

Dr. William Long
28 April 2001

Karen Brewster
Interviewer

(Begin Tape 1 - Side A)

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KB: This is Karen Brewster and today is Saturday, April 28th, 2001. I'm here at the home of William Long in Palmer, Alaska, and we're going to be talking about his Antarctic and Arctic experiences and career. So, thank you very much for having me here.

WL: Well, it's great to have you here Karen. It's an opportunity that I'm happy to participate in.

KB: Well, good. And this is for the Byrd Polar Research Center at Ohio State. You very nicely wrote everything down and started to answer the questions, but I'm going to go through it so we can talk about things.

WL: And I won't have those in my hand, so you can compare my answers to your questions.

KB: So, let's just start with when and where you were born and a little bit about your childhood.

WL: I was born August 18th, 1930, in Minot, North Dakota. My father was a schoolteacher and he had taken his first job at Belva, which is near Minot, and it was that year that I was born. It was one of the coldest years they had experienced and perhaps that influences my interest in cold areas. But, my mother has told me that it was the year that it was below 50 below there and the cows froze in the field across from the home they lived in. We only lived there one year and from that point, we moved to California when I was one year old, and essentially I was raised in California, until I began adult life.

KB: *So, maybe you could do a little overview of your growing up and your education.*

WL: Well, my education involved a lot of moving around because of the teaching jobs that my father had. We moved fairly often and it also was during the Depression, so that jobs were not particularly easy to get. We had, for some reason, relatives in Yosemite Valley and one of our first stops was in Yosemite Valley. One of his first jobs was on the Wawona Tunnel where he had some rather interesting experiences in saving people's lives and also in fistcuff problems with other workers and so forth that I heard of in the legend form. But, then he went into graduate school at Stanford. He was an agriculture and shop teacher and they had a special program that allowed him to work on his Master's degree at Stanford, even though his early degrees had come from Montana. And so, that's why I was at Stanford and that's where I started school. I was in a preschool there, and then went to Covelo, which is in Northern California by Modoc Lava Beds. In fact, we were at Tule Lake. Tule Lake, then Covelo, then down to Templeton . By Templeton, I was in the first grade. And then we were there for about four years. My mother worked very hard there. We ran a hotel. My folks ran a hotel and my father taught. My father often involved himself with the local politics and was usually on the

wrong side which occurred there. And that resulted in his having to leave that area and he went then to Le Grand which is in the San Joaquin Valley, near Merced. And I think he reached the peak of his career, probably, in Le Grand with his agriculture teaching.

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His students were winning state fair and county fair championships throughout California, particularly his sheep students. And his cattle students were pretty good and another of his excellent students were the pigs. So, when it came to the livestock students he had, they were really doing well. And at that time, I had my own sheep and I was showing my own sheep at 4-H and doing quite well. So, that was a fun time. But, then World War II came along and he moved to Richmond, to teach at the junior high school there, teaching shop and also then at nights in the shipyards. So, he did two jobs.

KB: He taught in the shipyards or he worked in the shipyards?

WL: He taught at the junior college metal shop and at the shipyards, he worked as a steamfitter and plumber. As a steamfitter, essentially. I think that's what they call it when they work on ships. And again, he came home one night with burns all up and down his body and what had happened was a welding hose had caught fire on one of the colleague welders and the hose was shooting fire all over, so he walked into the flinging hose, grabbed it and squeezed it and shut it off and stopped the fire. But, he burned himself very badly in the process. He was a brave man. I always appreciated that about him.

KB: What was your mother like?

WL: My mother was a very proper person. My mother never tasted coffee, let alone anything alcoholic. She was quite religious. She was an excellent singer and she always led the children's choir at the Methodist church. We were Methodists, so I was involved in church almost all of my early years. She also was a teacher. She was a grade school teacher and a fairly strict one. In fact, she was an excellent one in the school after she had raised us. I had two brothers, so there were three boys. After she raised her three boys to high school level, she again started teaching. She did not teach while we were growing up, but she was an elderly teacher at that time. And in that school, which was Pinole, near El Sobrante. By this time we were living out of Richmond in a suburb called El Sobrante.

KB: *I know where Pinole is.*

WL: You know where Pinole is? It's on the highway. It's sort of, now. Didn't used to be. She taught there and they would usually give her the difficult students because she had unusual teaching abilities. By that time, I was getting out of high school and into college. I'd been doing some climbing and I would often go to her classes and present lectures about the last exciting things I had been doing and that was always fun.

KB: *Now where did you fall in line with your two brothers in terms of age?*

WL: I'm the oldest. I'm four years older than the next boy, Dick, who is now a medical doctor in Carson City, Nevada. And my other brother is an engineer in California.

KB: *You mentioned climbing. How did you get interested in climbing?*

WL: A friend of my father's in Le Grand was the editor of the newspaper there. Le Grand, by the way, has a population of 500 and I think it still has a population of 500. It

wasn't growing fast then and I think it's not growing fast now. But, it had its own paper for a while and this fellow, Mac McKenny, and my father would go on hiking trips and mining trips and various things into the Sierra and into Mexico sometimes. And sometimes they would take me along and sometimes they wouldn't. But, McKenny left Le Grand and went down to Ukiah, California, which is down in Imperial Valley, and we went down to visit him one time and went up into one of the Palm Canyons where there are some nice rocks and desert setting - beautiful setting, of course.

(100)

And he knew something about rock climbing, and we all walked over to a rock and he said, "Now Bill, I'm going to show you a few things here about climbing on rocks," and he showed me some moves on the rocks. And then he said, "The next thing I'm going to do is recommend a book for you to read, and it's called, *The White Tower*. Read *The White Tower*, and see what you think. And that started me.

KB: *And how old were you?*

WL: Probably 16, something like that. And from that point on, I read every book I could get hold of on climbing and began to find out where it was a person could go to climb and that somewhere was the rock climbing section of the Sierra Club which climbed every week-end of the year, year-round. They have a little book they put out, every week-end. It would be usually just on Sunday, but sometimes it was a two-day week-end and sometimes it was a three or four day week-end if they were holidays. And those climbs would usually be scheduled in the San Francisco Bay area, but for the longer week-end climbs, they would be scheduled anywhere in California. There were a number in Yosemite and Pinnacles National Monument and other places. So, that's how I got

started. And my skills improved rapidly. I obviously had the talent for what I was attempting to do, and before long, those of the first generation of climbers in the San Francisco Bay area which were the first generation in America, really, including Dave Brower, Bester Robinson, and a few others . . . oh, Dick Leonard. They were all folks who had been in the Tenth Mountain Division and not just in the mountain, they were officers and had helped organize the Tenth Mountain Division.

KB: *Was that in the Army?*

WL: That was World War II. That was our mountain troops and they had that background and it was because of their interest in climbing that they had developed in California. So, these guys had been the first generation and they were about ten years older than I and the generation that was coming up with me. And they had sort of set the standards for each of these climbs. Each rock had it's own numbering system of climbs and, of course, that was a challenge for me and I would attempt the most difficult and soon was climbing the most difficult and so I was sort of breaking or equaling these records that had been set. So, this was the gauge that allowed me to know that I was, in fact, improving rapidly and becoming a pretty good climber. And it was because of that that I was accepted into the sort of elite climbing group, the guys that were the most serious and whenever they were organizing an expedition, they liked me to be along and I was only too happy to go along.

KB: *So, this was in the mid to late Forties?*

WL: Let's see. This would have been '48-'51.

KB: *So, what kind of gear did you use for rock-climbing back then?*

WL: Well, as I mentioned earlier, my first climb was with hobnails that I learned about by reading the classical mountaineering stories from Europe and knew that you're supposed to have hobnail boots to climb, although hobnail boots didn't work very well at all on rock. So, our climbing shoes were tennis shoes. I preferred high top ones, which I still sort of lean toward. And we had no such thing as the harness that the climbers use now. We just tied the rope around our waist with a bowline or a double bowline. And we had petons. The petons were making one of their technical advances because of John Salithay and Ax Nelson had just made the first descent of the Lost Arrow in California, in Yosemite. Are you familiar with that?

(150)

KB: *No.*

WL: Oh, it's a shaft of rock that's right beside Yosemite Falls, so if you see a picture of Yosemite Falls, there's the Lost Arrow there. You just don't see it because it's in front of the cliff.

KB: *I wouldn't have known that that's what that is called.*

WL: Well, that was a very major climb. It had been sort of lassoed from the top and the Tyrolean traverse had been done to the top, but that wasn't climbing. These two guys climbed it from the base which was close to a 3000 ft. near vertical climb up this spectacular piece of granite. For it's time, it was really a dramatic achievement. Now they'd do it probably in half a day. Then it took them like two or three days. But, what John Salithay had done was develop an improved peton. He was a blacksmith by trade, a

Swiss. And he developed this new peton that he made out of automobile springs. That was the steel he used. He felt that was the best steel for these. And the Salithay peton is still - most climbers know what that is. That style of peton is still doing its job with climbers on the mountains. You don't have lots of other devices to use as well.

So, that was a new thing, but it was just an improvement on other petons. We had petons and carabiners and nylon ropes. Nylon ropes were coming in and we were a little less careful with the nylon ropes in those days than they are today, I think, because our engineers - several of my climbing friends are engineers and they said that they had tested the old worn ropes and they tested just as well as the new ones, so we didn't give them extra care and I don't think we ever had any serious problems with the climbing ropes breaking. Rapel ropes are another story. We broke several of those, sometimes with bad results.

KB: *Sounds pretty scary.*

WL: So, clothes-wise, we didn't have the fleece and the synthetic fibers. We did have down and wool, and of course, we didn't have the gortex type material. So, keeping warm and dry was very difficult. More difficult than it is today. I do quite a bit of cold weather work now and it's just remarkable how you stay warm and dry.

KB: *Technology can be a good thing.*

WL: You bet.

KB: *So, can you go back a little bit to your education and how you got into glaciology and science?*

WL: Well, again I was just a sort of average student in high school, but I always had great ability in English because of an excellent teacher I had in this little farm community of Le Grand. I think it's one of the reasons. One good teacher along the way is marvelous for a person. Anyhow, I had a natural ability in English and did well. So, through high school and toward graduation . . . I never took English in high school. I always took dramatics. And dramatics, I found fascinating. I liked to act and be in plays and things and so that's what I did. I also liked athletics, so I did track. Track was my thing. I ran high hurdles. And other things in high school I would do enough to sort of get by, but my grades were not sterling. They were good, but they weren't real good. Somewhere around a B- average.

(200)

So, I wasn't prime college material. But, I was able to go. The California system then, you could go to junior colleges free. No cost. All you had to do was show up. So, my folks knew that I was going to go to college. I was programmed for college. Didn't make any difference whether I did good or bad, I was going to college. But, another thing about my education is that when we moved from Templeton to Le Grand, they put me a year ahead. Just put me a year ahead and said, "You're on your own, buddy. Do it." And I did. So, I graduated from high school at 16, a year earlier than most, and I think my mother always said, looking back on it, she would never do that again, because I was physically a little bit slower than I could have been. I would have achieved better if I had been physically bigger and stronger. Even though I was doing reasonably well physically, I would have done a whole lot better with another year of maturity.

But anyhow, be that as it may, come high school graduation, rather than jump right into college, I decided that I would go do something else. I was becoming interested in lecturing and talking and so, I went to a school in San Francisco which is called

Samuel Gompers' Trade School. Samuel Gompers was a big name in the early labor movements in America. And his name was used for this Trade School in San Francisco. And what I was going to study there was radio broadcasting. They actually had an FM station called KAKM - no that's an Anchorage station. I forget what the letters were now. But, it was a public school's broadcasting station for San Francisco and it was also a training area for up and coming radio broadcasters. It was fun and I enjoyed it. But, in that Trade School, I found there was a printing press on the next floor that was sort of abandoned, only it was in perfect running order and one of the little things I'd done when I was in high school was to take print shop because for some reason I was interested in printing. So, I would go upstairs and I would fire up this little press and I got into making cards and various things for people. So, I was not really what you would call a dedicated radio broadcast student and an opportunity came to be mailboy for radio station KGO, which I applied for, and so after about a half year in this school, I ended up with a job for a radio station in San Francisco as a mailboy. And so, I would receive the mail and distribute it to whomever it should go, until summertime came and when summertime came, there was an opportunity to become a counselor at a scout camp up in the Sierra and at that point I said, "Oh, the heck with radio broadcasting," and went off to be a scout counselor and spent the summer taking burros with Boy Scouts into the mountains from the Sierra to the camp and back. So I was sort of a burro, mule skinner - a burro skinner for a summer, and it was a fascinating summer.

(250)

During that summer, my dramatics teacher had found me a position with a traveling troupe of actors, but they couldn't find me. I was up in the Sierras, so I missed out and that was a factor, then, in the choice of my profession. Then I came back and went to college. First year in college, I didn't know for sure . . . one option was to go into

drama and that was still a viable option. And another option - I wasn't sure, but I took this geology course and that geology course ended up being probably the primary reason for my going into science because I found it so fascinating.

KB: *Now was this at UC-Berkeley?*

WL: No, this was at junior college and it was at Stockton College. Stockton College was a junior college in Stockton, California.

KB: *Is it now Pacific University, or whatever it's called? Or is it different?*

WL: It was different, but because the war was on, then, it was College Pacific. Now it's called University Pacific.

KB: *Right.*

WL: Because the war was on, Stockton College had essentially joined with the College Pacific and both college classes were being held on the same campus with the same faculty. So, I essentially got this elite private school faculty for no cost. Incredible deal. And the education provided there was outstanding. It was and still is an excellent liberal arts school. OK, one year there, and the big time University of California attracted me. I said, "I'm doing pretty well here. I'm going to go to UC-Berkeley." Big mistake!

KB: *Uh-oh.*

WL: Big mistake.

KB: *Why was that?*

WL: Because I'm not a big time person. I'm sort of a small time person. I enjoy small intimate groups. I don't like 500-600 people in beginning classes. A big auditorium full and you have to look hard to even see the outline of the professor up there. And you hear the lecture through the microphones, of course. It was not the same. Nevertheless, I found in the geology courses themselves, the classes were smaller and pretty interesting. And I really enjoyed that. So, because it was such an impersonal large thing, I became sort of my own education counselor. I never saw anybody who'd advise me what I was to take, so I'd just select what I wanted to take and I ended up in two years there, I was up into junior level geology courses and I was probably where I shouldn't have been, but I was enjoying them. And getting halfway decent grades. But, the rest of the schooling was terrible. I got A's in German at Stockton College because the German professor was so fascinating. She was a lady who traveled yearly to Germany and she just made it so interesting. At UC-Berkeley, it was a graduate student who was struggling on her own and just totally uninteresting, so I got F's – D's or F's and things were going downhill. I was at the point where they were going to kick me out, but the Korean War was going on. And in the meantime, the good thing that happened at Berkeley was that I had met these climbers. And my climbing was skyrocketing while my academics were sort of on a downhill curve.

(300)

KB: *Seems to be a common experience with climbers that I know. They're in school and they start climbing more and more and school kind of fades away.*

WL: Well, as I mentioned in my writing there, we had an expedition to the Bugaboos which are in British Columbia. They're very spectacular, dramatic granitic towers surrounded by glaciers and a terrible accident during a lightning storm there killed two of our party and seriously burned two others. And I was involved in the climb that went up to find one of the dead climbers and it was I who was able to negotiate the final extremely difficult part that even the leader couldn't quite do and he turned to me and said, "Bill, can you do it?" And I said, "I think I can" and did, which is a pattern with me. I was bragging and I guess it is, but it is a pattern. Anyhow, I did that there and I won't interrupt this story. The expedition ended and we went back to school.

Well, the girl who had been burned and lived, Crickett Strong was her name - her father was the Dean of Students at the University of California. And I had received by this time, two notices to go to the Korean War and so I decided I would enlist in the Air Force rather than go into the infantry, but I wanted to be able to come back to Berkeley. I didn't want to leave with a totally bad transcript, so I contacted this Dean and said, "Would you make it on my transcript . . . is it possible that I could go ahead and enlist and then? - I'd heard rumors that this sort of thing could happen - and then when I'm done, I can come back." And that happened. He did that. It's still on those transcripts. So, my climbing bailed me out. But, I never went back. When I went in the service and this is a very critical part of my history - I went into the Strategic Air Command Survival School, so I became a survival instructor for the Air Force. I knew about this before I went in the Air Force and Dave Brower wrote me a letter. And other climbers and influential people wrote letters to the military to see if they couldn't get me into this survival school because I was the kind of person they thought should be in a school like that and I wanted to be. Well, I had letters and so forth saying that they wanted me. And that's where I was going to go. So, that was sort of all set up for me.

And eventually I did get there, but it was a long drug out summer that got me there, because I went down to basic training in June in San Antonio, Texas, and in San Antonio, they were breaking heat records - over 100 degrees almost every day. I was there during the summer. It was a very interesting basic training experience and it was difficult and disciplinary and all the military things, even if I was in the Air Force. Not quite as tough probably as the Marines or the Army, but it was tough enough. And there are a couple of things that are necessary of all the things that are necessary in order to graduate from basic training. One of them was that you have to shoot for score with your rifle. The day we were going to shoot for score with the rifle, I became deathly ill because I drank some cleaning fluid that was in a glass on the table in the mess hall and was having severe stomach trouble. Oh, I spent 24 hours just really sick. Unfortunately, it was during that 24 hours that my flight shot for record. So, I hadn't done that and couldn't leave. So, I spent the next 6 weeks there until the next graduation and went out during the time that they were shooting for score. Shot for score, and because all my flight had left, and still I had not been contacted by this survival school, so during the first 6 weeks when I was with my regular group, one thing the Air Force did well, they examined us really well. They gave us a week of examinations daily and they knew a lot about our intelligence and our attitudes - all kinds of things from those examinations. And they told me I could go into intelligence work. And I told them what I wanted to do and they said well, that would be fine, but that school has not contacted us. But, they said, "You will be assigned to a para-rescue technician, so your orders are now to go to Massachusetts to be a para-rescue technician," and that meant the person who jumps out of airplanes to rescue people. So, that sounded great. I was all for it. That's what I wanted to do. Except that I'd rather go to the school.

KB: *But, this is better than intelligence.*

WL: Well, I didn't mind intelligence. At least it *sounds* intelligent.

K B: *True.*

WL: It's better than driving trucks.

KB: *Yeah.*

WL: Better than a lot of things I could have done. Anyhow, because of the non-shooting thing - the non-shooting for score, I had to wait until the second half of the summer and because I didn't have my own group, there were some extra tents. Most of the folks lived in barracks, but there were some of these big old Army tents that were set up for overflow purposes, but no one was there for overflow. And so, I asked if it would be OK if I went out and lived in a tent.

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They said, "Sure," so I had my own tent and everyday I had to go to the orderly room and say, "Here I am, what do you want done?" Normally, they didn't have anything to do because I wasn't their usual kind of person, so they'd give me maybe one thing or two to do. It would take half an hour to an hour and the rest of the time I was sort of on my own in my tent. I couldn't leave the base except week-ends or something. But, while I was there, the guy from the school came and he asked if there was somebody named William Long around there and they said, "Oh yeah, he's out there in the tent." So, he found me and he sent me up and I was going to go to the school and I did. And I went to the school in September, an early September day and it's one of the moments I'll remember all my

life because I stepped off that plane in Colorado Springs, where the school was. It was at Camp Carson then. It's now Fort Carson. And I smelled that mountain air and I had one of the most beautiful breaths of air I've ever taken after a summer at San Antonio in that humid heat. It was just incredible and I knew I was going to do great. And I did. Within a week - the mountain troops trained there too in Cheyenne Canyon which is near Cheyenne Mountain where NORAD is and within a week, the guys had heard I was a climber and so I was going up with them and two of the hot shot guys from the instructor school climbed on this cliff and they got stuck up there so I had to go up and climb up past them and rescue them. From that point on, I was one of the climbers . . . was one of the bunch.

Oh, there were some other things, too, that were less respectable. The first day I arrived at that unit, they were having a party of some kind, so no one was on the base except for one or two guys that had to be there. And they said, "Oh yeah, they're having this yearly party out at Cheyenne Canyon." So, it was sort of a wild party. I mean they actually had hired strippers to come and it was pretty gross. So, that was my introduction.

KB: *Wow.*

(450)

WL: We never did anything like that again. I don't know why it was done then, but it was some sort of a tradition that didn't last. That's a whole chapter of my life from then on in the survival school, just tale after tale that could be told and that many of us tell when we get together. It was four years of receiving one plane crew a month and this was a B-29 crew. It takes 11 men to crew a B-29 and those were being used during the Korean War. And the object was to train these fellows so that if they crashed, they could face the wilderness and live and they could also evade the enemy and live. And so it was

twofold instruction they received from us. But, there were two sets of instructors and one taught the wilderness survival. The other taught the escape and evasion and I was the wilderness survival type. And so, people who were with me would receive instruction how to not get caught. And then, if they got caught by the other guys, they would receive instructions about what happens when you got caught, which was very serious. I've seen grown men weeping under interrogation. It's really easy to be mean to people. So, I had my own techniques of keeping my crews away from the, we called them the invaders. That's what we did and that was my service career.

The survival school started at Camp Carson, Colorado, and it moved to Reno, Nevada. Stedt Air Force Base was in Reno, Nevada, in 1952, and at Reno, the same things continued and my point was at Reno, I became acquainted with the University of Nevada - Reno, because I was living there. And when it came time for discharge, as most servicemen are, I was a bit fatigued of the military, even though the military had, and this is really a critical and important point, that I was in the Air Force when I climbed the Himalaya. The Air Force assigned me to the California Himalayan Expedition.

KB: *Which was what?*

(500)

WL: It was the first attempt on Makalu, which is the fourth highest peak in the world and is eleven miles from Mt. Everest. And so I've got to be very thankful. Well, I'm thankful to the service for all kinds of things, but I was the only person on the expedition who was receiving any kind of salary. I was on my regular Air Force salary. It was very small, but at least it was something.

KB: *Was it a military expedition?*

WL: No. It was a civilian expedition. And again, I think Dave Brower wrote letters for me for that. And my Sierra Club contacts helped me there.

KB: *And was it a successful expedition?*

WL: No. The expedition was not successful. It was the first attempt on Makalu. It was in 1954. It was the worst . . . they had the most snow that they had received. The earliest the monsoon had come on since 1936, which was the worst year. So, the monsoon came early and we fatigued on those high mountain climbs. Everybody begins to fatigue and eventually there's only one or two left who are strong enough or well enough to continue and in this case it was Willy Insold and I who were the final two doing the last stuff, but we were 3000 or 4000 feet below the top and didn't have a chance.

KB: *What's the elevation of it?*

WL: 27,900 ft.

KB: *Pretty high.*

WL: Just a little under 28,000 ft.

(End of Tape 1 - Side A)

(Begin Tape 1 - Side B)

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WL: I, again, had ways of annoying people who were in charge of me and the commandant of the 3904 Training Squadron, which was our unit, seemed to feel I was a personal problem to him. He'd been known to tell people seeing me walking along, he'd say, "See that guy. He's bad." Things like that. But, I had to submit my application to go to the Himalaya through him, so I submitted it to him and it came back with big letters, "N-O," written over the whole sheet in red crayon. He was a German and had actually been part of the German youth army in World War II and when he knew something, he *knew* it, and he knew I was bad for the organization. He was wrong. Very wrong. I had no ax to grind with the guy, ever. I mean, he was a colonel. I was an enlisted man. A corporal and finally sergeant. There was no contest, but it was strange. Anyhow, I had friends who had friends in the Pentagon and they said, "Can you possibly arrange for this fellow to go? We need him on this expedition." The Pentagon ordered the commandant to let me go and I don't think that helped our relationships at all.

KB: *Probably not.*

WL: No. But, anyhow, that was a great thing and the climb was a great experience even though we didn't do very successfully. The next year it was climbed by the French. However, on that expedition, I got to meet Sir Edmund Hillary because the New Zealanders made an application to climb Makalu that year, too. The Nepalese had a policy to only allow one party on a mountain and our application had reached them well before the New Zealand application which was very fortunate for us because Sir Edmund Hillary had already climbed Mt. Everest and anything he wanted, he received from the Nepalese. So, when they got our application first, they accepted it. And then they got his and they didn't know what to do. But, they finally said he could climb, but he had to

climb a different route, or something. Anyhow, it was the mountain beside us that they had given permission for. There was Makalu, and then there was an adjacent mountain called Barunzzi and they had permission to climb Barunzzi, which was next to Makalu. Of course, they were going to climb Makalu.

And so they were in the same general valley as we were, and we met them, talked with them and so forth. Well, it so happens it was a bad year and the New Zealanders had a real bad time. We had difficulties, but we didn't have a bad time. They dropped one guy in a crevasse. Another couple got sick and Sir Edmund Hillary himself had to be carried out on a stretcher. And we were the only guys who had any oxygen and we had brought it along just for medical purposes. We were doing all of our climbing non-oxygen. But, we did have some in case we had a medical problem and so the New Zealanders used our medical oxygen because they had to do a crevasse rescue of this guy. He didn't die in the crevasse. He was just badly beat up. And they were on the easier route. As it turned out, that's the way the mountain was climbed. They were on the easier route. We were on the difficult route. But, we had a basic objective. We wanted to climb Makalu, but our primary objective was to climb Makalu without hurting ourselves, without any frostbite, without any death. And that's the way I always have gone into my mountain climbing.

KB: *Isn't that the goal of most mountain climbing?*

(50)

WL: Oh, it's changed significantly today. Oh yeah. That's why you have all those dead people on Everest. It's because they love to climb no matter what. That's what it takes to be a champion. Your goal is to achieve the goal outside of your own health and safety and so forth. You shed all that and so, the goals are not the same today. At least in the big mountain area, but for us, they were that way. And that's one of the reasons we came

back healthy and probably one of the reasons we didn't get to the top! So, that was one thing the Air Force did for me and I'm very appreciative for that. And of course, the other thing was the school itself was of great value to me in my life and the friends I made in the service are still good friends as I think many service people would tell you the same.

So, the service sort of interrupted my education and then I started in at University of Nevada at Reno.

KB: What year did you get out of the service?

WL: In '54, but I got out three months early - that's why I started all this, because I found a school that was on the quarter system and the timing was just right for me to get out three months early and that school was Brigham Young University. As quick as I was discharged, I wrote Brigham Young University and said, "Circumstances have changed. I can no longer come to Provo. So, I'm not enrolling." And then I spent the year working in Reno and then the next year I started at the University of Nevada at Reno. And because it was a fairly difficult curriculum to get a degree in geology there in the Mackie School of Mines and the Mackie School of Mines, at the time and perhaps still is one of the leading mining schools in the United States, and therefore their standards are pretty high. In mining school, in those days, you had to essentially put in five years worth of a standard load. They required about 120 credit hours or something for a bachelor's degree. Besides, with my rather spotted record, the three years that I had put in up to that point, I'm not sure what that boiled down to. But, it was close to three years. Anyhow, it took me another two years. So, finally, ten years after graduating from high school, I got a degree. It was a little slow.

KB: Well, it was probably common for your generation with the military interrupting a lot of people.

WL: Um-hum. I think it was. It's certainly a fairly common thing.

KB: *Particularly in geology, was there anything that was a specialty at that point for you?*

WL: Oh yeah. I was very much influenced by the soft rock aspects of geology and by soft rocks, that's sedimentation and stratigraphy and geomorphology and glacial geology. And glacial geology, at that point, had been just a slightly interesting subject and because of the general nature of getting to that first degree, I wasn't thinking specialty that much. But, you do have to decide whether you're going into hard rock, which is mining, or into soft rock which was dominated by petroleum exploration. And I was definitely more interested in that kind of geology. And was interested in petroleum exploration. And my first job was with Western Gulf Oil Company in southern California, looking for potential oil wells in the coast ranges down there. Fascinating, but hot! Very hot.

While at the University of Nevada and while I was in the service in Reno - I spent essentially 6 years in Reno. During that 6 years, one of my extra activities was to become involved with the snow survey. The California Cooperative Snow Survey was a very active program and as the name suggests, it was cooperative and it involves all kinds of private and government agencies and what it required was that they hired temporary snow surveyors in the winter to ski the passes of the Sierra and measure the snow pack every month from about December through April.

(100)

KB: *How do you measure the snow pack?*

WL: With tubes. You force them into the snow until you pick up dirt down at the bottom. They do it in Alaska. It's done all over the world. And then you pull the tube out and weigh the tube. You've weighed it before and you weigh it after and the scale actually measures in inches of water, so immediately you know the inches of water that are in that sample of snow.

KB: *So, it's like doing a core, right?*

WL: It brings up a core, yeah. This, of course, was just . . . I mean, they were paying me to play. It was my favorite thing to do. And the skiing involved was just . . . it was ski mountaineering and ski mountaineering had been one of the aspects of mountaineering that I really liked, so with some of those passes 12,000, 13,000 feet high and we'd ski up over them and then down the other side to a little cabin. You'd spend the night in the cabin and then measure the course there and there's probably one or two courses you'd measure on your way in and out. So, it was great work. The snow surveying was a technique that was invented or devised by a Professor at the University of Nevada whose name is Dr. James Church and he was a professor of romantics.

KB: *He developed the snow surveying?*

WL: That's right. He was fascinated by the beauty of snow and he would sit and watch snow and then it wasn't good enough to just sit in Reno and watch it. He went up to Mt. Rose which was on the divide between Reno and Lake Tahoe and he actually built himself a little hut/shelter thing and he'd go up and watch the snow fall. He just loved it. And I can sort of understand that. And one year there was extra heavy snowfall in the Sierras as there is every once in a while, and the people knew that he was fascinated with snow and spent a lot of time up there on Mt. Rose, and they asked him if he could

possibly predict how much snow Lake Tahoe might expect because the resorts on the lake were concerned about flooding of their docks and things. So, he contacted an engineer at the University of Nevada, and the two of them - he and an engineering professor - developed this system of measuring the amount of water in the snow and they made their prediction and it was within two inches of being correct. From that point on, he was famous and his technique is now used worldwide.

Well, I knew him when he was there. He was an old man in his 70s and 80s when I first was there in the '30s. And he still was primarily an artistic type and he was sort of the honorary member of the local arts society in Reno and I forget what their exact . . . but anyhow, when I came back from the Himalaya climb, that group asked me to lecture about the Himalaya and I lectured about the Himalaya to that group and Dr. Church said afterwards, "Would I be interested in going to the Antarctic?" Because he had just received notice that they needed people in Antarctica. So, that was my first contact with Antarctica and that was done during the UNR experience and it relates to this snow surveying thing that I was doing in my spare time.

KB: *So, did you go to the Antarctic at that point, when he asked if you had an interest?*

(150)

WL: That's when I put in the application. And they were in the process of hiring people for IGY which is the International Geophysical Year - which was a period of three years. Not a year. It was a three year period starting in 1957-1959. '57, '58, and '59. It involved those three years.

KB: *OK.*

WL: Yeah, so, that was how I learned about it. Now, that was not my first time of being interested in the Antarctic. While I was at UC-Berkeley, I bought a sailbook entitled "The Antarctic Oceans," by Russell which was just a documentary of various expeditions - of a number of the great expeditions to the Antarctic. And just reading the summary of those expeditions, I really began to find that incredible drive that I'd experienced when I was learning about climbing. So, I was developing this polar interest at that time. It was sort of latent. And when he asked me, was I interested in going to Antarctica, there was no question. I said, "Yes, definitely!" And so I filled out the applications and they said, "OK, we'll let you go to Antarctica, probably, but we want you to go to Juneau first - to Juneau ice field and do some training up there to see how you do. See if you like glaciology or if glaciology likes you."

KB: *What did you apply for? Was it a specific job?*

WL: As a glaciologist.

KB: *OK.*

WL: As a geologist. I was trained as a geologist, but they were taking geologists.

KB: *Who is they?*

WL: They, at that time was the National Science Foundation, and the National Science Foundation had selected the Arctic Institute of North America to do this part. To gather the scientific teams. And the reason they were having this sort of last minute search for scientists was the fact that Russia had just put up Sputnik and the space race was on and the space race sort of became a science race. And America decided they were behind. As

a matter of fact, at that time, the Russians had twice as big an operation scheduled for Antarctica as the US did. Well, when the United States government realized that their Antarctic effort and their IGY effort was sort of small compared to the Russian one, they decided to expand it to be slightly bigger than the Russian one. And it was in that last little grasping for whoever they could find that got me in.

KB: *That's good.*

WL: And so I was part of that last minute search for scientists that got me involved.

KB: *So, they sent you to the Juneau Ice Field.*

WL: I went to the Juneau Ice Field and I worked with Ed LaChapelle and two or three other guys up there. And I met several of the famous - well, met a few of pretty world famous glaciologists at that point. And realized that working on glaciers was really natural for me because I had had so much mountain experience and I just loved being out on the ice and one of my experiments while I was in undergraduate school was to try and make snow because of my interest in snow, which failed. But, it about broke our family budget because we were living in a little trailer at the time and my wife didn't quite understand why I bought this freezer to put in it. But, anyhow, it didn't work. So, it was a natural thing. I was just a glaciology assistant. I just helped them move their sleds and things around and it was only half of the summer because I had done my first half of the summer in the geology field camp for my degree in central Nevada.

(200)

In fact, I think I got an average grade on that course because I left so soon and didn't write the report very well. But, I thought it was a worthwhile trade-off because I knew I was going to have a great job if I got to go to the Antarctic and it did work out that way. As a matter of fact, during the decade - I essentially did a decade of expeditions in Antarctica and in the latter part of that decade I was involved with my own expeditions and one of the geologists that I took with me was one from the Mackie School of Mines, so I gave them good payback for their education. And he did a good job too.

KB: *So, what year did you first go down there?*

WL: 1957, and that was part of IGY and I was a glaciologist assigned to Byrd Station. Byrd Station was one of the seven cities of Antarctica. Disney made the movie about them.

KB: *I haven't seen the movie, but I've heard about it.*

WL: I haven't seen the movie either, but it was one of the seven stations that we had down there and it was at 80 degrees south, 120 degrees west.

KB: *So, was Byrd the original Little America?*

WL: No. Little America still was Little America.

KB: *OK.*

WL: They reestablished Little America during IGY and it was Little America V. It was the fifth one. It's on an ice shelf and it's near the edge of the ice shelf and that ice shelf is

breaking off, so most of the Little Americas are somewhere in the Antarctic Sea. But, they built V for IGY and McMurdo was still there. And then Byrd was out in the middle of West Antarctica. It was inland. The other inland station was Pole and the rest, I think, were all coastal.

KB: *Pole Station was built in what? '55?*

WL: It was built for IGY, so it was - I would imagine there were people there in '56, maybe.

KB: *Yeah, somewhere around there.*

WL: '57 was the first year that it was really operational. And the same was true of all the other stations.

KB: *So, what did you do that first year as a glaciologist?*

WL: Well, as a glaciologist, the first thing we were to be involved with was the traverses and these were oversnow traverses with Tucker Sno Cats. And the Antarctic, at that time, was unmapped. They would give us maps that were blank. And we knew where Byrd Station was. That was mapped. And there were some mountain ranges that were sort of mapped. But, there was . . . oh, a fascinating point, Mount Vinson was the highest mountain in Antarctica and I forget how high it was. I think it was 16,000 - supposed to be 16 or maybe 18,000 feet high. Been seen by one of the Byrd Expedition planes. Had seen the mountain, recorded it and put it on the map. Well, I didn't drive over it, but a colleague of mine did and never felt a bump. It wasn't there.

KB: *Oh, it was someplace else?*

WL: What they had seen, no one really knows for sure. I think what they might have seen - we mapped some mountains out there that we now call the Tonie Mountains and it's possible they saw the Tonie Mountains which are maybe 9,000 feet. And then there's Mt. Takahe. We discovered Mt. Takahe which is now recognized as a sub-ice volcanic mountain. You know, volcanoes normally, erupt in a sub-aerial environment. And in the case of Hawaii, in a sub-marine environment, and in the case of Mt. Takahe, it erupted in a sub-ice environment. And when they do that, they create some unusual features that are identifiable. At the time we discovered the mountain, we didn't know that. We just thought it was another volcanic mountain.

KB: *So, what are some of the features?*

WL: I don't really know. It must be the cooling of the lava that makes it different. I don't know. I should know that, but I don't.

KB: *I never knew there were volcanoes down there.*

WL: Well, you have Mt. Erebus right behind McMurdo. It's an active volcano.

KB: *That's right.*

WL: Then there are other volcanic mountains that are not necessarily active. I don't think Takahe is active.

KB: *So, you were mapping, so you just traversed the range or something?*

WL: Well, out of Byrd Station, the total program was to get an understanding of the geography of the ice sheet. And from nearly all of the stations, they had what they called these oversnow traverses and they would go usually about 1200 miles a summer in various patterns from wherever they started. Ours started from Byrd Station and went, in this case, to the north and then around over to the Sentinel Mountains and then back to Byrd, so it made sort of a triangle. The next year, we did a triangle out to the south, along the Transantarctic Mountains and back. So, that was the summer activity. Now, on those traverses, the traverses were composed of three vehicles. Each vehicle had two inhabitants, regular party members. The first one would be the glaciology Cat. And it had the crevasse detector on it and it was manned by glaciologists. There were two glaciologists. The second Cat usually had the mechanic and the surveyor and the third Cat had the geophysicists. And we traveled three miles apart.

The first Cat would be three miles ahead by our odometers of the last Cat and the middle one would be one or the other place, depending on where he was needed. But, the reason was for our altimetry. At each three miles, we would stop and mark the place. We had an altimeter and I was a glaciologist, so we were in the first Cat and geophysicists were three miles behind us and they knew right where we had stopped because we had marked it. They stopped there, we stopped where we stopped and we simultaneously read with radio control, the altimeters so that we knew what our elevations were. After 1200 miles of our first traverse, we closed within three meters. Incredible. The guys were really good. We had one of the best geophysical teams that has probably ever been to the Antarctic - Charlie Bentley and Ned Ostenso.

(300)

Ned Ostenso's a North Poler as well as a South Poler explorer and Charlie was a student of Woollard's out of Columbia and has been chair at the University of Wisconsin until his retirement. He's just an outstanding geophysicist. So, they were really good. And Charlie was our leader. Charlie Bentley. The other thing that we did every 6 miles - the altimeter we did every 3 miles. We did some sort of geophysical reading, I don't remember which one, but then every 36 miles, we would do - actually, I think it was every 6 miles, we did the altimetry, so I stand corrected on that 3 mile thing. It was 6 miles. And every 36 miles, we would dig a pit. That would be a stop. So, our travel was about 36 miles a day under ideal conditions. So, every 36 miles, then, we'd do a glaciology pit and that was to dig a 2 to 3 meter pit and take all the notes we could and all the information we could from the snow layers we went through. And that was the glaciology part and also dig an augured hole - a hand augured hole down to 20 meters and then describe the stratigraphy from the hand auger.

KB: *The stratigraphy of the snow core, or ice core. Do you mean that you were taking an ice core?*

WL: Well, in the pit wall, we didn't need a core. But, we would take tubes in order to get density - the little short tubes horizontally down the wall.

KB: *OK.*

WL: And then the core itself, we had a Sip recording auger and we'd take that down to 20 meters which is 60 feet. That's a lot of hand drilling. And 3 meters is over 10 feet. That's a lot of hand digging.

KB: *So the three meter pit was three meters down.*

WL: Well, you'd have to start pretty wide, like about 3 meters on a side - about 10 feet square to start. But, then we'd make a shelf - two shelves and end up in the small area at the bottom. So, it was a lot of work.

KB: *Yeah, a lot of digging.*

WL: And it went pretty well as long as the traveling went well. But, things that would get in the way of traveling, of course, were storms and we'd just stop and let the storms blow and dig our machines out when the storms were over. We had plenty of good food and a little wanigan to eat it in. But, the thing that really slowed us down the most during these traverses was the rough sastrugi snow - the wind sculptured snow. And the surface of the Antarctic snow is really pretty hard. It's wind blown so much that you don't, it's very rare that you leave any kind of a track. Usually, it's really hard. And in some cases, when the sastrugi get up like 2 or 3 feet of concrete bumps, it's very difficult on the machines.

KB: *So, it's like a solid drift.*

WL: Yeah. It was tearing our machines apart on our second traverse to the point that we were extremely fortunate that all this happened, because it was during the time that three of our machines were broken down with major structural failures so that we had to spend like 5 days at this one place that allowed me to get started in geology. One machine had a broken fifth wheel, one machine had a broken spring and another one had a broken frame. And they were all on different machines, and my brother was the mechanic, so he had his hands full. But, we had to fly out welding equipment from McMurdo and he welded it all up and got everything going again and we were all right. But, it was during

this time that I did my first climb up what we called Mt. Glossopteris. We went to the top of this mountain and we found all this unusual - well, it wasn't unusual to me - it was a kind of stratigraphy in geology that I had wanted to study, that I was trained to study and so it was great. But, that one day ascent and collecting, eventually led to my Master's degree.

KB: *Wow.*

WL: Just the description of what we found that one day. We found fossils. We found units that had never before been known from the Antarctic. And then I went back to that same area for two more seasons and that's what provided my dissertation - my Ph.D. degree. We call that the Ohio Range now. We named that ourselves. We did a lot of naming.

KB: *Well, you were mapping it.*

WL: I've sort of digressed, but part of the fascinating things that we achieved on that first year was the mapping of the Sentinel Range and the highest, well, in fact, it *is* the highest mountain - the name was transferred from the one that wasn't there to the one that is there which is the Vinson Massif. And we mapped that and found that it wasn't just a single group of small peaks. It's a fairly extensive range and it was our expedition that mapped that for the first time.

And, just as a sort of side note, the weather then was very good. It was some of the best weather that I know of in the continent. Which relates to the last chapter of my Antarctic experience which was the ascent of the Vinson Massif and the Antarctic mountaineering - American Antarctic Mountaineering Expedition of 1966-67, which was sponsored by *National Geographic* magazine. And it was when the US government

decided that we were asked by various countries if those countries couldn't field teams to climb the highest mountains and the government had always been very anti anything that sensed of sporting or non-scientific work.

KB: *In the Antarctic.*

(400)

WL: In Antarctica. It was being supported by the Navy and by taxpayers money and so forth, and it just didn't seem right. And I never questioned it. There had been a couple of American mountaineering applications - one from the east coast and one from the Seattle Mountaineers prior to '67 - about '65 or so, that had requested to climb in Antarctica, but they had been flatly turned down. And I had actually been part of the Seattle Mountaineers one because they knew I had been down there a lot and was around, or something. Anyhow, the story goes and I think it's probably true, that when they got these foreign applications for climbing, the politicians said, "Well, certainly. We've been down there now for ten, maybe more years. Americans have climbed these peaks, haven't they?" And we said, "No, no. We don't go near those peaks!" They said, "Well, we'd better get them climbed." And so they contacted, as it turns out, Nick Clinch who is on the board of directors for REI and he was at Stanford University. He was a slightly younger climber than I when I was doing my climbing at the University of California-Berkeley. He was part of the brash Stanford group. And he was one of America's outstanding mountaineering leaders, by the way. He's led several expeditions to Himalaya. And they contacted him and said, "Could you put together an expedition to get that mountain climbed?" Oh yeah, he could do that. So, he contacted me and he contacted the members of the clubs that had submitted those applications and said, "Let's put a blended team together." So, he got the team together from the east and west coasts and it

turned out that those who could go were just about the right number. I think we had ten climbers. And we had Navy support. We had *National Geographic* sponsorship which meant that they provided us cameras. They didn't *give* us cameras. They just loaned us cameras. But, they were the best cameras you could buy. You could either have a Nikon or a Leica, you're choice. I selected Leica because I was used to Leicas. And they said, "Take all the pictures you can. Understand, they come to us. We'll take the ones we want and give you all the rest back." And that's exactly the way it worked.

KB: *That's a pretty good deal.*

WL: Yeah, excellent. Plus, they gave us all the equipment. It was the best outfitted expedition I'd ever been on. We had the best equipment and we flew out there in Navy planes. They dropped us off, but there was a problem. They flew out the fuel first and we had a snow machine. Two snow machines that would carry the stuff around from out in front of the mountains to up close to the mountains. So, they dropped off the snow machines and the fuel and then they came back to pick up the people. Then they flew us out, but they couldn't find the snow machines. So, in that limited attempt to find the snow machines, they couldn't. They thought they were somewhere nearby. They thought they were in the direction that they pointed out to us, but they set us down and there we were. So, we started man-hauling towards the mountains. And about two days of that and . . . well, I'd tried it before and I knew what it was. It's terrible. Man-hauling is terrible.

KB: *Because you do a load up and then you come back.*

WL: It's pulling your gear on a sled.

KB: *You have to do . . .*

WL: Relays? Well, a little. Yeah, we would have had to have done relays. But, fortunately we found the machines. And what a great break it was. And from that point on, it was just one of the finest expeditions you could imagine. The weather was good. The party was good. The success was great. We climbed the highest mountain, the second highest mountain, the third highest mountain. I don't know how far down the list we went. Five or six.

KB: *Wow.*

WL: There was one down at the far end of the range that was named Long Gables after my brother and me and I went down and made the first ascent of that. And so that was really great.

KB: *And how long were you out with this expedition?*

WL: Eight weeks, something like that. Couple of months.

KB: *And so it was in the summer.*

WL: Yeah, the Antarctic summer.

KB: *So what, like November to . . .*

WL: February, January. So, that was toward the end. That was my final fling down there and it was a great fling.

KB: *What does it feel like, being the first to climb something?*

WL: For me, it's a quiet fulfillment. It's not a big hurrah. I just really have a sense that I've done a little bit of exploration. That's a difficult question to answer because I don't have a good answer. I've thought about it a little and that's sort of where I end up. And I've had a number of first ascents in my life. And it's always fun. Just a sense of doing something that someone else has not yet done. And, I guess, that there is a fulfillment of a sense of competition that a person has, even though the competition is not necessarily the best way to look at things. Unfortunately, it's a part of living.

(500)

KB: *So, how tall is the Vinson Massif?*

WL: 16,800 feet, I think. It's a beautiful range there, that Sentinel Range. Part of the Ellsworth Mountains. Named after Lincoln Ellsworth who flew the plane from the southern tip of South America over to Little America back in 1934, I think. One of the most incredible flights that's ever been done. And whenever the weather would get bad, he and his co-pilot would land on the ice sheet and wait out the storm and often they'd dig out their plane afterwards. Single-engine plane.

KB: *How did you deal with the crevasses on your traverses?*

WL: On the traverses? The glaciologists, of course, because a glaciologist deals usually with glaciers, you're supposed to know where the crevasses are. So, you put the glaciologists in the first Cat and the glaciologist has the crevasse detector on the front of his machine.

KB: *What's a crevasse detector?*

WL: It's a radar device and it sits out in front of your machine about 20 feet out in front, and it's held out there in this case by redwood 4 x 4s. Redwood is light and strong and clear grained. Nice light wood. And then there were four dish pans. Made a big array out in front. Two were senders and two were receivers and so the radar signal goes down and if it's interrupted by a crevasse, it sends a signal to you and tells you there's a crevasse there. It works about 50% of the time.

KB: *Does it tell you how deep the crevasse is?*

WL: No, no. Only that there's one there somewhere. You're not sure where. So, the trouble is that lots of times it will tell you that there are crevasses there and there's nothing there and sometimes it tells you nothing and there's a crevasse there. So, every once in a while - twice that I can remember - the guy riding next to me looked at me, in this one case, his face just drained and he said, "Just keep driving," because he was looking out his window and he had seen the snow bridge break right under the Sno Cat. Fortunately, our tracks spanned the crevasse. Had we been 20 feet to the right, we would have been in a 100 foot hole. Had we been 20 feet to the left, there would have been no crack at all. So we hit it OK. We stopped and built a bridge so that we got the back part of our Cat across as well as the sled across, and there are pictures in Vivian Fuchs' book, "Crossing Antarctic," of his Sno Cats down in a crevasse with tracks on either side. We didn't get that bad, but it was a similar kind of thing.

KB: *I was going to ask if you ever did end up falling in one?*

WL: No, we never did.

KB: *How do you build a bridge across?*

WL: We had spare redwood beams and we used them for the bridge.

(End of Tape 1 - Side B)

(Begin Tape 2 - Side A)

(000)

KB: *I wanted to ask you about climbing on the Vinson Massif and some of those other peaks, if you did geology while you were up there and what you found?*

WL: Yes. We did not do a lot of the kind of geology I'd done in, say, the Ohio Range, and there are several reasons for that. One is that the Sentinel Range in the Ellsworth Mountains had already been investigated just a few years before we were there by the University of Minnesota team which was a big team, like 12 people or something and two or three years of investigation. And quite a bit was already known about it. So, the initial investigation didn't need to be done. However, there were a few odds and ends that they had let us know about that would be interesting - places that they hadn't been able to go and so forth, and one of the other members was also a geologist - John Evans. John has since been a leader of an international Himalayan expedition and he was one of the outstanding climbers in our group of the Antarctic Mountaineering Expedition. He was one of the ones that climbed Mt. Tyree which is a very difficult mountain.

KB: *Which is where? I've heard of it.*

WL: It's the second highest mountain in Antarctica. The first highest is the Vinson Massif and the Vinson Massif is a relatively easy climb. It's not particularly steep or challenging from a technical mountaineering point of view. Weather and so forth is another matter, but because of the weather, that's not too bad either. Mt. Tyree, on the other hand, is a real mountaineering challenge and it was intimidating to everybody on the expedition with the exception of these two very fine climbers - John Evans and Barry Corbett.

Oh, another incident that we've not talked about but was important for me here was that one year before this expedition, I'd moved to Alaska by this time and I had a job teaching at Alaska Methodist University. One of my additional jobs was to be a ski coach because we had an interest in the ski team and they didn't have a coach. I was with one of my ski team members going to the top of a race when I took a fall and lost my left eye. So, my first year in Alaska, I knocked my left eye out.

KB: *Did the ski tip hit you?*

WL: Yeah. I fell on the ski tip. So, this climb was taking place a year after I'd done that. And it was, therefore, for me, it was . . . I had this extra problem of having to deal with singular vision which I found in climbing became a problem. I was adjusting quite well to life in the normal environment because things are sort of familiar and distances and angles and so forth are pretty constant and I was adjusting well, but when you get on a mountain, all distances and relative sizes and so forth are not standard. And therefore, I was having that to overcome from my own personal point of view. So, that contributed to

my lack of being one of the strongest climbers, which is a position I usually filled, but also age was becoming a factor.

One of the climbers on that climb was Pete Shoning of K2 fame. On one of the American Expeditions on K2, in a descent, he was with a four-person party all roped together when all the other three fell and he held them all. So, he's quite an incredible climber and well known and he's from the Seattle Mountaineering Group, so he was one of the ones. He and I were of similar age and were a little older than the rest of the climbers and we sort of took a conservative point of view and we did the basic things. This took a lot of hard work and we were going to leave it at that and let the younger, dynamic climbers do this. Well, when it came to Mt. Tyree, there were only two climbers who felt they could even challenge the mountain and there were a couple of climbers who were going to help them establish a high camp. I was just showing my pictures recently to someone and they looked at that high camp and they said, "Gee, that camp scares me just looking at the pictures of it."

(50)

Well, there was a team that was going to help them, but people were getting intimidated by this mountain at a rapid rate. And one of that team said, "I can't do that. I can't get up to put that . . ." Because in order to get that camp in, we had to climb the third highest mountain on the continent. Go over the top of it and down the other side. Either the third or the fourth. It might have been the fourth. It was a big mountain. We were up high, mind you. It wasn't too far away, but it was still a pretty big climb getting over there. So, nobody would do it. And there was this little Japanese guy from Seattle who was [Ishi Fukashiva] who said he could do that. But, the rest of the folks said, "We can't do it," so again I stepped in. I said, "OK, I can do it." And I did. We got over there and put their camp in and I can remember John Evans. He put his arms around me and

said, "Bill, you can climb with me anytime." And then Ishi and I went back, and it wasn't too bad. It was more intimidating than it was bad.

KB: *Now, what age were you? You said you were one of the older ones.*

WL: By that time, I was 37, so I wasn't so old.

KB: *Doesn't sound so old.*

WL: I think Pete Shoning might have been about 40 or something. So, neither one of us was what I would call old now.

KB: *And you managed to do it with one eye.*

WL: Yeah. The one eye was OK. It wasn't the same. It was difficult, but it worked OK.

KB: *We sort of skipped the part of your IGY years. You just had a bachelor's.*

WL: Yes, that's correct.

KB: *Then, how did you end up continuing your education? What happened?*

WL: Well, after IGY, most all of the investigators came back to the United States and I came back to Reno where I had left from, and suddenly . . . well, this is a side story. It has nothing to do with your question really. It's just a personal story. I assumed that my pay might continue a little while, but they said the day I stepped off the Antarctic Continent, my pay stopped. So, I was suddenly very short of funds. No check came in

and our family had bills to pay and so forth. So, I took a job as a Fuller Brush Salesman. And did great.

KB: *In Reno.*

WL: In Reno, yeah. I did great for about six months, but in the meantime, we did the arrangements about what they call data reduction. The data reduction was going to occur at Ohio State University.

KB: *What's data reduction?*

WL: Data reduction is taking all the numbers that you've put into your notebook from your work - that I'd put into my notebook from the Antarctic and taking those numbers and making them mean something or at least putting them down into a publishable form. Like, I collected information on snow accumulation. I collected information on temperatures. Daily I would go out and measure the temperatures at various levels in the snow pack to track how the cold, ambient temperature moves into the snow pack. And then, we sort of skipped this, you're right. Then another thing I did was collect accumulation information from a field of 120 poles that were placed around Byrd Station in a specific area - quadrant, out of Byrd Station where it was called the no track area. No one could go out there except the glaciologists. I had my glaciological reserve. And there were 120 poles out there, but 100 of them were in a kilometer square - 100 meters on a side. Then there were 20 that were sort of off somewhere else. You could only go out there on skis. That was one of the rules.

(100)

To ski back and forth through that grid and get the 120 measurements was about 11 miles of skiing. So, I would do that weekly. That was my objective. Now, my definition of a week was that somewhere within a week it could be done. Now, if the weather was real bad, it might be early in one week and late in another week. So, you could possibly go 14 days between measurements, but on average it would be 7. And of course, it's night down there. This was a winter-over activity.

KB: *So, in the summers, you did the traverses.*

WL: Yes.

KB: *And in the winters, you were at Byrd Station.*

WL: Yeah. Right.

KB: *OK.*

WL: We didn't talk a whole lot about the traverses, but we did those - one each summer, two summers. And then the winter-over, the weekly accumulation was part of it. The daily thermohm reading was part of it. The thermohms were located about a quarter of a mile from the station. And they had to be measured daily. And that wasn't hard unless there was a storm going.

KB: *What's a thermohm?*

WL: A thermohm is a temperature measuring device. It measures in ohms instead of whatever else they measure in. I'm not sure. These are various levels in the snow. There's

an instrument box out there and I've got sensors at various levels, down to 20 meters in the snow and I can't remember all the levels, but it was like two meters and five meters and ten meter and twenty meters. And part of that is that mean annual temperature occurs at 20 meters.

KB: *I didn't know that.*

WL: The same here. You can drill a hole in the ground - I tell my students, I'm doing a course in geography now. I say, "What's a quick way of telling the mean annual temperature here?" And so I think most of them . . .

KB: *Go 20 meters down.*

WL: Well, you don't even have to drill. All you have to do is measure the temperature of the ground water. Ground water comes out at the mean annual temperature.

KB: *Interesting.*

WL: So, it's about 39 degrees here. It would be colder in Fairbanks.

KB: *Right. So, at the Byrd Station, you had these poles. Were you taking samples from these poles?*

WL: No, what I'd do there is measure how high the snow has come up.

KB: *OK, the depth.*

WL: On the pole. And through the year then, it raises and raises and raises and you get an idea of how much accumulation occurs. And people always ask the question, is it snowfall or is it drifted snow?

KB: *My next question.*

WL: And my answer to that is, it doesn't make any difference. It doesn't make any difference to the ice pack or to the ice sheet where the snow comes from at any given place. It's just that it accumulates there. So, accumulation only gets concerned with the accumulation, not the source of the accumulation. There is a way of evaluating snowfall and that's done in protected receivers so that any snow that falls in there doesn't get blown away.

KB: *Did you do any of that?*

WL: No, we didn't do any of that. Well, I think the Weather Bureau did. It was called the Weather Bureau then. It's the Weather Service now.

KB: *Right.*

WL: I think they had some primitive catchers, not the kind that we use in Alaska now. They were really pretty good, but the ones we use in Alaska are very sophisticated compared to that. So, the accumulation measurements involved some interesting situations because of my desire to do things in a cold climate, that I sort of set up the schedule for myself. I did that twice at 68 below and when I'd get back from those 68 below trips, I would then sort of suffer through the night with various kinds of shivers

and shakes and so forth, just from exposure to the cold. And that would disappear within a 24 hour period, so I'd be normal afterward. But, it usually had an effect on me.

(150)

One night I got out to the furthest point away and the way I would navigate between . . . I'd navigate at night in the dark . . . would be to pick a star that was in the line I wanted to go and assuming that I'd get there before the star moved very much, which is usually the case, you could sort of adjust for that and the stars don't move very fast - I'd just follow that star and count my paces and very close to 100 strides, I'd be at the next pole. I'd do the measurement, then 100 strides, I'd be at the next pole and... Cool, it worked great! I got out at this far point and clouds came over. Not only that, wind was coming up, so OK, I've just come from the station, so the clouds come over, you look for your tracks. Well, wind's blowing, can't quite see your tracks. I knew I was in a dangerous situation and I knew I had to be cool and get back to the base and the way I did it was, I had a headlamp, and my skis, because I was on skis, would track in a pretty straight line, and I figured I knew just about the direction to go. So, I'd count my hundred paces and then I'd look around with my headlamp and if I couldn't see a pole, then I'd go back and go 100 paces again at a slightly different way and I'd find the pole. Most of the time, I could see the pole, but a few times I had to go back and pole, by pole, by pole, I got back to the station.

KB: *How long did that take you?*

WL: Oh, I don't know. An hour or two. Something like that. It wasn't like 11 miles back. See I wasn't 11 miles out, because the 11 miles was back and forth. It was like a kilometer this way and a kilometer that way. I was about a mile and a half out. The next

year or two years later, at Byrd Station, the glaciologist never came back. He died. So, it was dangerous.

KB: *It was.*

WL: Yeah, and I knew how that guy had had his problem. I knew why he didn't make it back. At least I think I know. I think I just described it because, you know, if you get lost out there in the dark, you don't know where you are. You can wander all over.

KB: *So, you did how many winter-overs?*

WL: One.

KB: *One. So, two summers and a winter in between.*

WL: That's right.

KB: *So, IGY wasn't three years down straight at Antarctica.*

WL: No. IGY started, the total program, started in 1957 and went through 1958 and on into 1959, so it involved three years. My stay down there involved three years, but it was really only a year and a half long.

KB: *So, you started when?*

WL: 1957, in November. Wait a minute, is that right? Yeah, '58 and then went through the summer down there which got us into January and February of '59. Came back in '59.

KB: *So, what was Byrd Station like? How many people were there?*

WL: There were 24 people at Byrd Station. Twelve Navy and twelve civilians. Byrd Station was made out of some prefabricated buildings. They were built on the surface, but they knew, after the first year and I think they even suspected before the first year that they would drift in. And so, what they did was put the buildings in a couple of rows and then they'd make roof-type things out of canvas and lumber and chicken wire and so forth to hold the canvas up, and then that would all cover over with drifted snow and you'd end up with an underground facility. And the storage area was in the area that was between the buildings. It was cold, but it was good storage.

(200)

KB: *So, then you had to come up and out to go out to your research site?*

WL: Getting out of the station was difficult. They tried to keep the station open - they had a little D4 Cat that had been air dropped in. It might have been driven there. There were two ways of bringing things to the station. They had these incredible tractor trains. The D8 Cats with extended bodies and 4 foot wide tracks and each would pull like two 20 ton sleds and they traveled 650 miles over the ice cap from Little America to reach Byrd Station. And they did that each of at least two, I think they did it three summers.

KB: *Wow.*

WL: And then the other way of getting material in was to air drop it.

KB: *So, there wasn't a runway there.*

WL: Yeah, there was a runway for some planes, but they air dropped from the big Hercs. And the Hercs didn't land. Well, yeah, they did later on. The air drop was from a Starlifter the first time. It was from a bigger plane than a Herc. The Hercs could land. They could land on snow. And they did occasionally. But, my first year there, there weren't any Hercs. It was pre-Herc time. And the only planes they had that would land were the DC - what the Navy calls R4Ds which are DC-3s. They were 20 or 30 year old planes even then. But, they're a remarkable plane. And they could land those and there were a few other planes - Otters and P2V, which is a Navy surveillance plane. But, they couldn't carry anything. So, the year I was there, the Hercules had not been introduced into Antarctic work. Later on, they were and they just made a great advance because of that because they could carry three or four times the amount of material that a DC-3 could carry.

KB: *What else was happening at Byrd Station in terms of - you did your glaciology stuff. What were the other 11 people doing?*

WL: The primary thing was Weather Bureau. They had, I think, four people that were weather observers. They sent up balloons twice a day - weather balloons. And there was John Anecksted who was doing magnetics. He had a magnetometer station that was out away from the main station because he couldn't be near anything magnetic. Then there was a low frequency radio reception device that was, again, another one of those places that was off away from the station. It was monitored by a fellow. And aurora observation was another big thing. Had an aurora observer who I described in my write up.

KB: *Who was that?*

WL: His name was Marion Todd. He was a southern gentleman type. And Marion shared an office with me, so I got to know him pretty well. We all knew each other pretty well. There were only 12 people there.

KB: *Right.*

WL: Or twenty-four. But, the thing about Marion was that he brought a duffel bag full of booze because he liked to drink and he didn't know if there was going to be any booze there. As it was, actually the Navy provided booze. Sort of an old Naval tradition. . . they had Old Methuselah Rye Whiskey. I didn't drink at the time, so I'm sure it was terrible.

(250)

KB: *It didn't start you drinking?*

WL: No. And then they had medicinal brandy.

KB: *Medicinal.*

WL: Yeah, it came in little bottles sort of similar to the ones you get on airplanes. There would be crates of them. And they would give so many bottles to an individual and then they had beer for sale. They had Budweiser and some other kind of beer. I didn't drink at all, so I don't know if any of it was any good. The guys that drank beer claimed that Budweiser - it became known as Goober Beer because it sort of developed clods of things in it that the name seemed to describe. It was not the favorite beer, I'm sorry to say. That's not a good ad for Budweiser.

KB: *Well, it was a long time ago.*

WL: They've improved it since then.

KB: *So what was it like down there in terms of how everybody got along?*

WL: Our station, Byrd Station, in the year 1958 which was when I wintered over, was probably the happiest station on the continent. I don't think there are any reasons. Well, yes, there are some reasons. The reasons are we had two good leaders. We had a good Navy leader and a good scientific leader and neither one was into ego stuff.

KB: *Who were they?*

WL: Steve Barnes was the scientific leader and I can't remember Doc Rusesky's name, but the Navy had one officer and the officer was a doctor and we always just called him Doc Rusesky. He was a Lieutenant in the Navy. And he was a rather intelligent young Naval officer - a medical doctor and just wanted to run a nice smooth station and that was the way with our scientific leader. Our scientific leader was about as non-competitive an individual as you could ever imagine - Steve Barnes. I remember when I first met him, all the Antarctic guys went to Davisville, Rhode Island, to meet with their team for the first time. And all these various impressive looking people came up and they were going to be stationed later for Pole and for Little America and for McMurdo and finally they got to Byrd Station and this fellow showed up and I thought, "Oh, my gosh. He's going to lead me?" I couldn't have had a better guy. He had been an ex-Weather Service guy. He was a little overweight. Nothing bothered him and yet he was very talented. We had the best radio station, ham radio station, on the continent because of Steve. Steve was a ham radio

operator. Some of his duties in the Weather Service had been at Palmyra which is a little atoll or something in the Pacific for years. He was used to sitting around in isolation, knew how to operate. He was a gifted radio operator.

(300)

He built his own amplifiers and we're fairly sure that our amplifier was stronger than legal. No one ever said. He said it was not, but it was fairly obvious. And he designed his own antenna and it was built by people at the station out of bamboo and wire. And it was a cubical quad antenna that rotated. He could rotate from down in his . . . and it was all put together by the Navy and civilians because everyone wanted to have radio communication back home.

KB: *So, you could receive radio communication from back home.*

WL: Yeah. That's the beauty of this ham radio. Weekly, each member had a regular patch to his home, except during the radio black-out periods, which actually ended up being about 6 weeks when the ozone layer or something goes bad.

KB: *Now did you have radio communication with the other stations?*

WL: Yes. That was different. That was handled by the Navy.

KB: *Oh, OK.*

WL: Yeah, the Navy had their own operators and their own radio system, but the ham radio was independent of that. And Steve was able to contact, he was also skilled at CW

code - Morse code - and he contacted over 100 different locations, which is sort of what ham radio operators like to do - to count the number of places they can contact. And over the winter, he contacted over 100. And he entered several international contests from Byrd Station to do this kind of ham radio stuff. But, having a man like him as leader and a man like the Navy guy who didn't have any high aspirations for being a great leader or anything - they were the kind of guys who kept things on an even keel and Rusesky, he sensed somewhere mid-winter that his troops were beginning to get a little antsy, so he devised and with the help of his NCO - the non-commissioned officer who was a big strapping guy - they designed a program to keep their troops busy and that was digging a tunnel. They dug a tunnel, several hundred yards long and they would have to haul the ice from the tunnel to the snow melter because we melted snow from the diesel generators. Diesel generators generated the power and the excess heat melted the snow for the water and we all took turns filling the snow melter from outside, but as a sort of supplemental ice source, they drilled this tunnel to nowhere and he required that his guys do that and the physical work sort of kept them out of trouble. I think the leadership was a good reason that we were happy and then there was the fact that most of the scientific team were pretty athletic, strong men. I was sort of like in the middle. There were big strong guys and I'm no slouch when it comes to that sort of thing.

(350)

And most of the Navy guys were physically no match. And my brother - that was another thing - my brother was with me. There were two of us there. My brother was our mechanic and he's sort of a short guy, but he's a judo instructor, and this Marion Todd, he's six one or two, big old southern boy. And John Anecksted, the magnetometer, he's a gruff Minnesota timber-type guy - at least he looks like it. Talks like it, you know, sort of hard talkin'. So, we were nobody to mess with. So that helped. And my brother gave judo

lessons, so we had Navy and civilians taking those judo lessons and most of the scientists had things to do. I described some of the things I did. The geophysicists were, in most part, doing data reduction again. They'd spent a summer collecting data and they were working with their data, so that's mostly what they did. And of course, the aurora observer, he was busy all the time. And we all helped the aurora observer. We all took time in the tower observing the aurora because we had 24 hour visual watch of the aurora. There was always somebody in the tower. And it's fascinating. I loved those hours up there. There would be an hour or two a day I spent in that tower. And always saw aurora. Maybe just a little, but I don't think there was a day without some aurora. So, of course, that's one of the reasons that IGY was being held then because it was a time when we were having maximum sun activity. It was one of the 11 year sun cycles. But, I guess those particles were coming from the sun every day, some days more than others. And if you're in a nice dark setting, you can see them.

One time I was coming back from measuring the temperatures in the snow - it was at night, speaking of aurora. I was sort of walking along looking at the snow I was walking on and it was getting red and I thought, "Oh, I hit my head. I'm bleeding." And then I looked up at the sky and all the sky was red. I wasn't bleeding. It was just a big red aurora - the whole sky. It was one of those red auroras that are fairly rare when they happen. We just had one recently here, I guess.

KB: *Oh, really.*

WL: I heard about it. I didn't see it. And because I was into photography quite a bit, I ran in and got the camera and I photographed it. I still have photographs of that aurora and several others. I ended up with some pretty good aurora photos. And that was another thing that kept me busy. I'd done a lot of photography on the traverses. I always carried a 35-mm camera and a Rolaflex that took 2-1/4 black and white, so I had all this black and

white film and one of the weather observers, Fred Darling, who I talk about in my write-up there, who traveled . . . became the assistant glaciologist on the second traverse, Fred knew how to handle darkroom.

(400)

He taught me film processing. So, I processed all my own film there. And also, I became sort of a self-appointed photographer for the base - for Byrd Station. And because the year before they'd made portraits of everybody and put them up on the wall. I made portraits of everybody and put them up on the wall. So, we had each year of the guys there. Photography kept me pretty busy. It was fun to learn that.

KB: *And you still have all those pictures you took from your years down there?*

WL: Oh, yeah. I use them in classes.

KB: *Valuable collection.*

WL: Oh, I don't know.

KB: *Historically speaking.*

WL: Yeah, from an historical point of view, maybe.

KB: *So, one of the questions that always comes up with Antarctica is the civilian-military relation and how that worked.*

WL: Well, at our base we got along pretty well. And it was because of the leadership and because of the relationship . . .oh, another point. One of the reasons we got along well, I think, was because we shared the nasty duties. And this was because of our leader, Steve. He said, "OK, we're going to have trouble getting along unless we do the things that people don't like to do that really we should do, like mess duty, and dishwashing and feeding the snow melter and those little things." Actually, it doesn't take very many, but it's symbolic. And we did those

KB: *So, at other places, the Navy staff did all that.*

WL: I don't know, but I do know that there were places where they had very egocentric scientific leaders and probably some other military leaders - Ellsworth Station was one of those which was over on the Filchner Ice Shelf. And two of our - the head geophysicist who was sort of the chief scientist there too, was thrown in the brig and one of the other scientists were. They were physically restrained by the military leader and I don't know what the details of all that were.

KB: *Yeah, I guess, to step back, is what the role of the Navy being in all these station was? What was the intention?*

WL: They maintained all the stations. They built and maintained the stations. They were built by the Seabees - Naval Construction Battalions out of Davisville, Rhode Island. And so we were dealing with what they called the brown shoe Navy.

KB: *Which means what?*

(450)

WL: Well, it means that they wore . . . they weren't guys that worked on ships. They were guys that wore brown shoes and walked on land and built facilities on land for Naval purposes. And it was the Navy's job to build these stations and maintain these stations through what they called Operation Deepfreeze. And all of the planes were Navy planes. They weren't Air Force planes. There was a little bit of help from the Army because the Army had some experience in Greenland and they were having trouble getting that first tractor train to Byrd because the boundary between the ice shelf and the continent is a big crevasse zone and they lost a driver and a couple of Cats in trying to cross that crevasse field. And so they called in the experienced folks from the Army so the Army came sort of as supplemental help for that specific purpose. But, it was a Navy operation and still is, I think. Oh, there's more contracting to private organizations now, like the one you were mentioning.

KB: *The staff for a lot of the stations now are through the contractor. Raytheon has it now, for South Pole anyway.*

WL: That didn't exist back then. They were talking about that about the end of my decade there. In fact, my brother, the mechanic, went on to become the NSF person in charge of all mechanical operations of all the scientific vehicles for the next decade. For 10 years, he was down there every year. And they did those big traverses out of Pole station where they'd go out and they wouldn't get back. They'd have to leave their vehicles out there somewhere. And then they'd leave for the winter, then they'd fly back out to them the next year.

KB: *Would they find them?*

WL: Yeah, they could find them. It doesn't snow much there.

KB: *But they didn't drift over.*

WL: Well, they drifted, but I don't think over.

KB: *So, between 1959 when you left Byrd Station and you returned in '67 on the Vinson climb, what happened in between there?*

(500)

WL: I went back, because of that climb up to Mt. Glossopteris in the Ohio Range, we went back in 1960-61, '62-'63 - went back two different summers to the Ohio Range to do the geology and that's where I really achieved the most that I achieved in the Antarctic doing the geological investigations and those were expeditions I put together with an NSF grant. I was the principal investigator and they usually involved about half a dozen scientists and various people would come visit us. And then I went back '63-'64, to do the geology of the Nilson Plateau.

KB: *Which is where?*

WL: Which is adjacent to the Amundsen Glacier in the Transantarctic Mountains and it's very close to the route that Amundsen took, but not the exact route. Anyhow, it was a big massive plateau thing with beautiful geology in the dissected walls of this polar plateau. The glaciers had come through and cut these walls. We had the relief of 5000 feet. There were days when my partner and I climbed 5000 feet up to reach the top and then would come back down. We put in some incredibly long strenuous days there. But, again, were

collecting the same kind of geological information that we'd seen in the Ohio Range, only slightly different versions of it. Found some younger rocks. So, there were three geological expeditions. To start chronologically, the first was the Byrd Station, then two years in the Ohio Range, one year in the Nilson Plateau - summers - and then the summer of the climbing in the Ellsworth Mountains. That's essentially it.

(End of Tape 2 - Side A)

(Begin Tape 2 - Side B)

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WL: The overall significant discovery was the very close relationship that the Ohio Range stratigraphy has to the Gondwana stratigraphy of other continents, particularly South Africa, India, Australia and South America. At the time, plate tectonics was unheard of. And continental drift was a very controversial subject. However, once I started, particularly in these sequences which were the classic sequences of the Gondwana stratigraphy of "Gondwana stratigraphy of the southern hemisphere," it was almost like I was taking a chapter out of the Gondwana stratigraphy of South Africa, what I was looking at in the Ohio Range. And so, the whole thing just made very clear sense to me that, in fact, the continents had been together. And there was no other logical way to explain the similarity in the overall stratigraphy. So, that was the overall connection that was being made. And that was the first time, really, that it had been made for Antarctica. It had been suggested by people that it should be there. Where was it? And one of the things that was missing in this suite of stratigraphic layers, sedimentary formations, was the glacials - the Permian glacials of Gondwana and South Africa and

India called the Dywka Tillite - an Indian location - had been described in those two continents, as well as South America and Australia. But, no one had yet found them in Antarctica. We found them. So, that was really key. We were the first to find glacials in Antarctica. There they were in the Ohio Range, just as big and beautiful as you can imagine.

The other thing that we had found was some Devonian marine rocks which are older. The glacials are Permian, if you're familiar with the geologic time scale, why it goes Cambrian, Ordovician, Silurian, Devonian, Mississippian, Pennsylvanian and Permian. And Permian is at the top and Cambrian, Ordovician, Silurian are sort of older, if you will. Older, Paleozoic. Well, so we found the marine Devonian fossils in sandstones at the base of the Ohio Range section and this was the first time that marine fossils had been found on the continent. So, that was a little discovery too, that was significant. And low and behold, those marine fossils were exactly like ones that came from similar age material in South Africa which I actually visited with South African geologists on one of my correlation trips, if you will. I took two weeks to look at South African geology once. So, this, then, was the big overall significant discovery of the Ohio Range.

And then I expanded that to the Nilson Plateau and there we did not find those early Devonian rocks. They weren't there. We did find younger rocks though. There was some younger into the Mesozoic period and I think, probably, those younger rocks that we found are very close to the same, but I don't know for sure if they are the same, as the ones that later geologists were to find dinosaur fossils in in areas that are very geographically close to that Nilson Plateau in the Transantarctic mountains. So, we didn't find those, but it would have been fun if we did.

KB: And you made those into a Master's and a Ph.D.?

WL: The first ascent of Mt. Glossopteris, which was the mountain containing this sequence - this Gondwana sequence - and Glossopteris, by the way, is a fossil leaf of the sandstone units that dominate that mountain.

(50)

And there are some beautiful leaf fossils of the Glossopteris plant. And the Glossopteris plant, again, is named from an Indian area and it's a flora that is the typical flora for the "Gondwana stratigraphy" in all these southern hemisphere continents that I just mentioned. So, I thought it was very appropriate to name the mountain after it. Let's see. The question was?

KB: *About your Master's and Ph.D.*

WL: It was the ascent of that mountain that provided my Master's degree and then I went back and did a comprehensive complete description of the whole range, and that was my Ph.D. degree.

KB: *Where are they from?*

WL: Ohio State University.

KB: *Both of them.*

WL: Yeah. I decided to go to Ohio State for my graduate work because I was at Ohio State doing the data reduction and I began to realize that I had the stuff for graduate

school. I applied several places. One was the University of Washington. And I was accepted several places, and one was the University of Alaska. But, I decided that Ohio State was really the best of the choices because I was there. It was convenient and it looked like it was a good place to be for polar exploration. And I think it was correct. So, that's why I ended up there. And then I received these NSF grants to go back and do this work. So, when I was in the Antarctic, I was on full salary doing scientific work. When I was at Ohio State, I was on half salary as a research associate. So, I was a very well paid student.

KB: Yeah. That's for sure. Now what about the Horlick Mountains? Where do they fall into all of this?

WL: Well, the Horlick Mountains were again named by Byrd Expedition pilots and during that operation - I think it was Operation High Jump - he had two of them, Operation High Jump and Operation Windmill, and I'm not sure on which expedition they found these mountains, but they flew with planes either from the coast or actually from aircraft carriers - clever idea. The pilots would fly in and see what they could see, map it and come out. They saw some mountains. They put a mark on the map where they thought the mountains were, and they called those the Horlick Mountains because Horlick Malted Milk Company was a sponsor of Byrd's Expedition. And so when we went to look at the Horlick Mountain area on those traverses, we found that instead of one mountain range, it was about three small mountain ranges and they ended up being called the Wisconsin Range, the Ohio Range and the Thiel Mountains. And Thiel was named after the geophysicist who died during IGY in a plane crash. He was one of the fine - actually, he was the glaciologist I'd worked on the Juneau Ice Field with. So the Horlick Mountains ended up being three different mountain ranges.

KB: *So, now the Horlick Mountains don't exist as the Horlick Mountains?*

WL: I think they still call it the Horlick Mountain area. And there's another very important range I forgot in there. In between the Wisconsin Range and the Ohio Range, there's a little highland area with some cliffs and things called the Long Hills.

KB: *So, you named something after yourself.*

WL: No, I didn't. That was done by someone else afterwards and again, that's a place I went to during the Nilson Plateau Expedition - the summer I went over there and spent a day or two and did a limited amount of geology on the top of the Long Hills.

KB: *But, the Ohio, the Wisconsin and the Thiel were ones that you mapped on your traverses?*

WL: During the traverses. During the 1958-59 traverse.

(100)

KB: *And now what's this also about the Dirty Diamond Coal Mine?*

WL: Ah, yeah. Those sedimentary units of what we now call the Mt. Glossopteris formation that we found, it's cyclic sedimentary type deposition that, in many cases and in the situation there, results in coal beds. Most coal beds occur in areas where there's a cycle of depositional activity and then they result in coal, shale, sandstone, coal, shale, sandstone, or something with a mixture of shale or anyhow, something very similar to that. And that was the case there, so we'd go through sandstone bed to coal bed, to shale

bed. There were, I forget how many, coal beds in that formation, but there were quite a few and some of them were up to 11 feet thick. So, we picked a nice thick coal bed to be our sample from which to take a sample and in order to get a good sample of coal, it's necessary to have an unweathered sample of coal. In order to get to a non-weathered place, you had to do a little mining.

KB: *OK.*

WL: So, we put together a plan to open our coal mine and I was working under the direction of the coal geologist at Ohio State, Dr. Schopf, who was one of my mentors, and he actually visited us on site in the Antarctic and I think it was he who thought it should be called "The Dirty Diamond Mine." And it's the only coal mine that I know of in the Antarctic.

KB: *Well, I was just going to say. When you mentioned a coal mine, I thought there wasn't mining in the Antarctic.*

WL: Well, it was before the Antarctic Treaty. And I don't think it would fit the strict definition of a mine, because we didn't do it for economic purposes and we were unable to sell the coal.

KB: *But, you did get your sample of unweathered coal.*

WL: We did get the sample of unweathered coal, and in order to do that, we drilled, we set dynamite, we blasted and then we'd go scoop out with shovels and if I had my pictures here, I'd show you how dirty we got.

KB: *I can imagine. Coal's pretty dirty.*

WL: And we didn't have a lot of water there either. Of course, there was a lot of water there. It just wasn't liquid. We'd melt it and we could get clean.

KB: *So, now what have you done since Antarctica? You said that was just one decade, so . . .*

WL: Since then, I started teaching at Alaska Methodist University in 1965 and that was just - I actually did the climb of the Vinson Massif and other mountains after I took the job at Alaska Methodist. I taught there for 11 years until the university folded because of economic problems. They were unable to meet their economic requirements so they shut down for two years. They've since opened up as Alaska Pacific University. At the time I taught there, it was a full blown liberal arts college with a complete curriculum and some of my achievements have been the students that we taught there. Our success, not just in geology, but in all of our graduates - it was a small university. I don't think it ever had more than 800 or 900 full-time equivalent students, but the students did remarkably well. A student of mine is the retired chairman now from the University of Utah. Also, the University of Alaska Anchorage, the chair took her Master's degree under me. Our students have done real well. Senator Halford is an AMU graduate. He wasn't a geologist, but they are just all over the nation and we only existed for 11 years. Well, no it was longer than that. I was there for 11 years. But, it was maybe 15 years.

(150)

KB: *Right.*

WL: So, I taught there and that was good. I came to Alaska because of its sub-polar location and enjoyed it for that reason. I remember my first reaction of living in Alaska was that I felt like I was in a park. This is like a vacation all year, it's like a vacation here. And that's about the way it was. But, unfortunately, good things come to an end. So, there went another decade. And then I taught for a year during my sabbatical in Christchurch, New Zealand. And that was fascinating. I had contacts there because of the Antarctic work and we got to live there and enjoy the New Zealand life and learn about the New Zealand geology and so forth. And I taught at another nice university.

AMU was in the process of folding. In fact, when I was in New Zealand, I received a notice from AMU saying, "Sorry, the university has decided that you don't have a job when you come back. We can't afford to have faculty any more." And so, I found another job. I got a job teaching geology at the University of South Dakota. And I'd accepted the position at South Dakota, all from Christchurch, New Zealand. And then, I got a second letter from AMU saying, "Oh, well, we made a mistake. Actually, we *are* going to have a faculty and we'd like you back." So, I had to make a decision whether I'd go to South Dakota or back and I made the decision to come back here and I don't know . . . Well, I think for several reasons, it was the right decision, and for several reasons it was probably not a good decision. But, anyhow . . . I came back and within a year, it did fold. And I was sort of high and dry, work-wise.

I was doing adjunct faculty stuff for Matanuska-Susitna College, which I now teach at, also as an adjunct, but at that time, I needed to live. And you can't live on an adjunct faculty salary. So, I ended up as a Borough planner - a mapmaking assistant at the Borough. And there was an elderly gentleman there who was the planning chief and he hired me as his planner and I went to work on Monday and he died on Friday of a heart attack and I became the chief planner, which I was for a year, until they got a guy from Florida who was really trained in planning. I wasn't trained in planning and he, obviously, was better at it than I was. He and I saw things differently and by that time, my old

colleague - Ross Schaff - from AMU was in the state geological survey and he said, "Bill, I need a hydrologist." And I said, "Well, I know a lot about glaciology and that's part of hydrology. I'll be your hydrologist." And he said, "OK, you're going to start the Alaska Hydrological Survey." And I said, "Great, I'll do that." And I did. I developed the Alaska Hydrological Survey. We moved to our own offices in Eagle River and at one time, we had 12 hydrologists and a couple of office people. We had a staff of about 15. It was during the heyday of Alaska. But then, times began to get tough for the state government and they started cutting back and they cut back more and more on us until we were nearly non-funded.

(200)

And if we weren't funded, then I'd go out and find jobs. So, we were acting as consultants with all of our geologists. And of course the private sector doesn't like that. So, we began to have trouble. Eventually, I decided I should quit doing that and they sort of got rid of me, but they gave me another job because I was close to retirement age anyway. And I became the Executive Director for the Soil and Water Conservation Districts, which was a political appointment directly under the Commissioner of Natural Resources.

KB: *This is a state . . .*

WL: We're talking the state here, yeah. I've always been associated with the Soil and Water Conservation Districts because of my farming interest. We're sitting here in a sort of week-end farm type environment and that's the way I've been living for 30 or 40 years now. And because of that, I had this relationship with the soil and water conservation districts. So, that was a good job for me and I enjoyed it. But, eventually, they decided that, again I think due to budgetary reasons, that that position should be changed, and so,

on my 65th birthday, they said, "Well, it's time for you to retire." And I could retire and I did. So I retired.

KB: *Since then you've been an adjunct and what else?*

WL: Well, since then, I'm still with the Palmer Soil and Water Conservation District and since then, I've taken on a position I've called the Project Manager and we do projects around the state in conservation, but they're done, in my case, we have contracts with the US Army Alaska so that right now I'm handling a budget, probably the largest budget I've ever handled in my life.

KB: *But, you're retired.*

WL: I am retired, but I'm independent.

KB: *Oh, OK.*

WL: And I'm not being hired by anybody, so I'm into a fascinating new chapter of my career.

KB: *So what kind of projects?*

WL: They're all on military bases - Fort Richardson, Wainwright and Greely. We work under the environmental umbrella which is administered through Colorado State University. Integrated Area Training Management, it's called.

KB: *Which means what?*

WL: That means that we try and make all the training facilities have the least impact that they can on the environment they're training in and what that boils down to is that if a road is bad, you improve the road. It's essentially a maintenance-type thing which sounds sort of mundane, but if you're traveling in the north here and the road has a mud hole in it, you go around it. And pretty soon you've got a big mess and they have to travel. They have to do the training out there, so if you keep the roads so they can travel on them, then you preserve the environment. So, that's the logic behind it all. So, we help them with their roads.

(250)

We provide moose habitat on the bases and we've worked on moose habitat, grouse habitat and that usually just involves knocking down the forest so that the younger growth comes up. And there are environmental people on the bases that decide what they need done and then they ask us to get it done for them and we go out and find people to do it and get paid for it.

KB: *We talked about your Antarctic experience in terms of research and spending time there. Anything in the Arctic?*

WL: Well, not a whole lot in the Arctic. My Arctic experience has been mostly in the area of sport and fun.

KB: *Such as . . .*

WL: The Iron Dog. Are you familiar with that?

KB: *The snow machine race?*

WL: It's a snow machine trip from Anchorage to Nome. I've done that five times and finished five times.

KB: *Great.*

WL: All in my 60s.

KB: *Congratulations!*

WL: It's a real test of getting along in the woods with your snow machine to me. And I never intended to win. I just intended to participate and finish. And I've teamed up with guys with a similar approach and in spite of our age, we have done that. So, that's been a lot of fun.

KB: *I was going to say, what inspires somebody to do a race like that?*

WL: Well, for me it's just the travel and the country that is so beautiful in the winter on your snow machine. And there's so many terrains and so many landscapes between here and Nome and then between Nome and Fairbanks that I've never seen before and could never see except for on that trip. And it's just a big thrill for me to be out there. And often when I'm really fatigued, I think, now wait a minute. This is really thrilling out here and just because you're fatigued, don't miss it. And that sort of talking to myself has really made it all the more enjoyable. And I've been in a survival . . . you can't run the thing without being in a survival situation. It's survival from beginning to end. But, I ended up

with a group of 10 people. You run in pairs, but sometimes these pairs, particularly . . . we were running trail class this year. Those pairs gather other pairs or maybe a guy whose teammate or partner has quit, so he wants to join and we've had that so that there were three of us. Anyhow, there were 10 people. We got into White Mountain and White Mountain, under good conditions, is only 3 or 4 hours from Nome. So, it was just a quick drive to Nome and it was in the evening and we fuel at White Mountain. The next fuel is Nome. And we had already gone a long ways. We'd come all the way from Unalakleet that day and we had the option of staying the night there. We weren't racing. This was recreational class, so we could have stayed there. But, everybody wanted to go on to Nome and I was not - I was sort of the leader - not designated - I was de facto-type leader. And I said, "OK, let's go on."

(300)

And that was a mistake because the guy that was gassing us up said, "You see that low level of fog-like looking stuff you can't see through over there at the base of those mountains? I said, "Yeah." He said, "That's big ass wind." I said, "Oh, you mean it's a ground blizzard." And he said, "Yeah." I knew that from the Antarctic, what those are.

KB: *Right.*

WL: But, my mind wasn't thinking right. So, wrong decision. I said, "OK, let's go." We went into that and nightfall came and being in a blizzard at night is totally blinding because your light just catches the snow. The wind was blowing so hard, the only way we could talk was to get right into a guy's ear and yell. Then, he could hear you. And there were markers and we'd go from marker to marker, but pretty soon we lost them. When

we couldn't find them, I said, "OK, we've got to stay here." So, we spent the night out in the blizzard.

KB: *You had survival gear with you.*

WL: We had sleeping bags and tents, but you can't put up a tent in the wind.

KB: *No.*

WL: So, we got in our sleeping bags and bivvy sacks. We had bivvy sacks. Got behind our snow machines and laid down there and let the snow drift over us. Next morning we got up, found the trail and were headed back, but by that time, they were searching for us and the searchers met us about half way back. We were going back to White Mountain. There was a big argument about which way we should return, but I said I had figured it out while I trying to survive through the night what we had to do and what we had to do was go back to White Mountain. And that's what we were doing after I insisted and then we were met by the party that was coming out to look for us and fortunately, we were all on our machines with our machines moving so it wasn't a total rescue because that would have been very embarrassing. It was embarrassing enough as it was.

KB: *Right. Why did you decide you had to go back to White Mountain instead of going on?*

WL: It was closer and we were in no condition to be doing anything more dramatic than necessary. The easiest place to get to was the place to go to.

KB: *And so you spent the night.*

WL: Yeah. We spent the night at White Mountain in a totally comfortable environment and regained our energy and the next day we went on over to Nome. The wind had died and it was just a pleasant drive to Nome. Actually, two of the fellows had frostbitten their hands so bad that they had to be evacuated from White Mountain. But, that night surviving in that blizzard was one of my intense times.

KB: *When was this?*

WL: It was three or four years ago.

KB: *And you still do the Iron Dog?*

WL: I did it after . . . oh, the partner and I who did that trip were so embarrassed by it that we went back the next year and did it. We entered pro class the next year and we went all the way to Fairbanks. We were 12th. That was last, but still . . .

KB: *That's good. You made it. And now have you retired from the Iron Dog?*

(350)

WL: I think so. But, I was training another guy who ran it this last year and he wanted me to go with him, but I decided not to.

KB: *What other Arctic things have you done?*

WL: I've sat on wells for oil companies on the North Slope. I've done some projects for the National Park Service on the North Slope - evaluation of what they called "natural landmarks," and I think it was part of the evaluation that was going on prior to the big national park expansion up here. And they were using investigators like me under a different program to evaluate areas and, as it turns out, I personally know some of my friends who had been seriously harmed by the National Park Service because they were guides in like the Wrangells and the Park Service just came in and ruthlessly threw them off their property because of their legal ability to do that. Yeah, I'd done some investigation up on the North Slope. We were at Barrow. My wife and I went to Barrow and I went over to Wainwright to look up the Kuk River for amber and that was a fascinating little trip. Not very long or extensive.

KB: *Did you find amber?*

WL: Oh yeah. It comes in coal. You know amber is fossilized pitch from trees and trees make coal, so it's a natural place to find amber and we didn't find a lot of it, but the natives up there knew about it and they sort of knew where to take us and we hired one of them to take us up river. And then I've been on several of the exploration wells, primarily with Forrest Oil Company when Forrest Oil Company was exploring, to watch the chips as they come up and sort of keep a geological record of what's happening. They always have a geologist on these exploration wells. It's a standard job for a geologist that needs a little extra work.

KB: *So, you just tell them what they're finding.*

WL: Yeah. You're acquainted with the layers of rock that they're going through - the stratigraphy they're going through. And remember back there when I said my basic

geologic training was in stratigraphy and sedimentation. Well, those are the rocks that oil comes in. So, knowing the stratigraphy of the North Slope, which you study before you go and you know what the target formation is for the oil and where it should come, but you're always looking in case you find something en route while you're drilling down. So, there's a whole system of people who are involved with the progress of the drill as it goes through the rocks and the geologist is just one of those. They've got guys who just do the physical - who physically know where it is and are doing actually all of the collecting of the chips that come up from the drilling and recording those. And they might get chips from every 10 feet. And put them in a bag and label them and that takes a lot of work. And there are people doing that. And then the geologist comes around and looks at them and hems and haws and tries to evaluate where they are and so forth.

(400)

KB: *So you're college interest in petroleum ended up eventually . . .*

WL: Oh yeah. I've done some work on the North Slope. I find petroleum geology has always been fascinating. I've never been successful in finding an oil well. I haven't put that many years in on it, but it's a very interesting thing to try to find oil below the ground. And the odds, I think, are still about 10 to 1. You drill about ten wells for one discovery. Once the field has been found, then you can expand the field. But, finding that initial discovery well in the field is a very difficult job.

KB: *Yeah, it is. Now have you ever run the Iditarod or anything like that?*

WL: No. Dogs are not my thing. Horses we do. Dogs we watched.

KB: *Just with those iron dogs. What about Greenland or northern Canada?*

WL: The only thing in Greenland is . . . I've never been to Greenland. I almost went to Greenland. I even went to Denmark to get the maps of the area. We wanted to go climb the highest mountain in Greenland. And it was with this little Japanese climber from Seattle that I talked about. He and I became pretty good friends and he put together a little trip to go to Mt. Freihoffnansen which is over off of east Greenland. Sort of in the southeast part of Greenland. It's the highest mountain. It's about 10,000 feet. Maybe 12,000. It's a volcanic, bedrock type mountain with sort of layered volcanic rocks. And he wanted me to go with him and I was all for it and I went so far as to get permission from the Danes and get maps and had done all the paperwork necessary and then he showed me the expedition plan and having just spent a lot of my time in Antarctica, I knew what we could do and what we couldn't do. It was going to be a two week trip or something and I said, "Oh, we can't do this in two weeks. This is a month at the minimum. Maybe a two month-type thing that you want to do here." And so I backed out and I'm not sure that was a wise thing to do because they didn't get anywhere near the mountain, but they had a great time in their two weeks. They got into the fjord over there and got up a little ways on the ice. They didn't even get near the mountain, but they'd had some time on the edge of the Greenland Ice Sheet. But, I backed out of that. I said, "No, no, the objective cannot be reached."

(450)

KB: *Do you remember when you first went down to Antarctica, what your reactions were?*

WL: Sort of. Again, it's sort of like that question about what's the feeling for climbing a mountain the first time. When I stepped off from the plane the first time in the Antarctic, I knew it was something extraordinarily special and I was just thrilled with it. A deep sense of thrill. So much so that it was hard really to do much. And I describe in there the first time I went to Byrd Station. Byrd was what I'd been focusing on for maybe a year before I got there. I was going to be at Byrd Station and it was where I wanted to be. I didn't want to be on the coast. I wanted to be as far inland in as nasty a condition as I could find. The only place better would have been the Pole. But, Byrd was all right. In fact, it was maybe a little better because not everybody wanted to go to Byrd. And I got out of that plane and you know, there's not much there. Buried buildings and all and a few vehicles around and we were getting all our gear. We had great big duffel bags of gear and everybody got their gear and everybody got it loaded and everybody was gone and I was sort of wandering around, still mesmerized by the beauty and loveliness of the place I was and I was pretty much by myself. And so I started walking in toward the station and this little Seabee was coming toward me. Excuse my language. I wasn't going to go into this story, but . . . anyhow, I sort of stopped, just he and I out there and he was shorter than I and he sort of looked up at me and had a disgusted look on his face and he said, "Another fucking Iggie." Iggie was the Navy term for scientist of the International Geophysical Year. They called us "Iggies." So, that was the end of that little beautiful solemn moment.

KB: *But then you guys all ended up getting along.*

(500)

WL: Actually, he was on his way out. I actually got along with him, too. I was used to rough talking guys. I'd been in the service, so . . . they use foul language every sentence almost in a lot of places I've been. I was used to that. And the Navy's famous for it.

KB: *And so after the Vinson Massif Expedition in '67, did you end up going back to Antarctica?*

WL: No, that was the last time. That was it. Let me say this, though, that the first time is a little hard to remember, but I've been back a number of times and each time I get out of that plane at McMurdo, it's an incredible exhilaration that I feel. The air is different. It seems like my whole system has come alive again and I experienced that each time I got out of the plane, having flown down there from New Zealand. Just a marvelous feeling of something great that's going to happen and I'm part of it. And I'm not the only one. You've probably heard that before.

KB: *Do you wish you could have gone back?*

WL: Yes and no. I sort of felt like I'd done it. And there were some things also that I mentioned in there that when I was working for the oil company in Louisiana, which was my first job out of graduate school, I applied for an astronaut position because I figured what I'd done in Antarctica was excellent training for an astronaut and this was the first scientist/astronaut call that went out. And I applied and there was a guy with whom, an acquaintance of mine in Shreveport, Louisiana, who was a friend of one of the astronauts - a Marine astronaut, I can't remember his name. Anyhow, he was able to keep track of how the applications were going and there were I guess thousands of applications. But, he found out that I was 25th on the list. So, I was getting close and then I got a call from Houston, from NASA at Houston and they said, "Can you come down for your

examination?" And I said, "Well, I'm going to have to check with my boss because I'm working now and you can call me back on Monday," or something like that. And that was a big mistake, because they never called.

(550)

And I'm sure that was part . . . you know they want gung-ho guys and when you hear you're able to go you go and I didn't play that one right. In the meantime, I came up here, took the job. I had lost my eye and NASA wrote me and said, "Would you apply again because we're taking a second group of candidates for the astronaut program." And by that time I said, "Will you take a one-eyed astronaut?" And they said, "Sorry. No, that would not be good."

(End of Tape 2 - Side B)

(Begin Tape 3 - Side A)

KB: I wanted to ask you about your time in Antarctica and how that influenced the rest of your career.

WL: It's obvious to me from the things that I've said to you and described that it was critically important to the rest of my life. It really set me up for everything I've done. It allowed my advanced education directly. That was where I did all of my field work for both advanced degrees and that set me up for teaching. It honed my interest for northern areas and part of the reason I'm in Alaska, so the Antarctic is just basically important and continuingly important in my career. And even today. You're here because of that and

when I teach students at Matsu College, it's because I've done that work that they're interested in listening to me. It's been just an on-going important part of my life.

KB: Do you think you could have ended up doing that same kind of research without ever having gone?

WL: I don't see how. I could have done geological research. Maybe be finding oil fields or something, but it wouldn't be the same. And who knows if it would be better or not. I don't think it could be much better. So, I think it set me off on a really excellent course and a course that all my interests and talents could be used. So, I'm very thankful for the Antarctic.

KB: What would you consider some of your most important accomplishments?

WL: Well, the important accomplishments geologically would have to do with the discoveries that we talked about already in the Ohio Range. Those, scientifically, are really the high points of my achievements. Just the simple description of the rocks that could be correlated that had been known they should be somewhere and just the discovery of them. And so, that was important. Otherwise, I'm very proud of the students that I was able to teach at Ohio State or at Alaska Methodist and they've gone on. And I always feel that that was a great success.

In the area of mountaineering, of course, which is not necessarily professional, just avocational, those achievements have been very rewarding and actually, it was the mountaineering that allowed me to psychologically know that I could achieve in science. I proved to myself that I could do things well if I applied myself and mountaineering was one of the arenas in which I was able to do that. And then when I got into college, I realized that I could use that same kind of drive and do well at science, too. And so,

mountaineering has helped me all along. And I think even in the things I do today, all those experiences give me a background and ability that is valuable.

KB: *What about any disappointments?*

WL: Oh, disappointments. Disappointments are hard for me to dwell on or to conjure up, but I know they were there. You know, it's like when I was describing how we got along at the station - the Byrd Station during the winter. I remember the good things. I don't remember the bad things. I know there were bad things. But, the overall was pretty good and there were a number of pranks and things that I could have mentioned.

(50)

Career-wise . . . well, I think one of the disappointments was this astronaut situation. I'm disappointed in myself on the first one that I didn't respond more actively. As it was, I don't think I would have been selected over the people. I might not have made Number 1, but it sure would have been fascinating going through all the testing they went through. And then, of course, I was disappointed that I lost the eye. That was a disappointment and it hampered other things that I could have done. At one time in my career, and I haven't mentioned this, I was invited by Sir Edmund Hillary to participate in an expedition - what he called the Silver Hut Expedition, which was to spend the winter up on a high mountain glacier in Himalaya. Oh, also I was a member of the First American to Mt. Everest Expedition. I had been selected as a climber for that expedition and I decided to turn that down because of my Antarctic work. I would have had to have gone directly from the Antarctic to the climbing in the Himalaya and at the time, I was married and I had a child, and I was away from them enough as it was. And also, my education wasn't done yet. And so, I sort of opted for the conservative option there and

declined the real chance for climbing glory by being part of the First American Expedition to Mt. Everest.

KB: *Remind me what year that was.*

WL: '52, I think. So, I don't know if it was a disappointment and I don't know, if I had my life to live over again would I opt the other way or not, but those are potential disappointments. Another great disappointment was the folding of Alaska Methodist University. That was a difficult time to see all the good things that we were achieving there being discarded because it couldn't quite make it financially. So, I think that was a fairly serious disappointment for me. Otherwise, basically life's been very good to me. I feel very pleased with life. But, there are disappointments, but disappointments often are the stepping stones to successes.

KB: *That's true. Can you talk about the experience of losing your eye and coping with that? Adapting.*

WL: It was not particularly difficult and everybody said it would be. Once it had happened there was no bringing it back, so I just had to recover physically from the physical trauma of the impact to my eye and the trauma of the operation. Then the adjustment to it and I did find that a number of people who had lost eyes before me would seek me out and make sure that I was handling it OK. And that was very nice of them. They were people who I never knew who were sort of an outdoorsy-type group from Anchorage, and they said, "We'd like you to come to a party. My husband lost his eye and he knows what it's like and you just come over and be with us and share this party." I went and it was fun. And a number of people talked to me about it and so I didn't have any serious problems.

(100)

Physically, I was ready for the fact that I might have lost a lot of three dimensional ability and I did lose some of that and still have that loss. But, there are a lot of ways that you compensate with one eye for that. And that was not my major problem. Physically, my major problem was that with one eye, you don't receive as much light and therefore, I require more light so the rooms in my houses always have a lot of light. And the other thing is when you're searching for something, you use a lot of peripheral vision and again you've only got about 50% as much of that vision with one eye. And so, my searching for something like Lipton soup or something on the shelf, I used to get frustrated trying to find the doggone soup. Now I know that happens and I sort of have adjusted for it, but it still is slower. So, those are the main problems I've had and psychologically, I don't think it bothered me much.

KB: *Can you drive?*

WL: Oh yeah. There are lots of pilots with one eye.

KB: *Really? That's kind of scary.*

WL: Well, when I was doing oil company work in Shreveport, Louisiana, one of my activities was volleyball and I got quite good at volleyball. And I was on the local YMCA team and we got into contests and tournaments and so forth. And we did a lot of tournaments in the Texas league and there was a team we played from Dallas that had just an outstanding player and the first time I saw that player play, somebody told me, "That's a guy with one eye." And he was having no trouble at all. So, from that point on, I

remembered that when I lost my eye. I thought if this guy can play volleyball that well with one eye, then I should be able to handle it just fine. And essentially I have. The climb, by the way, a year after was the real test for me. And I knew it would be. But, it worked out well as we've discussed.

KB: You mentioned at the beginning of having to go collect a body in the Bugaboos and some of your experiences with the dangers and the hardships of climbing.

WL: Yeah. Well, one of the points that I alluded to there was the fact that I've always, since . . . let's see, I'm going into psychology now. There was this guy, Bradshaw, that gave these discussions of your position in a family as you grow and he used the dysfunctional family type thing and how each person has a role in a family. And it occurred to me after hearing that that my role has always been the hero. I've got to be the hero and in order to do that on these expeditions, to me - this is the way my interpretation of it goes, is that if you're going to be a hero, then when a crisis comes, you've got to be able to go beyond. You've got to be able to meet the crisis and overcome it. And in order to do that, I need to have something in reserve and so I have always maintained a little reserve of whatever I'm doing. I don't do it full bore. And I think maybe that I can never be a champion. You cannot be a champion and not go full bore. You can be a hero maybe, but not a champion. So, I think that sort of explains where I came from on these expeditions that I was on. I was never one of the ones that was the first one or the most dynamic one to be up there, but I was always right behind and whenever anything went wrong or things weren't working right, I was able to come up with my reserve and then go ahead and do whatever it was. Not always, but more often than not. And that's been the way with some of the successful climbs.

There was a climb on Mt. Waddington when we made the third ascent of Mt. Waddington which is the highest peak in British Columbia. And it was a totally new route and again, I was with more seasoned climbers than I and it was up a very icy, nasty chimney that we were trying to push our route and our leader said, "I can't handle it, I can't do it." And I said, "OK, I guess it's time for me to go," and I went up the icy chimney, I went to the top, got to the top of the mountain first and I just sat there enjoying every second of it as I brought up all these climbers one at a time because it was one of these tops where you sit on just a nice edge, a nice point on the top. You couldn't stand up there. Well, you could stand, but you'd be balancing. To be stable, you had to put one leg on one side and one leg on the other. And I belayed each person up one at a time and then I went back down and that was it. I really enjoyed that because I'd fulfilled my role as I saw it.

KB: Were you ever on climbs where somebody died?

WL: Well, no. The closest was the Bugaboo thing. They did die there, but I wasn't climbing with them. We went there. It was a Sierra Club group of about 15 or 16 people and we split up into about 3 or 4 different parties and my party was climbing on one climb and another party was climbing on another climb and a big electrical storm came in. The storm affected everybody. Our particular mountain was very difficult. We were on the most difficult mountain there - Snowpatch Fire. So, we hadn't gotten very high. We were still a fair ways down from the top and they were closer to the top because their climb was easier and being close to the top is far worse than being half way up. So, they got a lot more electricity than we did.

KB: *I always wondered how being on an expedition, how the other members handle it when one of the members is killed.*

WL: My experience is that you're pretty practical. Most people handle it reasonably well, I think. A number of my friends have died on mountains. This Willy Unzle who was one of America's most famous climbers died on Mt. Rainier and he was the guy I was up on Makalu with. And there was an avalanche. You never know when something's going to go wrong. Avalanches occur. On Mt. Robson, which is the highest peak in the Canadian Rockies, we had - because we went back for a cup of tea or a flask of tea - we went back to fill our flasks with tea. We'd forgotten to do that and it took us about a half an hour delay. And then we got back just to the edge of a very dangerous avalanche chute and just as we approached it, the whole chute for a quarter of a mile was awash with an avalanche. Had we not gone back for that tea, we'd have been right out in the middle of it. So, that's danger. And danger and difficulty are two different things. Danger you can't control real well. You can control difficulty.

KB: *Yeah, in a sport like that that's dangerous, and as you say, you lose friends, how do you keep doing it?*

WL: You know, it almost inspired me to go on more. The fact that it was dangerous and it was sort of like going out in the cold. The fact that it's uncomfortable drove me. And if it's dangerous, then that only proved what I was doing was worthwhile sort of.

(200)

KB: *Interesting.*

WL: And I didn't describe in the winter . . . I described the skiing of 11 miles to do the . . . the other thing I did was to have my weather service friend wake me up whenever he thought we were going to reach our maximum cold temperature. So, he woke me up one night, it was 82 below and told me it was 82 below and I said, "That's what I want. That's what I've been waiting for." And I put my clothes on and went out and did an hour and a half's work in another little field of dowels where I was watching the snow configuration. So, there was 100 dowels and I measured - this was a small field of just 100 meters on a side - and I measured those just because it was 82 below and I wanted to say that I'd been out at 82 below. Yeah, I've had friends dying since the first years of my climbing and it might be one of the reasons I've taken the conservative attitude. I always keep something in reserve. And, hopefully figuring that it's not going to happen to me, but that doesn't work.

KB: *But we always figure that.*

WL: Yeah.

KB: *Now, back to the career stuff. Can we talk a little bit about mentors?*

WL: Oh, yeah.

KB: *You mentioned a few names, but . . .*

WL: I could start back early in scouting and that's something I didn't talk about. When I was growing up, I was a Boy Scout and I'd gone all the way to Eagle Scout and Explorer Ranger. Not fast, but slow. I wasn't a whiz kid, but I was persistent. But, I would say that some of my good mentors started there with the scout masters and they were guys that

were easy going and they felt that it was important for the boys to get out once a month, rain or shine, once a month, we went out camping. And this one guy would lead trips backpacking into the Sierras every summer for like two weeks to a month of just solid backpacking in the mountains. One time they'd climb Mt. Shasta, and then the Trinity Alps and it was . . . this guy was great to be with. He was a school administrator from another technical institute in San Francisco. He was like the president.

KB: *Do you remember his name?*

WL: Oh yeah. Gene Smith. Eugene Smith. So, he would be one of the early ones. And then George Boyd was the Scoutmaster and he was a worker in the Ford factory in Richmond, California, and he was a guy that was totally uneducated. Just liked to be with boys, letting the boys do their thing. Chewed tobacco, sit there and take it. . . he's the guy that said we had to go camping once a month. Then certainly in college, I had several professors that were real mentors. At the University of Nevada Reno, James Church, the gentleman who got me to the Antarctic would be one. Dr. Richard Larsen, the chairman of the geology department there was the guy that really inspired me in stratigraphy and sedimentary geology.

(250)

He didn't give me particularly good grades. He was a hard guy to get a good grade from, but he liked me. He wouldn't give me an A, but he liked me. And I liked him. The guys he gave A's to are some of the . . . went on to Cal Tech and became the . . . you see their names now, became nationally known geophysicists and so forth. So, he had his standards and the guys that got A's deserved them. And I deserved what I got. Some A's and some B's. But, he was a mentor and then, at Ohio State, there was Dr. Goldthwaite.

He was my adviser and he was a glaciologist - glacial geologist. And it was he and then the coal geologist, Dr. James Schopf, the two of them were really seriously interested in me and helped me and inspired me to achieve what I was achieving there in the way of graduate education and research. And it didn't come easily. My first year in graduate school was not sterling at all. In fact, you know you have to have a B average in order to stay in graduate school. Anything below a B is failing and I was borderline. So, I said, I went to Goldthwaite, Dr. Goldthwaite - they called him Dr. G - I said, "Doc G, look here. My first year has been pretty mediocre and I'm not sure whether I'm cut out for this work." And he said, "Oh yeah, you are." And from then on, it was all A's. So, he was a great support.

And old Dr. Schopf, he was primarily a USGS employee, and somehow USGS paid his salary, but he was a professor at Ohio State and he didn't have a lot of students. He was ornery. He was a crotchety old fellow and most people couldn't get along with him, but I could. See, my father was like that, so it was natural for me. And I got along with him great. But, most people were intimidated by him, or something. Anyhow, so he inspired me, too. And let's see, there must be others. I know there are.

In the climbing world, Robin Hanson was a climber and he used to take me climbing to Yosemite Valley. He called me, "the kid," and we'd do lots of climbs. And every once in a while he'd get to a climb where he couldn't quite make it and then he'd say, "OK, Bill, you try it." And if I were able to get up, then he would . . . I can remember him telling people, "Yeah, we were up on this climb and I couldn't do it, so I got "the kid" to do it.

(300)

And so I enjoyed that. And he was inspirational in climbing. And I mentioned early on that guy that really wasn't a climber, but he got me started by showing me some rock

work and referring me to the book, *The White Tower*. Those are the ones I've come up with in that line.

KB: *What about people that you've been a mentor to? Do you know of any?*

WL: Well, I don't know of any for sure. I'm thinking of students. If it happened that I was a mentor to someone, it probably was as a professor and I would guess . . . well, I mentioned the one student. Certainly if I was a mentor, it was shared with my colleague Ross Schaff. We had a department of two at Alaska Methodist University, which is a pretty broad spectrum for two professors to have a complete curriculum in geology, but we did. And we had students that we know were good because they would take the Graduate Record Exam and they would come back almost uniformly in the 90th percentile. So, we know we were doing a good job and it was partly on my part, but it was partly also Ross Schaff was an excellent professor and good geologist. So, between the two of us, we did a good job. And this Ron Brun, I think I told you about, that went to the University of Utah, or was it Utah State - I forget which. He was chairman there at Ogden, I believe. He probably is one. I'm not coming up with too many others right off.

KB: *Anybody on the expeditions?*

WL: Climbers?

KB: *Either climbing or your Ohio Range, Nilson Plateau . . .*

WL: Courtney Skinner was our sort of general hand. He was not a geologist, he wasn't any sort of a scientist, he was just there to help everybody. And he went on to be fairly successful himself in that category. After he was with my expeditions, he went on to

others and wherever he went, he was really appreciated and liked. So, it's possible that he was guided and helped along by his experience with me. I think he would agree to that. His brother was one of my close friends in the service - Bob Skinner. Very close friends. That's one of the reasons I hired Courtney because he was Bob's brother.

KB: *Now was that Courtney's first trip, doing that kind of work?*

(350)

WL: Um-hum. The Skinner brothers run a boys survival school in the Wind Rivers in Wyoming and Bob started that school after being discharged from the service as a survival instructor. He started that school and it's been very successful. And they put together the Wyoming Cowboy Expedition to Mt. Everest.

KB: *I haven't heard of that one.*

WL: Yeah. They had one. And Bob said that on one of our trips, somehow he ended up taking my Gerry Mountaineering tent home with him, or he borrowed it or something and was going to give it back and he never has. But anyhow, he said that tent was used by his school and whichever team proved to be the best through the summer season at camp or the period at camp was allowed to take Bill Long's tent and camp in it on their last mountaineering camp.

KB: *That's an honor. That's great. Getting back to glaciology, reflecting back on all the years you've been doing it, how do you think the field of glaciology has changed?*

WL: You know I've been on the fringes of glaciology. I'm not really what you would call a dyed-in-the-wool glaciologist. Glacial geology is my field. Geomorphology, glacial geology, glaciers a bit.

KB: *Maybe then the field of geology.*

WL: So, let me deal with glaciology first. In spite of that, I think that there's minimum progression. There were two kinds of glaciologists as I saw it. There are those who went out and dug holes as I did and made measurements that required a lot of hard work and not a whole lot of mental work. And then there were glaciologists who were very good mathematicians and physical scientists, like physics science - physicists - who deal with the mathematics of glacial motion and mass wasting and balance and so forth. And those people . . . many of them are good pit diggers too, but I was never one of those really whiz kids in the world of glaciology. That area of the geological sciences was better handled by others like Dr. Benson from the University of Alaska Fairbanks. He's one of the nation's greatest. So, I don't have a real good sense of what has changed in the field of glaciology. I do know that we're beginning to have a better handle on what surging glaciers are like. That's been a new advancement. And also the whole tide water glacier cycle that we now sort of understand which, when I started in this field, no one understood.

(400)

So, those are a couple of things in the area of glacial geology and glaciology that generally are things that are new. Now, when it comes to the understanding of glacial motion and that, I don't know how that's improved. I don't know. I'd best not comment on that. In the world of geology, good grief, things have changed radically with the

understanding of plate tectonics and the description of plate tectonics, how it affects all kinds of things I didn't realize. I understood the continents moved around. I was willing to understand that, but when you start the new understanding of how the Pacific Ring of Fire, for instance, how the plates are directly responsible for that and how the plates are directly responsible for the folding and the uplift and so forth, that we just knew happened and didn't really understand what forces caused that, that is opening up a whole new understanding in geology that was not there. And there's been an understanding of the, strange as it seems, of the importance of catastrophic events as compared to systematic slowly occurring events. So that, meteor impacts, for instance, are given more respect, if you will, than they were when I was studying in college. And flooding - massive floods and other forms of mass extinctions that are sort of radical like this one about the emplacement of all the basalt of the Siberian traps. So much basalt coming out that the change had added incredible amounts of carbon dioxide to the air and caused most life to die because the sun was blocked out. That kind of process is something that the uniformitarianism concept of geology sort of ruled out, basically, when I was studying.

(450)

So, we're accepting more of the catastrophic causes as compared to the uniformitarian causes and there seems to be good evidence for it. Certainly, one of the big mysteries geologically, stratigraphically has been what caused all these extinctions and it wasn't just the last one which was the end of the dinosaurs. The end of each of the eras, geologic eras, has extinctions and the one at the end of the Paleozoic at the top of the Permian - I was talking about the Permian rock - was every bit as extensive, more extensive probably than the one at the end of the Mesozoic. And that's the one that might have been caused

by the great lava outpouring in Siberia. So, all that sort of talk never happened, even ten years ago.

KB: Do you think there's been a change in approach, or method or philosophy in geological sciences? An example is I've heard people in the biological sciences comment that there used to be emphasis on field work and now there's a greater shift toward everybody sitting in front of computers.

WL: That certainly would be true. There has been an emphasis to that. However, I think I would guess, in spite of their being . . . they are bound to be in front of the computer more now than they were then because the computer's a powerful instrument. We didn't have that then. But, I would guess if you went to a geology department, they're still going to emphasize fieldwork, but it's not going to be as much as it was back 20 or 30 years go, that's right.

A new area of concern is the environmental concern. There's a great shift away from finding metal. A great shift away from finding oil. And it could be to the detriment of our society. And, of course, politically, using the environmental issues to stop all this investigation is not particularly good in my mind. But, to understand what contaminates ground water, for instance, and to try and avoid it and avoid practices that would cause contaminated ground water is very important and more important as the populations increase, as they are.

(500)

And as our society develops, the water, all our water as a precious resource, needs to be understood and protected, but not protected to the point that it's not to be used as a reason to control people for other purposes. If it's to protect the water, that's fine. But, if you use

water protection to gain control for some other reason which is a problem with me, the misuse of environmental concerns.

KB: You had mentioned earlier that your work in geology has changed your perspective on things in the world. How so?

WL: I'm not sure what I was referring to.

KB: Well, we'd been talking about David Brower and you mentioned that rock climbing portion of the Sierra Club and some of that and you said once you got into geology, some of your perspectives changed.

WL: Well, one of the uses of understanding the Earth is to find things that are useful to man and then develop them. And I then realized that probably development is necessary sometimes to do things that might be viewed as harmful from another prospective. And that was some of what was behind what I said there. I can remember when I was in undergraduate school at Berkeley, I think, it was about those years that they were starting to build the Glen Canyon Dam and I was very much opposed to the Glen Canyon Dam because the water would drown the glens which are these side canyons into the Grand Canyon, which are very beautiful features.

(550)

The last few years, I've taken my boat to Lake Powell which is the drowned Glen Canyon behind the dam and certainly enjoyed the magnificent scenery that's available because I can take my boat there and look at it. So, I'm of mixed opinion whether the Glen Canyon Dam is good or bad. It's there and we've pretty much got to live with it, I think. The

Sierra Club would just as soon remove it, I believe. And I'm not sure that that's appropriate, but dams are a problem and so, I used to lecture that I think we'd built enough dams in the United States and by and large, I still think that's true. So, I'm sort of in the middle here on this thing. There are places maybe where a few more dams would be all right, but I've recently been on that Yangtze River where they built the Three Gorges Dam and gosh, again, there, it's a situation that is hard to evaluate because the losses from that drowning of that river in the valley will be incredible. Archeologically, some of the things that are going to be lost are irreplaceable. I mean really, there's archeology in the limestone caves and so forth because most of those gorges are in limestone and limestone has all these caves in them. And there are finds in there that are staggering to a Westerner. At least they were to me. And I only read about the fringes of them. I don't know what all is in there. But, I know it's a lot, so I know all that archeological stuff is going to be gone. And then there are several million people that are going to be displaced and whole cities drowned. So, this is the environmental concern that is valid and it's sure not clear what the best answer is. The Chinese government decided building the dam is the best answer.

(End of Tape 3 - Side A)

(Begin Tape 3 - Side B)

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WL: But, it was that class that started me into geology and one of the reasons that it was so impressive to me was, this was a professor who had his own 35 mm slides that he showed through most of his classes. He had other things that he showed as well, but most

of his lectures were illustrated with his own slides he had taken from his own experiences. And to me it made that class ultra interesting. So, at that time, I said, "You know, I think this is what I want to do. So, I'm going to start taking pictures." And I have. So, almost everywhere I've been, I have had a camera and therefore I have thousands of slides and stacks of black and whites. And that activity has decreased with my age, but still, now I'm beginning to get interested in it again, at least sort of, from a different point of view. I've gone off of the slides. I have digital cameras, I have digital video cameras, I have regular video cameras and I've gone into digital processing with the computer and so forth. And so when I travel now, I have one or two regular cameras and a digital, usually. So, I still do it and it's just because it's fun. Actually, I'm not doing . . . especially in the recent years since the AMU folding, I realized that I probably wasn't going to be using the slides as much any more, so I stopped that emphasis and I just take pictures for family purposes and so on.

Now if I'm teaching again, I'll sort of wish I'd taken a few more slides. But, I've got enough.

KB: Speaking of family, that's one thing we haven't talked about. You've mentioned along the way that you were married and had a family, but do you have an overview of . . .

WL: It would be a good idea because when I refer to my wife sometimes, it's not the same person. I've been married twice. My present wife, Katie, is my second wife. And my first wife, we married shortly after I left the service and before I started the Antarctic work.

KB: So, about '55.

WL: Yeah. About '55. And our two sons were both born at Ohio State University. One lives here in Anchorage and one lives in Reno, right now. They both have families of their own and are doing well, so that worked out OK. But, after nearly 16 years of marriage, I think, when I was teaching at AMU, we divorced and I married Katie. And she had 4 children, so I have 4 step children and 2 children that I'm biologically related to.

KB: *And how long have you and Katie been married?*

WL: Nearly 30 years. We were married in '71.

KB: *You mentioned passing up that one expedition as having been away from your family. Can you talk a little bit about being in the Antarctic for extended periods.*

WL: Well, I was there for a year and a half while I was married and I don't think it did the marriage any good. A friend of mine, George Doumani ,who you might have heard of, just wrote a book.

KB: *I've heard the name.*

WL: Well, they know him at Ohio State. He just wrote a book called, *The Frigid Mistress*, and one of the themes of the book is that most of the people who have gone to Antarctica have lost their wives or their mate.

KB: *Interesting.*

WL: That kind of life is not conducive to wholesome family life. And his book is not scientific. It's sort of just . . . somebody described it as grandfatherly stories of the Antarctic and that's sort of what it is. But, that's what he meant it to be. And he brings out the point there and most of the people he knows eventually were divorced.

KB: *I've wondered how families cope with that.*

WL: I don't think they cope very well.

KB: *Even if it's just somebody being gone for the summer.*

WL: I think that you can handle. It's these extended year and a half type things are difficult. Some guys were down there for two years, but most of them were not married. Charlie Bentley wintered over two successive winters, so he was there. And there were a few who did that. Not very many. Most of them were not married. I would say all were not married.

KB: *Well, now they don't let you do that.*

WL: They don't?

KB: *You have to take a break in between.*

WL: So, I think that affected my family life and the psychology of it, I guess, is that the husband is away, the wife learns to live independently, the husband comes back and the

independence of the two don't blend real well. And so, things begin to happen that destroy the marriage and I would say that's probably the case with me.

KB: *That's too bad.*

WL: Well, I ended up with a very lovely wife. It worked out all right. It was too bad for the children. I think that's who it was too bad for. But, they ended up OK too.

KB: *And what do they each do?*

WL: One works for a roofing contractor - Rainproof Roofing in Anchorage and has had that job for years and is one of their foreman. He's not one of their administrators. He's just sort of an on-the-job type foreman. And everybody likes him. He's the guy that got me into the Iron Dog because he is an Iron Dog winner. One year he won.

KB: *Great.*

WL: So, he was doing so well and my brother said, "We've got to do it." So, my brother came up with his wife, so I got another partner and it evolved. But, it was my son that got it all happening and his name is Bill. But, not a junior. He's got a different middle name. The other boy is the younger of the two and he's in Reno. He's an engineer. Has a master's degree in engineering and works for the Sierra Pacific Power and Water Company and he's a hydrological engineer essentially and environmental engineer. So, yeah, everything's just turned over so he's really doing real well as of just the last few months.

KB: *Well, perhaps you mentored him in a way as well.*

WL: I think so. Oh, and then I've got a niece - my brother's daughter who is named Katie like my wife, who became a geology major and I'm almost sure that I was the inspiration there. And she's married a geologist and they're both very successful geologists only now she's turned to being a mother. She has two little girls.

KB: *She's successful at that, too, I'm sure.*

WL: I think so.

KB: *That's great. Well, that's the end of all my prepared questions that I could think of in advance. Anything else that you want to talk about?*

WL: I know one thing that was on that list was the materials that I might have?

KB: Right.

WL: I have a bunch of letters. Well . . . I have my logs and so forth that I would like to leave somewhere and I assume Ohio State would be a great place. That's where I'd like them to go since I'm an alumnus.

KB: *Your logs from your time in Antarctica. I think that would be the place to send them.*

(100)

WL: I couldn't go pick them up right now if I had to, but they're around here somewhere. And then the other thing, I've got all these letters to my first wife that were sort of

dumped on me during the divorce. While I think they would be personally very sensitive to me and I don't want them necessarily distributed particularly, I guess, while I'm alive or she's alive. I know they contain, I haven't read them or anything, but I know they contain a lot of information about what went on there because I wrote daily.

KB: *So it's sort of like a diary.*

WL: Yeah. So, I was wondering about that.

KB: *Well, it sounds like Ohio State . . . I don't know, but from working in the archives at Fairbanks, we certainly have those types of materials and it would be an issue to negotiate with Ohio State in terms of sensitivity and in terms of restrictions about your being alive and her being alive and those kinds of things. I can give you the address and all that of the archivist.*

WL: I can find that.

KB: *I don't know what their policies are and I don't want to speak for them, but it's good to know that you have that and I can pass that information along as well.*

WL: That's good. I was contacted probably 20 years ago by the University of Wyoming saying they were starting some sort of exploration museum or something or repository for any materials related to work that scientists do, especially like the Antarctic work. And they just wanted me to know that I could put them there if I ever had the opportunity.

KB: *Well, I'd say Fairbanks, too. I mean it's the Arctic-Polar region , Alaska and Polar Region Archives and, of course, that would be a place for it as well. I mean, it's up to you.*

WL: OK.

KB: *Your choice in the future. I know that was one of the questions that Brian had wanted asked. I think they just want to have an idea of what all of you guys have from your experiences.*

WL: Most of the samples are already at Ohio State.

KB: *Any other topics or things you want to talk about that I haven't asked you about?*

WL: Gosh, I think we've covered it pretty well.

KB: *Well, you've certainly talked for a long time and I appreciate your willingness to take the time and interest.*

WL: I thank you for your interest. As you say, a lot of people in my position have biographies and so forth going. It's something I've thought about and wanted to do. I think I even made an outline once, but that's as far as I got.

KB: *Well, maybe getting this tape will help you.*

WL: It's inspired me, yeah. Even the work I put together there that I handed you has sort of inspired me. I've thought, well if I can write this, I can probably write some more.

KB: *Yeah, you can keep going and transcribe your own tape. OK, well, I guess that means we're done. Thank you very much.*

WL: Thank you, Karen.

(End of Tape 3 - Side B)

End of Interview