to "try" the possible routes. Rocks covered by the deep snow might ruin the horses' legs; and the many stumps, some of which might also be hidden, threatened to rip open their bellies as they plunged through ravines. Duncan thought one or two holes would have to be passed up. He showed excellent judgment in finding possible routes, being an experienced pack-train conductor through all kinds of mountainous country. But, just when he seemingly had definitely decided to pass up the two holes and allow men to drag poles to them—just as we *always* had to do at Camp 76—he

changed his mind and made the attempt. The mare is with colt by the stallion from Manitoba; had I known that I probably would have talked against the attempt. It was bad enough as it was; they got the poles in, but it was just chance that kept the horses from getting a broken leg or ripped belly.

Today I went back to digging holes. It was a damp, cloudy day, about fifteen below, with a breeze blowing into one's face up the Trout Creek valley. To the west, a craggy ridge hangs fifteen hundred feet above the creek bed. All signs of wild life had been obliterated by a recent four-inch snowfall; and as one dug away in his hole, under a sunless sky, and with nothing to distract his mind from his private worries and troubles, the day passed slowly indeed. On the bull-cock job, one was chasing from one task to the next all day, so that he had no time to brood or worry; but in a hole on a gloomy day one can rarely direct his thoughts on pleasant themes. When one comes up out of a hole, he is surprised how much colder it is out in the breeze than it was down below. All day today the dynamite man was only a hole ahead, and rocks spattered around on all sides. Miller Construction Co. does not have the men get out of their holes when a blast goes off. I was looking up at the leaden sky at five rocks which had me guessing, when a pebble hit me on the head. I had not seen it at all, so I considered it easier on the eye-balls to look up and see where the larger rocks were going, then lower the head and allow the smaller ones to fall as they wish. Acting on that basis, I was surprised again—as on several previous occasions—to hear a heavy one fall near me, one which had gone so high into the gray sky that my sight had failed to reach it.

A commentary on the fortunes of life: In 1927 Duncan, the half-breed, was on a fur-trading and trapping trip with his brother. They camped about one hundred and fifty miles north of Ft. St. John. The next morning Duncan's curiosity was aroused by a continuous sound resembling that made by a distant truck. When he investigated he found a stream boiling up out of the ground and almost immediately re-entering it.

"It smelled rotten," he told me, "and when I found a small hole leading up from it, I touched a match to it. Pouf! it went, and a blue flame leaped up past my head. I covered that hole with snow in a hurry. I took a teakettle full of the stuff off to one side, and lit it, and pouf! it burnt right up. I found it spread over about eight miles, and filed on a claim eight miles by ten miles. I wrote to Vancouver oil men about it, but they were not interested. Then I wrote Ottawa, and they sent somebody out right

away. Then I got into touch with an American oil man, and he is going to develop it next spring. I get one-tenth royalty."

Here is a man thoroughly Indian in appearance, and in most of his likes and habits. He has a homestead, but has made such a poor living that he never married. If he had made such an oil discovery in Oklahoma or California, he might possibly be a millionaire.

To indicate the ramifications of these inter-racial marriages: recently Duncan's brother met two men in Italy, of the same surname. It developed that he, an Indian in appearance and type, was their cousin, although they were Scottish as Scotch, from the Orkney Isles. Some time later, Duncan's brother wrote that both of the Scotch cousins had been killed in action. I suggested to Duncan that he read the novel, "The Flying Years," because of its portrayal of the period covered by his father's forty-five years as a Hudson Bay employee. I said nothing about the fact that his father's marriage to a Cree Indian woman was an exact counterpart to the plot of the novel, wherein a Scotch immigrant marries a Cree girl.

A few days ago I saw a bird near camp, which in its manner of clutching the sides of trees, and in other habits, including its single sharp note, resembles the flicker. It was a mottled black and white, of the same length as the "whiskey-jack" which played alongside it, but much more slender, and much sprightlier in action. It was quite fearless of man, lighting calmly not more than three feet from me. I understand some men (from another camp) are going out tonight after ptarmigan. They will take an electric lantern to blind them, after which they will catch them in a sack fastened to a pole. Two were caught in that manner a few nights ago.

March 3, 1944

AT 6 P.M. on March 1, I and a man named Algiers finished digging the last hole on the Canol-Whitehorse telephone line. I started digging it at 2 P.M., heating a frost bar in a fire and jabbing it into the earth for a charge of dynamite. When the blast went off it uncovered a round rock weighing about a ton. I cleared away the loose ground around it. Prior to that time it had been decided that the hole would be dug by hand, without the aid of a compressor, as had all the others across the gorge of the creek where I used to get our camp's water supply. But when the foreman saw this huge rock, there was no alternative but to back the compressor as far down the slope as possible, and get

as many lengths of air hose as he could find. The powder-man, in the race against time and darkness—for we wanted to finish the line that day—not only loaded the hole in the rock, but placed another charge in the ground beneath the rock. The hole I had just finished had taken me a day and a half, and forty sticks of dynamite; and I was very doubtful about finishing this hole in four hours. But when the charges went off, the ground was unusually loose. Algiers had been left, in these closing moments, without a hole to dig; and, as he had a five-foot shovel, in contrast to the short-handled shovel which I had used for two days, he insisted that he should get down into the hole for a while. Soon afterward the foreman found other work for me, and Algiers finished the hole.

We had been working south down Trout Creek. When we reached the brow of the steep slope and precipice bordering the north bank of the little creek flowing from the spring, an H structure was erected. The compressor was used here, but for some reason—probably clogged drills, since it was frozen gravel—the right-hand hole was drilled only half way down. This was the hole which it took me a day and a half to finish. Half-way down a 60-degree slope, a single pole was set, and at the edge of a fifty-foot precipice another H structure was erected. Below it, and on the opposite bank of the creek three more H structures were erected, and a fourth at the top of the steep slope beyond. This last was the first hole on which the compressor was used, following the hole partially drilled on the opposite bank. All the others, and an anchor hole besides, were dug by hand, in a formation of frozen gravel and rock requiring blast after blast to loosen. The poor powder-man had the misfortune to begin blasting down below, while two of us were still in need of him at the first H structure, clear at the brow of the hill. The man who had the adjoining hole had to call him from below six times, and I twice. Each time he would strap his sack of dynamite, his sack of cartridges, and his packing stick, close to him, and begin the painful and dangerous climb from the bed of the creek a full hundred yards up a slope made as slippery as glass by men sliding down the snow. So steep and dangerous was it that the foreman of the pole-setting crew, that same afternoon, walked a mile around, rather than go down it. At 3 P.M., after starting the last hole of the entire Canol-Whitehorse line (the north hole of the last H-structure), I heard a cry of warning, and saw a telephone pole come sliding down that glassy slope, dropping the last thirty feet over the edge of the precipice itself. If anyone had been working on the lower H structure on that slope, or working his way up the upper half of the slope, the pole would have swept him down to the rocks. As is so often the case in the

final stages of a project, the men had become careless and allowed the pole to escape from them, at the cost of a great deal of subsequent time and labor. Getting the pole back up the slope was an arduous task.

While the jack-hammer man was working on the left-hand hole of our last H structure, with his head bent down, I saw a telephone pole coming toward him like a bullet down the steep 60-yard slope. I let out a loud yell to pierce the roar of the hammer, but it would have been too late. Only one thing saved him: a slight change in the grade about fifteen feet above him caught the end of the pole in two feet of snow. He did not know until I told him two hours later that he had even been in danger, and laughed it off as of no consequence. But I spoke to the compressor man on the slope above, to tell those fellows "snaking" poles down to the creek bed to put two rope ends, not one, at the front end of the pole, and two men to hold them. From that time on, there were three men on each pole, instead of two, and the additional rope I had suggested. On such projects as this, one must go over the head of the foreman sometimes, and do a little safety engineering himself. The foreman at that time was busy trying to get the last anchor hole dug. I later helped him draw up by a rope a stone which had delayed them some time. Thus I was "in" on the last anchor hole, as well as the last hole dug on this 570-mile line. As I write this, men are conversing over the line for the first time. At late supper tonight, a lineman came in, unstrapped his "climbers," and said, "Well, she should be open from end to end." The men rather hesitated in their eating for a second. Oil cannot be sent through the pipeline until the telephone line works, and my information at this moment is that men are now conversing eagerly over it.

Truckers today reported that just a few miles down the road toward Whitehorse, two caribou carcasses lie beside the road, the animals having been killed by wolves. Soon after I left the "bull-cook" job, the little creek where I had been getting water froze just below the water-hole in such a way that water flowed up out of the hole and over the highway. This occasioned the intervention of the B-P-C transportation unit, whose nearest camp is at Mile 122. They cut a second hole in the ice, placed an open barrel of diesel fuel in each of the two holes, and set them afire. Burning continually they keep the little stream from freezing to the bottom, and thus the water flows freely beneath the small culvert under the highway. The new "bull-cook" had to cut a new hole in the ice twenty feet above the barrels, where the ice is so rough he loses a third of his water before he can get his "pick-up" and trailer back to the road. A raven I saw today

stop a tall spruce was fully as large as a mid-western hawk. Ravens have a variety of calls, one of them almost an exact duplicate of the honk of a goose. Fishing in the Twitya River is reported to be unbelievably good, large trout being caught by pieces of raw beef through four feet of ice. At Quilt Lake, still farther on the road toward Whitehorse, lake trout weighing 42 pounds have been caught. The Dolly Varden trout is said to be the most prevalent in these streams.

* * *

March 18, 1944

I STAYED at Camp 141 the night of Mar. 6. The ride in the back end of the truck-box was nauseating, the backward-moving landscape and the rough riding combining to turn one's stomach. I was sitting next to the door so as to see as much mountain scenery as possible, and so my feet soon grew cold. Animal tracks began to appear quite numerous at about Mile 135. Also, at that neighborhood, looking back toward Canol, there is a marvelous view of a great long mountain, battlements covered with snow, on the opposite side of a wide valley. That view compares rather well with the view here at Camp 126, which, as I have already written, is one of the grandest views of the world. The night at Camp 141 was distressful. The lights were so poor we could not see what was on the table. Gambling—with high stakes—was the only recreation possible under such conditions. There were about 200 men there, gathered for the trip out to the Alcan Highway. The next morning I was returned to Camp 126, where I and a man of 27 have spent almost two weeks alone. The nearest human beings are at the B-P-C camp at Mile 122, and they too are few in number. I was always in hopes that I might ride in a truck-cab to the Alcan, and thus see the 400-mile stretch of scenery from a less distressful place than the back-end. Two days ago I heard there were only seven men left at Camp 141, and they were being hauled out one at a time in truck-cabs. That prospect pleased me very much, but today I received my official notice to leave for Canol tomorrow. That means 125 miles in the back end of a truck; and after a month or so, a plane ride to the Alcan over terrain I have already seen from the same conveyance. So, good-bye to my hopes. There must be many wonderful views between here and Whitehorse, as seen from a truck-cab. At Camp 126, about four valleys meet at a point a couple of miles south of us. All of them are bordered by picturesque mountains. To the west are snow-covered peaks which look like extinct volcanoes. Back of us are the high, rounded "bread loaves" common to the North.

Twice we two men have had to hitch-hike rides for our water-

barrel to and from the water-hole $1\frac{1}{4}$ miles from here. We have gasoline lanterns, but our gasoline was very dirty until to-day, just before leaving. The mantles have been broken on one lantern, but it helps to light the kitchen at meal time. At night it is rather "spooky" outside; and my partner (who came up with me from Los Angeles on Sept. 27), just for the fun of it, lets off a few "wolf howls" across the valley and listens for the echoes. He says that it really makes him nervous to go to the toilet at night, even with a lantern; and that he imagines he sees wolves slinking about, even though he knows better. For myself, I know there is no danger; yet I usually stop my day-dreaming at such hours and "keep an eye out." Last night my partner let off a series of "wolf howls" at midnight, and we both had a laugh imagining the sensations of any possible truck-driver who might have had a break-down and was hopefully walking toward this camp from a mile or two distance. It would break his heart. However, traffic at night on the road has practically ceased. There is no telephone communication from this camp, so at night we are isolated. Most of the trucks passing during the day are driven by soldiers, and they pass in convoys—usually of five. So, even during the day, we might have to wait several hours for any assistance, if assistance were needed.

For two days, now, the snow has melted. The camp manager from Camp 141 told us that soon the road to the Alcan would be impassable. At one point between here and Camp 141, the road is merely the graded gravel of a river-bed, with two or three small culverts to allow the water of winter channels to pass under. It surely must be a lob-lolly in the spring thaws. In fact, with all this snow, those semi-dry river-beds must be rushing torrents. To judge from the tracks I saw from the truck, caribou and wolves must be very numerous from Mile 135 to 141. There were twelve horses, in six sled stables, at Camp 141. The keepers allowed some of them to run loose in the valley, where they rolled joyously in the snow. No supervision would be necessary, as they must return to camp for food.

Canol, N. W. T. Mar. 20, 1944

ACROSS THE Mackenzie River the gas fires from oil wells flare red against the murky sky. Four miles up, and across, the river the airplane beacon light flashes. My partner and I arrived yesterday, toward evening, and we are staying at Old Canol, where Miller's Cons. Co. are located while laying the telephone cable across the river and connecting the line up with the refinery at Norman Wells. Old Canol is four miles up the river from New

Canol. I went to New Canol today, and saw there the first women I had seen since Nov. 5. Saw several of my old B-P-C "buddies," waiting for planes to take them out. "Pop" Lawrence and Jean Billidieux bade me good-bye, but in spite of our mutual esteem it was a forced smile for all of us. I was "dead" for sleep, and so were they. "Pop" said something about having spent much of the night in a truck stuck on the road. My partner and I at 126 piled our baggage, and several cases of groceries, into a 4-wheel-drive Dodge "weapon carrier." There was no fire, and a foot or more at the rear bottom of the "box" was open, allowing considerable gas fumes and cold air to enter. The stove-pipe hole, about eight inches in diameter, was open at the top. A can of alcohol soon tipped over underneath the baggage and spread its sickening fumes among us the whole journey. The first forty miles I allowed the back door to swing loosely back and forth, but it allowed too many gas fumes to enter, and the sight of the sky and rushing shrubbery caused too much nausea. So I unfastened the long rope attached to it, and held it shut except for occasional glimpses at places of interest, such as Camp 93, Camp 76, Camp 62, Camp 40, and Dodo Canyon, which begins near the latter camp and extends for several miles down the road toward Canol. Dodo Canyon is one of the most picturesque drives in Canada. Our white "husky" dog was named "Dodo" after the canyon. I ate no breakfast, drank two cups of stale coffee at Camp 122. I was beginning to be nauseated by the motion of the truck, at Camp 122; and from there to Camp 82 I was in much distress. There I switched places with my partner, who had been in the cab. The truck driver complained about the fumes of gasoline and oil in the wood-constructed cab. The engine was not handling the oil right, and there was no ventilation in the cab except when he drove at top speed.

"When I get back to Canol, I'll have driven 600 miles in two days," he said. "When I'm alone I have no one to hold a door open as you are now doing, to let the smoke out; and I haven't eaten a square meal since I left Canol because of gas sickness. When I get back they'd better give me my old truck, or I'll tell them to write it out. One trip is enough with this."

But the cab was heavenly to me, compared to the rear, at the mad-cap speed he took. We stopped at Camp 76 for dinner, but I could not eat. Of all the camps I had worked at, enumerated above, only Camp 76 was still occupied. At the others, only trash and refuse "mark the spot." I took the rear of the truck from 76 to Camp 36 (an occupied camp), and was very, very cold and still quite nauseated when we traded places there. When we got off at Old Canol, my partner was so cold he seemed numb;

and I had to open the door for him and start "the ball rolling." He had never been so nauseated as I, but was more lightly dressed and suffered more from the cold. As he alighted, he was almost certain his feet were frozen.

Last night I went on night duty, and as I write this, I have had only four hours sleep, but am on my second shift as night man. It will be very hard to secure sleep during the day, with men coming and going constantly, and building up the fire while I am still in my bed-sack. I did not know I was being brought here for that, else I'd have balked. I was told at 141 I was slated for a project 100 miles north of Whitehorse.

A cold, damp wind has blown steadily up the Mackenzie River the past two days, a radical contrast to the bright, warm weather we had at 126. Of course, it has been warmer recently at Canol than it is now; but the climate here is naturally colder, damper, and more windy than on the other side of Hill 90. A B-P-C man told me last night that two weeks ago nine wolves were on the ice at the end of the small island in the middle of the river about a quarter-mile from us. Someone shot two of them. But he says they are very bold; the island mentioned is the region where much of the work goes on now; "cats" and other equipment run back and forth across the snow-cleared ice directly below us, and oil wells are flaring around the spot where the wolves were. A few yards from this building I hear "husky" dogs barking every day; this informant said the bones of one of the group were found on the river near the place where the wolves were shot. It may have been lack of sleep which caused me to feel melancholy at New Canol today. I seemed to sense that the place was almost deserted. Much baggage was checked and many passengers were awaiting planes. The "clearance" desk at the commissary (B-P-C), where old clothing is turned in, was doing a rushing business. But elsewhere I saw very few people. The last time I was here I was lucky to find a bunk, and finally, late at night, ten hours after arrival, had to fit my own together in a room with a half-inch of dusty trash over the floor. With all these deserted igloos and large mess-hall, hospital, and commissary about, it is apt to be a melancholy "ghost town" for the men who stay to maintain the road, pipeline, and telephone line. The end of a project is always gloomy.

* * *

March 29, 1944

A COLD damp wind straight up the Mackenzie River, which right at this point flows almost due west. The men were angry

and disgusted at day's end. One said, "A foreman himself told me that back in the States he wouldn't have sent a dog out in such weather, even to answer the call of nature." Another said, "Now I know we aren't working for human beings." But I gathered that much of the ill feeling was due, not to the hardships, but to the futility of the labor. Ditches filled with snow as fast as they could be shoveled clean, etc. It was a mean day, no doubt; but it could not have been as hard as those days when I held the pike pole at 28° below. Of course, much of my misery then was due to wearing the wrong kind of clothing on feet and hands, through no fault of my own. I only mention this because much of this complaining is from new men who were not out "on the line." It all depends on one's point of view. A 12-year-old boy, about half Scotch and half Indian, spent a couple of hours with us this evening. He said something about driving his dog team alone to a certain trading post fifty miles away in a day and a half. Somebody said, "But you couldn't go such weather as this." He replied, very calmly and confidently, "Oh, yes. But it might take me a little longer." His grandfather took part in the Yukon gold rush in 1902, soon afterward married an Indian woman, and has trapped, or worked in the radium mines, since then. He is now an old man, but still hale and hearty; clean-shaven, well-read, and a very interesting conversationalist. The whole family will go by dog-sleds to Aklavik, on the Arctic Ocean—over 350 miles by trail—next week for the spring muskrat hunt.

One of our truck-drivers ran over a 120-pound gray wolf last week. It was early dawn; the wolf was trotting up the road against the breeze and didn't hear the truck in time. Besides a good price for the fur, the trucker will receive about fifteen dollars bounty. "Whitey," who bunked beside me at Camps 40 and 62, dropped down to Old Canol to see if there were any men he knew. He was due to go out on the next plane. He has aged fifteen years since I met him at Camp 40. I had occasion to be at the power plant at New Canol a few days ago, and found Murray Wilson running it and also doing battery work. Wilson was a "groundman" at Camp 40, although doing the same work—at 41 cents an hour less—as "Whitey" was. But later Wilson was made a foreman of groundmen, and refused to sign over to Miller because he was afraid they would put him back to his contract wage. He is probably still drawing his foreman's pay, for his new work; but he too has aged tremendously since he was a foreman. I have observed that many men over 45 in this country, are dragged down fast by any kind of arduous work. As foremen they can hold up rather well.

Besides a few pairs of snowshoes there are three pairs of skis

in our small camp. The company furnishes them free of charge to any who request them, I understand. The day "bull-cook" and two young fellows in the kitchen use the skis every other day or so. A steep hill a hundred yards long leads directly from our door down to the river, where four or five diesel-powered boats are pulled up on the bank away from the ice-jam of spring. A couple score of enormous barges are also there. These young fellows slide down that slope, and on up the river a couple of miles or more to where our crew are laying the cable. The ice is about four feet thick. On both banks of the river, and on both shores of Bear Island (which the cable must cross), a trench three feet deep is dug as far back as the ice is expected to pile. After water is reached, the trench is continued at three-foot depth until the drag-line won't reach it any longer; which means when there is a twenty-four foot depth. If a sandbar is encountered, the drag-line goes right on through, at twenty-four feet. Where there is no trench in the bottom to hold the cable, concrete anchors are dropped at intervals. On the opposite side of the river, a depth of seventy or eighty feet is expected. The dynamite blasts cover forty-odd feet of trench at a time, the holes being drilled about 18 inches apart.

April 8, 1944

NEARLY THE entire crew is on 12-hour shift, trying to get the cable laid across the ice before the spring "break-up." The General Foreman and a crew of four working on the power-shovel, came in at 12:30 tonight for a little lunch, after being on duty 17 hours. I will call them again at 5 A. M. After a few days of strong, chilly wind from the southeast, we have had two still, cloudless days in which considerable snow has melted. Large cracks have appeared in the river ice. A full moon enhances the charm of the advent of spring. A week ago I noticed that the moon set a little west of north. At present I notice that the pink sky following sunset still shows at 10 P. M., and only five hours or so elapses before the dawn. The anchors which will hold the cable in the river are 50-gallon oil drums filled with concrete, weighing perhaps 850 pounds each.

April 10, 1944

TONIGHT AT midnight, I was holding a lantern while three men were rolling a full barrel of gasoline. The barrel had a bad leak at the top, and the men rolled it rapidly around a canvas-

covered building to its door. I held the door open with my foot and leaned forward to give the barrel a tug upward to lift it up to the sidewalk in front. Gasoline splashed from the barrel on to the lantern and in an instant the lantern, the barrel, one man's coat, the sidewalk, and the ground were aflame. I expected the canvas-covered building to get afire, also. But one of the men quickly tore off his old coat, which happened not to be oil-soaked, and smothered the flames on the other man and on the barrel. This was my first experience with a flaming gasoline barrel. The man whose coat was ablaze may have been lucky in an event which occurred last night. His gas and oil-soaked outer pants were wet with water at the bottom, and upon retiring he laid them on the floor near the stove to dry. The stove was not at all hot, but spontaneous combustion must have set in and the pants burst into flame. A man woke up and threw them outdoors, where they burned down to a char. This could easily have become a fire burning down that barrack, with all our baggage. On the other hand, if that same man had had those gasoline-soaked trousers on tonight, he might have been burned seriously. This is one result of not having laundry service. We have had only one laundry done, in the month we have been here within a 10-minute drive of the laundry. They say the reason is: lack of soap. Today was a little cooler—but not much—than a typical winter day at San Diego, California. The water ran down the road in streams. Tonight the full moon shines through a few moisture-laden clouds, like those common in the rainy season of southern California. Dawns and sunsets are quite brilliantly red against these spring, April-shower clouds. Last night a twisting "S"-shaped Aurora Borealis flickered, vari-colored, directly overhead.

* * *

April 16, 1944

LAST NIGHT I watched, until my eyes were strained to tears, five wolves about 400 yards from where I was standing near the house of a Scotch-Canadian trapper near the banks of the Mackenzie. After supper some men beside our mess hall drew attention to the dark spots—about nine in number—moving toward shore on the ice, but it was a good half-mile, and as it was dusk and a brisk breeze blowing it was too hard on the eyes to look long. I walked down to the trapper's through the six inch mud, and watched the wolves from 350 to 400 yards distance. The five far enough out to be visible hung around there until dark. Four were out of sight, hidden by the near bank; but the last I saw of them they were moving away from the river bank toward

mid-stream. The wind was blowing toward them from two teams of sled dogs tied between us and the trapper's house. And since it is spring, and wolves are in the dog family, that is probably what they were interested in. In case they attacked a dog, however, they could kill it, because dogs are tethered apart from one another so that they could not help one another. The wolves would put the fear in a man alone on the ice, unarmed; some looked—in the dusk—as big as a bear. They hunt on ice a good deal because animals with hoofs slip easily on it.

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Los Angeles, July 22, 1944

I COMPLETED my nine-months' contract. After my last entry in this journal, I went back "on the line," flew the 800 (or 900) miles to Ft. St. John, and worked at various points all the way from the new Peace River bridge up the Alcan to the Alaska border, about 1,100 miles. Almost all my baggage had been sent by truck from Canol to Whitehorse to save plane space. I expected it to reach Ft. St. John in a few days, but the truck was not heard from for eight weeks. Finally, when twenty miles from the Alaska border, I heard that one of the drivers had got through. The clothing I was wearing was in tatters. At Whitehorse, a very few days before my contract expired, I met the other driver and received my baggage. About forty dollars worth of clothing was missing from a pack-sack, evidently stolen while several trucks were waiting inland for a bridge to be built. But this *Arctic Journal* was undamaged. It flew with me from Whitehorse to Edmonton, 1,200 miles.



RUALL DWELLY

BY

MILFORD FLOOD



The author desires to state that all characters in this novel are fictitious. The principal character was evolved after the author had read the fifteen simplified rules of hygienic living formulated by the Life Extension Institute, Inc., and reproduced in the *World Book*, Roach and Fowler, Publishers.