

2 SUMMERS - 80 MOUNTAINS AND 100 GLASS PLATES

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The Author (then)

It was in the summer of 1950 that my attitude towards mountains began to change. From things of beauty, they became a challenge, and by the end of the summer of 1951 I did not care if I ever saw another mountain. No aesthetic feelings? Try lugging a camera, a theodolite and a dozen glass plates up 2,000 to 4,000 feet of vertical mountain, and . . . No, mountains are still there, but glass plate photography disappeared from mapping surveys about 1952.

Yes, this is another of my last-of-its-kind surveying experiences. Terrestrial photography was an accepted method of surveying for 40 years. It was first practiced by such famous surveyors as A. O. Wheeler, but it is no longer used, and my two summers in the mountains were the end of an era. To be sure, it was also the first year, well, perhaps the second, for helicopter support of surveys in the mountains and the beginning of another era. Each of our subparties did four times as much survey work as had been possible with the same equipment and packhorses, in the past.

Our survey party, under Captain Wally Johnstone, had an ambitious 7,000 square miles to control, straddling the Alaska Highway from Whitehorse to the Alaska boundary. We also had three four-wheel-drive trucks, camping equipment and a Hiller helicopter, supplied by Kenting Air Services and piloted by Stan King.

Les Perkin and I were sergeants, and we each had an observing party. Other members of the party were sappers F. S. (Curly) Miller, Bill Southwell, Ben Bakken and Bill Kennedy, Len the cook, and the helicopter mechanic. We had two-

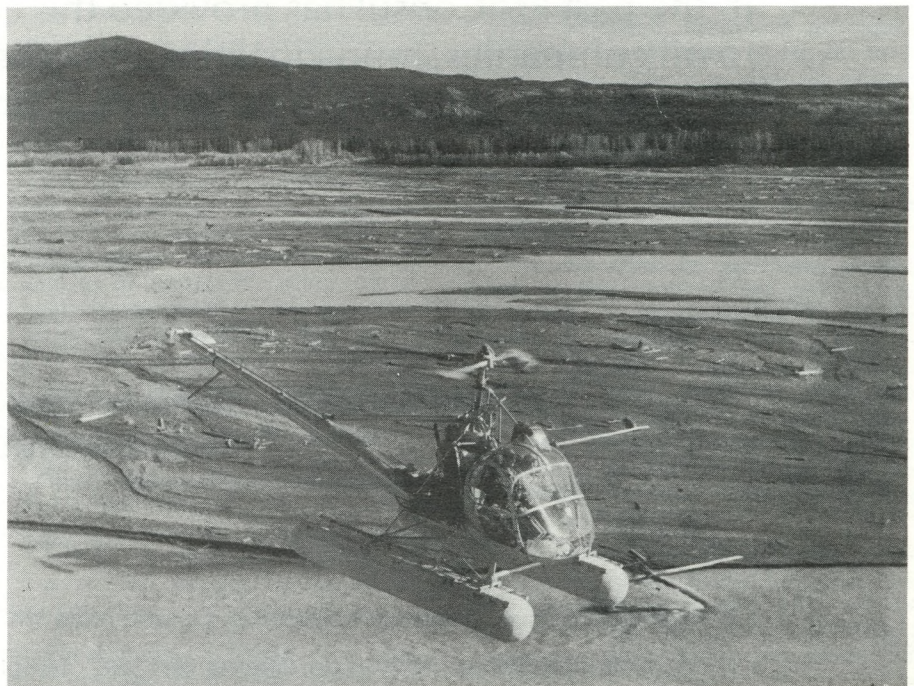
man observing parties, and occasionally Captain Johnstone took a party while the extra men were setting up signals, dropping off and picking up observing parties, and driving trucks.

This was all new to us and, after we had set up our first camp, Captain Johnstone, a career soldier affectionately referred to as "The Boss," took us up a small hill to demonstrate procedures. A Wild T-2 theodolite was used to read angles to known stations (mainly those established near the highway during World War II by U.S. Coast and Geodetic Survey crews) and to new unknown stations that we set up, monumented and cairned, usually at the peaks of the mountains paralleling the highway. That disposed of the triangulated survey control. Then we mounted a terrestrial survey camera astride the trunnions of the theodolite and took horizontal photographs, the first centered on one of our stations, the remainder at 30 degree intervals. These were glass plate cameras and each plate had to be set separately into the back of the camera, the plate cover had to be pulled out, and the plate was exposed by removing the lens cap for a specified interval (25 to 40 seconds) depending upon the light available. The film emulsion was infrared sensitive and resulting photographs, printed on heavy 11 in. by 14 in. photographic paper, were superb. The plate and plate holders were

numbered, and the field notes indicated these numbers, as well as the angle, exposure time and any named or numbered feature in each photograph, together with the horizontal and vertical angles to that feature. Simple? Relatively. We were to find that the job consisted chiefly of getting to each point and thence back to camp again — the actual surveying was a restful period in between.

Back at camp, we took turns practicing loading, numbering and unloading the same practice plates, finally replacing them in black paper in their original 3½ in. by 4½ in. boxes, all while within a very cramped and dark tent. This three-foot-square (at the base), six-foot-high (at the point) black tent was the devil's own invention, always too small, too hot, and too full of the possibility of error. Loading plates with the emulsion side backward produced no photographs, careless handling was evident in magnified finger prints, and wrong numbering produced still more difficulties. Even after we had learned how to do it, the job was still a nasty chore, and many a colorful curse-word came from that squirming black tent.

While we waited for the helicopter to arrive, we set up wood and cloth signals on the lower (known) control points, and planned the location of four new stations to obtain the strongest triangulation. When it arrived, we got on with the



job of establishing new stations on the peaks, reading angles, and taking photographs across the valley and back into the valleys on the other side of our control network.

Stan King, we discovered, was careful. He knew the limits of his machine and landed on low, flat hilltops, but not often on mountain tops. And he was careful about other things; he would not fly on very hot or windy days, and he considered his loads in relation to all of these factors. Sometimes he landed on a mountain shoulder (1,000 ft. below and a mile from the peak). However, we usually landed in an open spot, miles closer to the mountain than our starting point, but not noticeably closer to the mountain peak, which was often concealed by six or seven false crests, each more disenchanting than the one before.

We walked miles horizontally and thousands of feet vertically, day after day, carrying those 12 glass plates in their metal holders, a camera, a tripod, a theodolite, binoculars, parkas (it was usually cold and windy at the top), food for the day and extra food, just in case. Bill Southwell was half mountain goat, seven years younger than I, and he spent a lot of time waiting for me, getting rested, so that he could carry on as I arrived at his stopping place. This was one of the first times that I gave up smoking. It was also a healthy, athletic summer.

The mountains were, at the beginning, a joy to climb, with whistling marmots between the rocks, beautiful alpine flowers, and snowdrifts in the deep shadows where the sun rarely shone. Climbing was exhausting, but the view from the top was marvellous. Our 5,000 ft. mountains, the top reached, suddenly seemed small as we looked toward Alaska and saw the towering St. Elias mountain range. Rainstorm swept up the valleys and, seen from above, weather was evident as a whimsical and passing thing, sunshine drenching one mountain as clouds descended upon another.

In the evenings we loaded plates, plotted our triangulation, identified points on aerial photographs, calculated observations, checked our field notes and did such personal chores as laundry and letterwriting. Les and I became camp bridge champs, Len set up a marathon cribbage tournament, Bill Southwell panned for gold and visiting Kenting manager Doug Kendall put us all to shame with his miles-before-breakfast walks in search of everything from birds' nests to geological information. He was interested in literally everything, and made our camp area seem a fascinating place. One evening we were called out to help an Indian, who had stepped over a log onto a grizzly bear and had been

severely mauled in the stomach by the bear before being left for dead. Two of the men went to find a telephone and call the ambulance from Whitehorse, while Les Perkin drove down the highway to give first aid. His fast action in packing the man's stomach organs back into place, binding his wounds and giving him morphine was later credited with saving his life.

The most memorable mountains from that summer rose straight out of the water of the beautiful Kathleen Lakes, one on each side. Les and I each climbed one, starting from a boat. What made them memorable was their height, 5,000 ft. above the lake level, sloping at a 45-degree angle and covered with loose shale rock. For every step forward we appeared to slide back two-thirds of a step. It took nine hours of solid slugging to reach the top — light was fading fast as we took our photographs — then only two hours to come back down, moving so many rocks that we sounded like an avalanche to the men waiting below with the boat. On the whole, though, that summer was not particularly eventful. As I remarked earlier. Stan King was a careful pilot, and while we often did not relish the walk from where he left us, he always came back for us.



The summer of 1951 was very different. We were again working in the mountains along the Alaska Highway, but in Northern British Columbia, surveying north from Fort Nelson to the Yukon boundary. We set up camp in an abandoned construction camp near Steamboat Mountain, and again waited for helicopters. Captain Bill Walker was in charge and Staff Sergeant Bob Denis, Sergeant Al Wood and I had observing parties. Other members of the crew were Corporals "Moose" Barber, Bruce Donahoe, Spud Spidell and Cece Brown, and Sapper Norm Jeeves. This time we had two helicopters and it was possible to ferry both observers to a hill at the same time, the theory being that by the time the final team was dropped off, the first team would be ready to move to another station. Sometimes it worked that way.

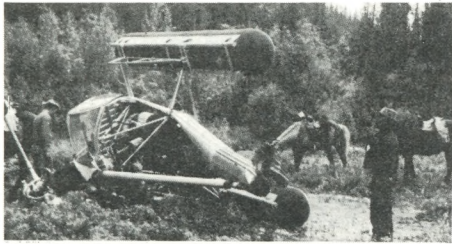
Early one morning in June, I was dropped off with Cece Brown 30 miles from the Alaska Highway, and it was agreed that we would be ready to be picked up at 1 p.m. Easy! We were dropped

near the top of the mountain and only a few minutes of climbing were necessary. We were ready long before 1 p.m., but we were not picked up that day and we huddled by a fire under a ledge during the night. In the morning we decided to walk out, and got as far as the wide and swift-running Muskwa River, which seemed shallow enough to wade. Cece was moving ahead of me, seemingly less handicapped than I by the loose stones on the riverbed. Then he lost his footing; I moved 50 ft. in one miraculous instant and lifted him upright, and we abandoned the notion of wading across. We waited on the shore until one of our helicopters appeared, a whole day later than expected, and landed on a sandbar. A bearded pilot, a complete stranger, stepped out of the helicopter and began to explain the delay.

After leaving us the previous day, and dropping another party 50 miles away, the helicopters had picked up Bob Dennis and Norm Jeeves, and left them on flat-topped Lepp Mountain. One helicopter had taken off and flown away, then the second lifted off and, before their horrified eyes, caught a downdraft and flipped over the edge of the mountain, crashing and killing the pilot, Stan Fraser. They checked the wreckage and then made their way to the highway where they hitched a ride back to camp to report the accident and call the police. Bob Cook, the other pilot, was a lifelong friend of the dead man. He refused to fly again and accompanied the body back to Ontario. Kenting Air Services had flown in a new pilot, Gerry Turner, and his first task was to pick us up. During the previous day, arrangements had been made to fly in to the more distant party with a fixed-wing aircraft. It had been unable to land, but had dropped food and supplies. Continuing bad weather prevented their pickup by air and, eventually, a week later, they were rescued by a horse party.

The night Cece, Gerry Turner and I returned to camp, our commanding officer, Lt. Col. Cy Smith arrived in the quiet camp and awoke me to ask where everyone had gone. I had a lot of unexpected answers for him.

After a week, things got more or less back to normal but we had too many men for one helicopter so we rented a string of packhorses for one observing party. A short time later, I was flying with Gerry Turner when we landed on a sandbar in an isolated stream. Instead of settling evenly, the helicopter tipped over frontward, smashed the rotor blades and tipped sideways. Gerry was out of the door in a flash, while I listened to metal tinkle and gasoline drip and discovered that I could not move. "Undo your safe-



ty belt!" shouted Gerry, and sure enough, my back was not broken after all. We gathered up food, sleeping bags and an axe, and started walking out, along the river. At dusk we made a fire, ate and settled down for the night — I slept well, but discovered that Gerry (new to the wilds of Canada) had kept the fire burning, and worried about wolves, bears and mountain lions all night long. Proceeding along the river the next day, we heard rifle shots, then replies to our own shouts, from across the river, where our friends came searching for us with horses. Gerry



could not swim, so we made a raft and floated across the river until the current caught us, at which time the rescue party threw a rope, I swam over and caught it and was pulled ashore, holding the rope with one hand and the raft with the other.

This second accident finished our easy helicopter-borne life, and we began anew, with packhorses. I took one string with Spud Spidell and a talkative packer, Fred, and we went back to the old way, working up a valley, setting up new survey stations on each side of the valley and moving along. Each night Spud and I made supper, cleared up the dishes, checked our notes and prepared for another day, while Fred talked steadily for hours, telling of his unparalleled experiences, with a completely new set of unbelievable experiences each night — no repeats. The going was tough along game trails, cutting openings through deadfall, and sometimes following rocky stream beds. And I learned about packhorses — stubborn, prone to wandering far at night if not hobbled and sure to fall down in a mudhole at the first opportunity. We even learned how to tie a load on a packhorse. But eventually, we reached the edge of our area as our food ran out — and returned.

Then it was on to something new. Someone else got the packhorses. Al Wood, Norm Jeeves and I got a canoe, an

outboard motor, and a job on the Coal River, which led to the Yukon and the northerly edge of our work. Norm Jeeves managed the canoe, moved camp, and even had supper ready for us each evening. Al and I climbed the hills and did the survey work, coming down from each hill further up the river and finding a new camp with supper waiting, often at some trapper's cabin. This was a different summer trip, with food in treetop caches for our return journey (one raided by a bear, nonetheless), a swift run through the rapids and white water downriver.

And to finish an odd summer, the National Film Board needed us for a film on mapmaking. So we climbed little hills and acted properly weary for the photographers as we reached the tops, took strings of packhorses up beautiful scenic valleys (clear of deadfall), and ran rapids in a canoe — until we realized that the reason for the repeated retakes was that the director wanted us to tip. That canoe scene is still in the latest version of the film, **Mapping for Defence**, and I saw myself in it last year, looking young and healthy.

Glass plates and terrestrial cameras may be a thing of the past, but the mountains have not changed and I can look at them now and remember those two summers as though they were just yesterday.