Chapter 21

Juneau – Snettisham

I left the ferry, walked a couple of blocks to my hotel, ate a bite of breakfast and went to bed. I hadn't slept much on my trip from Haines to Juneau. The ferry dock was close to downtown – in fact, everything in the Juneau vicinity was close to downtown.

I was awake by 10:00 and found the Juneau Resident Office in the Federal Building – some eight or ten blocks from my hotel. The Federal Office Building was the tallest building in Juneau. You will remember that Alaska was a territory until 1959 when it became the forty-ninth state of the Union.

I spent the day with the Resident Engineer discussing the project. I had been detailed the assignment of Safety Engineer and Construction Inspector, along with my duties as Industrial Property Assistant. Another employee en route to the Snettisham Office was also with us, an Engineering Aide. We decided we would go on to the remote site where we would build the Snettisham Dam and Power Plant the next day.

After our official "business" day, the Resident Engineer drove us around town. Later I walked over several areas before it became dark. We drove across the bridge to Douglas Island, as I remember it was mostly a residential area. There was a small fleet of charter helicopters located there, two of which I would become well acquainted with during my short stay at the Snettisham Construction Site.

I walked the several blocks from my hotel to the State Capitol. This was an almost square

building on the side of a hill – hewn stone construction – which looked more like a postoffice building than a state capitol. There was no dome on its roof – it was six stories high on its southern face, and up the hill to its back it was four stories high. I didn't go inside the building, but wished that I had, ever since I left the Juneau area. I can say that the building was nice but just not what you would expect for a state capitol building.

Juneau is situated on a silt area where two mountains come together at the ocean. All the mountains in this area are rugged, but not as tall as some in other areas. I would say that most of them adjoining the ocean, are four to nine thousand feet tall.

About 100 feet up the side of the mountain at the south end of Juneau is the Alaska-Juneau gold mine – one of the largest in the world it is stated. There is just a very small area of land left at the foot of their waste pile, before the mountain and water meet. This mine has metal lean-to type enclosures looking like stair steps (I believe five or six), up the side of the mountain. At their top is a railway running parallel to the bay below for perhaps half a mile. I know I haven't explained this very well, but the sight is quite unusual. If you have ever seen pictures of Juneau, you have probably seen this mine and wondered just what it was.

Just a few more items about Juneau and the area to let you appreciate its location and existence more. I was told that the longest road in Juneau – one end to the other – was about twenty-four miles long. Of the few places accessible by road in this area is the Mendenhall Glacier – a very popular visitor's site. About sixty miles to the northwest is Glacier Bay National Monument – only accessible by boat. Numerous glaciers and ice fields are located in this area.

I was picked up about 7 a.m. for my trip to Snettisham by the Juneau Resident Engineer. Our new employee was also going with us to begin his short government career. We went to a dock area somewhere along the shore line and I started a whole new world of flying. A single engine four seat airplane on pontoons awaited us. We boarded and taxied out into free water, then he brought his rpm's up to his takeoff level, and after a while (the drag seemed to be

more than the plane could overcome), he pulled back on his controls and it "jumped" out of the water. The speed picked up quite rapidly as we gained altitude. This might not be so bad a flight after all...

There was a heavy overcast that morning, and the ceiling was probably between 1500 and 2000 feet. The mountains were 4000 to 6000 feet or higher between Juneau and the Snettisham site, which created a slight problem. Flying to the location where we were going, necessitated that we fly below the ceiling; so, over the mountains was out. The Snettisham site was only about twenty-eight miles southeast of Juneau – over the mountains. This morning we must follow the Stephens Fiord where we could fly under the ceiling to our destination at Long Lake.

This was o.k. by me – our pilot seemed to know his business alright, and this was scenery that I wouldn't have otherwise been able to see. Then we were nearing our camp at the mouth of the Long River (about a mile or two long with a drop of 900 feet). Directly in front of us was a solid bank of fog, not over a hundred feet high, but quite sufficient to prohibit our landing in it. We were still two or three miles away from our destination, but obviously we weren't going to fly in with this airplane.

Our pilot landed successfully right at the edge of the fog bank, and told us he would taxi on to camp. So, into the fog we went, taxiing at a pretty good clip and keeping in sight of the mountain to our right – then, the fog really closed in. The fog had gotten so thick we couldn't see land at all anymore, and we had been taxiing only about fifty feet from the banks. Our pilot slowed down, but we had lost all sight of the banks at this point. We didn't know if we were heading directly in to the side of a mountain or where. A situation we were all quite uncomfortable with – including our pilot. We were lost.

Our pilot cranked up his radio, and called our camp at the construction site. Fortunately a contractor helicopter was in camp. After conversation between the two pilots, the helicopter pilot decided he could see down through the fog enough to find us and then return to camp. They would stay in radio contact, until he could find us and direct us on into the camp, then help our pontoon plane find his way out to open water again so he could take off and return

to Juneau.

First we heard him, then by listening to the sound and by directing his search for us by radio, soon the helicopter found us through the fog. He hovered over us and led us to a spot he had seen where a beach area was large enough to land the helicopter so we could change planes..

We pulled into the bank, crawled out on the pontoons, and walked across them to the shore. We then boarded the helicopter, helped our pontoon plane find open water, then headed for camp – over the top of the fog bank.

While in the helicopter we decided to tour the area – including Long Lake where the dam site was to be constructed – and the very limited area around camp. We were at the end of the fiord – the upper end of salt water. The mountains closed in on all sides at this point. Access to the dam site area was so rugged, it seemed to me it would require an experienced mountain climber to reach it.

Long Lake was said to be almost 800 feet deep, – was formed in the valley between the mountains which surrounded it – overflowing just above our camp at the lowest point of all the mountains around it, approximately 900 feet elevation. The lake was several miles long – its banks appeared to be solid rock and sloped at angles of 45 to 60 degrees as they climbed higher and higher above the water level. The backwaters of the lake ended at one of many glaciers in this area. Flying over the area caused some apprehension, as it was and is a known fact that a crash – or emergency – would be certain death. I am not a daredevil and though I'm very glad I have seen all that I have, I really enjoy seeing some things more on a television screen than I would to experience them. We didn't crash nor have an emergency – *this time.*

As we were coming back into camp our helicopter pilot flew very close into the sides of the mountains near the dam site, and on down to the camp site. There were times it seemed our rotor must clip the tops of some trees, but he was noted for being the best chopper pilot around. However, *this site was his last job.*

And then we landed at camp.

Once again – faded green plywood huts, oil heat, and a latrine unit in the middle of the camp. These were a little better than the ones we had at first on Amchitka Island – but still it *was* a remote camp. There were four or five "quarters" huts, the latrine hut, a double hut kitchen/dining area, an office hut, and some storage huts. A permanent camp was to be built as part of the construction project.

I believe I was the eighth or ninth man at the site. We found a bunk – there were no preferences as they were all the same distance from the latrine hut. The Administrative Assistant was already on the job – a boy I knew alightly while in Anchorage, and the Engineering Aide who came out as I did, were the only other Corps of Engineers employees on the job site at this time. The Contractor had a Survey Crew, Cook, and three or four other personnel on the site. I believe the Resident Engineer for the project had been selected but I left before he ever arrived. I had been selected to get the project started – this created a kind of awkward situation but it worked out alright.

The Juneau Resident Engineer left about an hour later. Here I was again in a remote location with just a few men – all depending upon each other – with the prospect of building a multi-million dollar power project to supply electricity to the cities of Juneau and Douglas, and the surrounding area.

We got settled in – all three of we Corps of Engineers employees, in a hut together. There wasn't much for us to do, as the Contractor had not arrived at the site in force, and none of his equipment was there. We discussed what to do to get things underway, and checked out the site as well as we could.

Long River was the overflow of Long Lake. Its only purpose was a spillway running down the sides of the mountains, probably less than two miles long. Our camp site was just above the high tide level – probably about ten feet elevation with Long River running just to the side of our camp. The river was no more than twenty-five feet wide, and I would estimate maybe three feet deep, but roaring as it flowed very rapidly past our camp.

Just to the back of camp was an old, old, forest. In this area at just above sea level is large

timber – two to three feet trunks. Over the years these trees have fallen and rotted, and new growth has sprung up in their place. I walked up the pile of these fallen trees behind our camp just exploring, and saw that it was possible to see down through the pile of rotting tree trunks for at least twenty feet.

To the other side of our camp they had cleared and leveled the area somewhat and it was also being retaken by new growth. I don't know how long the camp area had been there, so I don't know how rapidly this new growth was reclaiming the area. I was of the impression it was quite rapidly.

On the other side of Long River an area had been cleared for the site to construct the power house.

Up the side of the mountain a pathway had been made – not cleared for vehicles at that time – but available for walking up to where the mountain became a barrier, probably three quarters of a mile from the dam site. From thereon, it was very rugged. One of the areas up this trail was void of timber for a couple of hundred yards and perhaps just as wide.

That should cover this area pretty well.

As it approached time for our evening meal, we were all sitting around the tables in the dining area – our helicopter pilot was still with us – when the cook came in and said that if he had some ice, he would make ice tea for supper. Never let it be said that there was a shortage of ice in Alaska, so our helicopter pilot jumped up, asked our cook to get a pan or bucket, and he would *take him to where he could get all the ice he needed.*

They told us they would be back in a few minutes, so off in the helicopter they went – almost straight up – to a glacier hanging almost over our camp. Finding a suitable spot to set the helicopter down, the cook proceeded to chip his bucket of ice, then back to camp they came with all the ingredients needed for our ice tea.

I expect that was some very expensive ice. The helicopter was a six passenger jet – I don't know what its hourly cost of operation was, but chalk up a quarter of the hourly cost so that the ten or twelve of us at the site could drink ice tea that evening.

As we "lived" in our camp longer, garbage disposal became a problem. When first arising in the mornings we started noticing bear tracks throughout the camp area. Garbage cans would be overturned, with trash scattered all around just as you might have experienced from dogs in your neighborhood.

This created further problems, as you will remember that the latrine hut was again located in the center of the camp. This wasn't a long distance – maybe fifty feet – but if you have evidence that the very area you must walk across to get there must be shared with bears, it seems a long, long way. You become hesitant to make this trip during the night. On the other hand, if nature says "go", then something must happen. The result of these conflicting messages caused a very fast sprint between the two buildings – always wondering if at a darkened corner of any hut a large black bear would greet you. None ever did, though I expected it to happen on any trip.

While speaking of bears, let me assure you they were seen around the site on many occasions. The survey crews came upon them while working up the sides of the mountains on occasions, however, no incidents occurred while I was there – the bears always ran off when approached.

My own experience was with another helicopter pilot – same firm – only this one was a four passenger bubble type. One day as I was looking over the area again when we crossed the cleared area between camp and the dam site, a big black bear was running up the path towards the dam. We watched him through the trees proceed on up the mountain, directly toward where the survey crew were staking out the area to construct an almost impossible road. That night we asked him if they had seen our bear, but none had. Probably just as well.

I have explained how rugged the mountains are in this area but let me further emphasize the difficulties the survey crew – and later construction crews – had. This is also why it was necessary to use their helicopter on site most all the time work was in progress.

In order to get to the locations where they would be working, the helicopter would fly them up the side of a mountain to a spot – if one could be found – where there was enough clearance for his rotors, to run his pontoons into the ground, and hold the helicopter steady enough for them to climb off. If no place could be found for the pontoons, it was necessary for them to be lowered to the side of the mountain. I believe they told us that much of the time they had to be "anchored" to the mountain while working, to keep from literally falling off.

The helicopter would at times have to move them from one location to another, then pick them up to return to camp at night. This is in the area where the contract called for an "all weather" road to be constructed. They also had to lay out a service road and transmission lines to Juneau, including a portion of the line to be laid underwater.

One of the "hazards" of working at Snettisham Dam was gnats – giant gnats – that could bite you with the intent to injure. At places they are called "No-See-Ums" – a name the natives have applied to them. However we saw them – and felt them also – millions and millions of them. So many would "attach" themselves to you, your entire clothing would turn black. Hats with nets such as beehive workers wore were required. All openings to your clothing had to be sealed off. They would be in your eyes, mouth, nose, everywhere you were not covered, and biting all the time. On some people the bites would become infected "sores", which could last for weeks. The only thing I know that is similar to them here in the lower forty-eight is the deer fly.

The gnats were not always with us – in fact, most of the time we wouldn't be able to find one if we looked for it. Something about the wind governed their appearance or disappearance as the case might be. When it became perfectly calm, they were out by the millions, but if just a slight breeze came up, they would disappear. At times they would cover us completely, then within a matter of minutes they would be gone for the rest of the day.

On a day when the "no-see-ums" were at their worst, the contractor's barge from Seattle

arrived with his initial construction equipment – bulldozers, a crane, air compressors, etc. So, don our nets, and protective clothing, and go to work.

The Corps of Engineers incorporates into every construction contract, a safety manual. All cranes are tested for their dead weight capacities, *before* they can be used on the job. This is done by attaching known weights to them such as bulldozers, etc. to add up to their rated capacity. Their boom must be checked at different angles according to this guide. The crane was needed to unload the barge, and no days off for "no- see-ums" were allowed, so we dressed for the gnats and got to work.

I think I must say a few words about the weather at Snettisham. Although I was only at the site about three weeks or so, I learned a lot from conversations with people who lived in the Juneau area. I was told that at the construction site each winter approximately 100 feet of snow could be expected. This was critical both to construction, as well as operation and maintenance of the facility. Power was required no matter what the weather was. Disposal of snow that accumulated on the road, camp area, and power house area had to be considered.

Furthermore, I understand that precipitation for this area exceeds 200 inches a year. That's a lot of rain and snow. As you can imagine, drainage in all areas was critical.

Mix all this with the gnats on a clear, calm day, and you will understand why there is no Holiday Inn or Hilton at the dam site to to accommodate vacationers. It was a pretty miserable place to be.

One day we heard an outboard motor coming up the fiord. Considering the fact that Juneau was the closest settlement and it was probably well over a hundred miles away by water, this was not a sound we were expecting. After a few minutes, a "Boston Whaler" was sighted approaching the site. It seems the contractor thought it advisable to have a small boat on hand during the construction, as the power house was at sea level. This was a contractor employer who had traveled all the way from Seattle in a 16 foot boat. He had been about a week traveling, and said he had had a "ball". He camped at night, or stopped at towns where

facilities were available, and was privileged to see sights that probably only natives had ever seen close up before.

I would be amiss if I didn't relate some of the items involved in the construction of this dam. I have already stated that Long Lake was a natural lake, very deep – overflowing to create Long River. It would seem that this would be a natural for easy construction. No so.

First, you can't build a dam if you already have deep water on one side of the location you want to build it on. The water must go. Unless you can establish a tie to bedrock, you probably will have problems later on. I worked at Wister Dam in Oklahoma for seven years during the fifties, and learned much in this area regarding a sound foundation. If you ever get a seep through your constructed area – watch out. I drove by Wister Dam just a few years ago, and they were digging out the upstream side of the dam trying to establish the tie they failed to attain at the time of its original construction.

Long Lake had to be drained – at least the top 275 feet of it. To accomplish this, the conduit to the powerhouse – a lined tunnel – was constructed first, then at a certain point a branch was tunneled *under the lake.* A sump was dug in this tunnel which if it worked, would catch the rock carried down this drain when opened. At the end of the tunnel under the lake, they mined upwards to (I believe I'm correct in this figure), three feet below the water – 275 feet of it – above. This was drilled and packed with dynamite in strategic places to blast out this plug. This is one place you wouldn't catch me. I was gone long before this was completed, but I was told that it worked successfully.

The lake was drained well below the bedrock area where the dam was constructed, and the conduit took care of the run-off water while they built the dam on dry land.

One day before the contractor's barge arrived at the site, the office of the helicopters called to talk with the pilot who was at the site that day. This was the same one who came to our rescue when first arriving at the Snettisham site.

It seemed a group of teen-age boys looking for adventure had gone up the canyon to the

east of Juneau to an old gold mine. Attempting to climb down a "Glory Hole", they had become afraid and couldn't bring themselves to climb back out.

Let me explain what a "glory hole" is, as I didn't know at that time and had to ask also. As they would mine into the side of the mountains, they would periodically mine an opening straight up. This would serve two purposes – one, allowed light to enter the mine shaft itself and two, in case of a cave-in, their possibilities of escaping was enhanced through this opening. In this instance, the parents of the boys and the local rescue group hoped that our helicopter pilot could hover over the glory hole – drop a rescue line down to the boys and get them out. Our helicopter pilot was not at all happy with the prospect of his role in this, but determined he would have to give it a try no matter how dangerous it was. This glory hole I was told, was some 500 feet deep, and the boys were stuck on the side of it near the bottom.

He returned to camp later that afternoon, and reported that he was unable to get them out. After spending quite a few hours hanging on to the side of the glory hole, and experienced mountain rescue squad reached them and was able to get them out unhurt, but very cold and afraid. I doubt if these boys have ever attempted anything like that again.

Our helicopter pilot told us that he was often called upon to help in rescue attempts where people would get themselves in very dangerous situations. He said it seemed to him that they just didn't mind putting him in life threatening conditions to rescue them from their follies. Of course he would try, but he felt that someday something like this incident would get him – it wasn't actually like that at all.

This portion of my story must be told about a couple of incidents that actually happened after I left Snettisham Dam. The two helicopters, the six passenger jet used in the incident above, and the four passenger bubble chopper I have mentioned before – both crashed and killed all on board. This happened within a very few days after I left the site. Furthermore, a Grumman Widgeon – an eight passenger sea plane – I flew from Juneau to Haines on at a later time also crashed. Although this plane was lost, there was no loss of life this time. My record here is that during the three plus weeks I worked at the Snettisham site, I flew on five

different airplanes, and within just over a month after I left, three of those planes had crashed with the loss of seven lives.

Now let me relate each incident separately.

I will start with the six passenger jet helicopter. I believe it was the day after I left Snettisham that this helicopter took a group of contractor personnel, and the Corps of Engineers employee who arrived on the site the same day I did, on an inspection tour of the area. Heretofore, at any time one of the planes was in the air, we would "man" our radio. This was not only a safety measure, but also there were times additional information was needed which could be supplied without the necessity of their returning to the office to get it themselves.

The Resident Engineer of the Juneau Project Office had issued an order to the Administrative Assistant that no further overtime would be authorized for a "radio watch". This was the first time a flight was made after this order was in effect – so this day no one was at the radio.

The tour had taken off sometime near noon, and was expected to be about an hour long. At near supper time, the ones around camp started inquiring of each other if any had heard the helicopter lately. When it was discovered that no one had remembered hearing it for two or three hours, the Administrative Assistant went to the radio and tried to call him. When it was obvious they couldn't raise it, he then radioed the helicopter business office in Douglas. They had not heard anything either, so they sent another helicopter to the site.

Just before dark, the wreckage was found in a very rugged area just below the dam site – almost exactly where he had flown us when we first arrived at the site. He had crashed in an area trees and rocks, with the helicopter lying upside down. No sign of life could be seen – six people were on board.

A rescue party was quickly organized, and when the crash site was finally reached near midnight, the pilot was still alive, but by the time he had been transported down the side of the mountain he had died. All the others on board were pronounced dead at the site. I had

flown with this pilot through this very same area on several occasions. His death was not caused by some kids trying to climb up a Glory Hole, but by doing his job at Snettisham.

Would maintaining a radio watch have made any difference? Perhaps – perhaps not – we will never know; however, the policy was changed back to monitoring the radio at any time a plane was in the air.

Next to go was our bubble helicopter and pilot. The day I left Snettisham I flew with this pilot all over the site including the lake. The pilot was a very personable sort, not the "hot-shot" pilot the other one was. He didn't fly close to trees or rocks – you just had a feeling you were safer with him. He was not the one they called for emergency rescues – he flew more conservatively.

This was about ten days later as I recall the events. The contractor was now beginning construction – clearing the area had begun, and blasting was occurring regularly. They had set up safety procedures for blasting which had been approved by the Corps of Engineers, and *would have been adequate if followed.* However, no regulation is any better than those using and enforcing it.

Something went wrong this day – human error. No one was ever able to obtain enough information to be sure just how this accident happened. The events were like this: a major blast was to occur at the dam site. The contractor employee in charge of blasting was to notify everyone in the area of the proposed time of occurrence, and to keep a visual lookout to be sure all was clear before the blast was set off. This time one or all of these rules were violated. Just at the time of the blast, this helicopter flew directly over the area – and was literally blown out of the sky.

The contractor employee responsible for this "disappeared". A warrant for his arrest was sent out to all states. I don't know if he was ever found or not.

Plane #2 was now gone – and this was just a few days after I had left.

The third plane to crash was an Alaska Airlines commuter plane, a Grumman Widgeon.

This plane was a turboprop prototype being tried to see if production models of this design should be pursued. I had been transferred to Amchitka and was rounding up my personal property at Snettisham and Juneau. I flew on this plane from Juneau to Haines – on my way back to Anchorage.

This was a sea or land plane – its landing gear could be retracted for landing and takeoff on water or lowered for runway use. When I flew in it, we took off from the water in Juneau and landed on a runway in Haines.

On the particular trip when the crash occurred, the scheduled flight had originated in Haines with a runway takeoff – *and no passengers.* The pilot evidently forgot to retract his landing gear (a task which had to be done by hand on this plane), and when landing on water at Juneau, the wheels hit first and the plane nosed down to the bottom of the channel.

The pilot survived the crash – the plane didn't.

The Resident Engineer of the Juneau Project Office arrived early one morning with word that the District Office in Anchorage wanted me to go to the Nome Project Office on a trouble shooting task for a couple of weeks or so. I got my things together to fly out with him and catch a plane for Anchorage that day. This was a TDY trip, and I should return to Snettisham later, so I left my car still parked in Haines.

Within an hour we were airborne again on a pontoon single engine plane on a very beautiful day. Ceiling was no problem, so when we took off we were continually climbing to clear the mountain range in our path. Our pilot headed straight toward a small "V" between two mountain peaks. The closer we got, the more it looked as if we wouldn't have enough altitude to make it. But, our pilot didn't waver a bit – just as if he knew what he was doing.

When we arrived at the mountain, it appeared that we cleared the rocks by no more than twenty or twenty-five feet. I would swear that if you stood on wing tips you could reach out and touch the sheer rock wall on either side of the pass.

We made it – then, what a view! We were probably near six thousand feet elevation, and the other side of the mountain fell away on what I would guess to be a sixty-five to seventy

degree angle all the way into the ocean below. The water below was very blue. We started our descent to land at Juneau at about the same angle we had flown to obtain our altitude when taking off for Snettisham. We landed, and docked in the downtown area of Juneau, then off to the Juneau International Airport on the first leg of my journey to Nome — same state, only twelve to thirteen hundred miles away, as a bird flies.

The flight from Juneau to Anchorage took us over the Bagley Ice Field, a sight you would almost have to see to believe. I passed another ice field much closer on a later flight, and will comment more about ice fields then.