

Transcription: Grand Canyon Historical Society

Interviewee: Dr. Stanley Beus

Interviewer: Tom Martin

Subject: Part 2 The PhD Years to Flagstaff Arrival

Date of Interview: August 16, 2021

Method of Interview: In person

Transcriber: Susan Seibel

Date of Transcription: July 30, 2022

Transcription Reviewers: Dick Phaneuf, Tom Martin

Keys: Army, twins, Utah State University, Salt Lake City, Logan, Utah, Wasatch Front, science, geology, James Stewart, Williams, Clyde Hardy, Mormons, Tom Olsen, mineralogy, mining, master's degree, stratigraphy, Cache Valley, Wasatch Range, sedimentary rocks, GI Bill, PhD program, housing allowance, UCLA, Alaska, grandparents, wife, Carma Beus, University of Wyoming, University of Idaho, education, Los Angeles, California, General Petroleum, Kenai Peninsula, oil companies, helicopter, geologists, graduate students, Orlando Greeno, South America, field geology mapping, adventure, tundra, outcrop, measure, sample, strike and dip, rock layers, 300-magnum rifle, grizzly bear, wildlife, dangerous, Idaho Falls, beards, caribou migration, salmon run, Dall sheep, Northern Lights, Arctic Circle, mosquitoes, oil exploration, moving to Los Angeles, Pennsylvania, atomic-powered submarines, Arco, Idaho, Blackfoot, Idaho, Wasatch Fault, San Andreas Fault, Idaho-Utah border, paleontology, the fossil record, invertebrate sea creatures, microfossils, William Lee Stokes, University of Utah, Snake River Valley, The Geology of the Blue Spring Hills, N. Gary Lane, publication, Arizona State College, women geologists, Cesarean section, Sterling Beus, Jennifer Beus, stars, smog, driving Mojave Desert, Williams, Arizona, dissertation

TM: Today is Monday, August 16, 2021. This is a Part 2 Grand Canyon oral history interview with Dr. Stanley Beus. My name is Tom Martin. Good afternoon, Stan. How are you today?

SB: Okay.

TM: Great.

SB: Glad you're here.

TM: You're very kind. We ended up Part 1 as just a few days before you left your two years in the Army. Your wife gave birth to your second child that turned out to be twins.

SB: Right.

TM: Where were you planning to go after you got out of the army?

SB: Back to college.

TM: Where?

SB: Utah State University is where I had in mind, anyway, and that's where I ended up.

TM: Is that in Salt Lake City?

SB: No, it's in Logan, Utah.

TM: Okay. Utah State.

SB: Yeah. Utah State University.

TM: So, Logan is a little further down the Wasatch Front, a little further south?

SB: No. It's actually farther north. It's north of Salt Lake City.

TM: North? I'm sorry.

SB: It's almost up to the Idaho border.

TM: Okay. And of course, your mom and dad were up there, so you—

SB: Yeah, they were living in Idaho. Yep.

TM: So, it wasn't that far away. Did you have an idea at that time then what you wanted to get your degree in?

SB: No, I wasn't sure. I wanted to do it in some kind of a science, I thought, and so I initially started out in— I took a zoology course. It was a good teacher. Can't think of his name now, but he was very good. But because I thought maybe I'd like to be a biology teacher or biologist. But the impression I got from that class is that biology is all blood and guts and formaldehyde. [Laughs] So, I thought, no I don't want to be in biology. So, the next, the second semester I took a course in geology. I only— The first one I'd ever taken. I'd had some in high school, you know, as part of a physical science program but no real pure geology, and this was a solid beginning course. After I'd been there a while, I realized they would pay me to do what these guys do for fun [laughs], what I love to do outdoors. So, I promptly shifted to geology.

TM: Do you remember some of the names of some of your geology professors at the time?

SB: Yeah, yeah. There were only three that really were very active in it at the time. The head of the department was James Stewart Williams, an older guy who'd been in geology for much of his adult life, and then he had two other members. There were only three in

that department when I started. The other two were Clyde Hardy, who was from somewhere in the east. He'd just come out West and got involved in geology there. He was kind of critical of all the Mormons that were around him there at Logan.

TM: Okay, it's kind of an odd place to want to teach and be critical of basically everybody in the community.

SB: Well, that's what he was, but he was good. He was good advisor, and the third one was Olsen. I think his name was— I'm not sure. I think it was Tom Olsen. He was the newest member. He was an active Mormon, but he had a PhD, and he was expert in mineralogy, you know, and mining. He ended up going into mining geology after a while because he could get more, paid more there. But Clyde Hardy stayed with the department there, and then it started to get, after I left, had gained other people that I don't know. But those three were the ones that really got me going in geology. And I spent the next two years taking all the geology I could get and ended up with a master's degree at the end of that time.

TM: Oh, wow. After the two years?

SB: Yeah. Took me two years to do it because, you know, I had to start from scratch in geology and take some other beginning courses and—

TM: So, you basically crammed three years into two.

SB: Yeah, something like that.

TM: Do you remember what your master's thesis was in? Or was it even a thesis program?

SB: Yes, it was. I'm trying to think because I get it confused with what I did for my dissertation later, which was much more demanding. I worked on some stratigraphy, the study of layered sedimentary rocks and— I don't remember what I did with that. I did some—

TM: You know, when I think of Logan, or I certainly think of southern Idaho, I think of a lot of volcanics.

SB: There are some there, yeah. There are more up into Idaho. There are a lot of volcanics in Idaho. Logan is in Cache Valley, and Cache Valley is fairly fertile farming area, right to the edge of the Wasatch Range there, and most of the rocks that I saw there were sedimentary rocks, so my master's thesis was dealing with some study of sedimentary rocks. I cannot even tell you now what it was exactly because I got— I had to do so much more when I got into the PhD that I left all that stuff behind me and went on to— But anyway, I did end up with a master's degree after two years.

TM: Did you have any more children in that two-year time?

SB: No. And that summer, because I knew I had the summer off, I had to do something. I needed to earn some money. I was fortunate to have the GI bill because I've been in the military. That really was a tremendous, tremendous boost. It paid for my way into the PhD program, you know, with allowance so much every year. It was wonderful. I'm very—I'm grateful that I made the decision to let them draft me when I said, "Go ahead and draft me," not knowing what I was getting into, but—

TM: And so, the GI bill covered your schooling.

SB: It covered my master's degree and part of my PhD.

TM: Okay. So, it covered your master's and part of your PhD. Did it give you a stipend for housing for apartment to rent or—

SB: Well, it just gave me an allowance of so much a month. I can't remember how much it was, but it was a guaranteed for all the time of my two, no, wait, two years at Utah State and then at least through the first year of UCLA. Maybe both, both the first and second year, maybe. So, but that summer, since I was free for the summer, I didn't have any classes then, and I was planning to start at UCLA in the fall, I ended up taking a job offer from an oil company to go spend the summer in Alaska. It was a great adventure for me, but it was quite a struggle for the family because my wife had three young children. What to do with them? Well, her family, her parents lived just out of Salt Lake City and just south of the city, and they agreed to have her come with our kids and stay with them. Because they were, they were grandparents, you know. Their kids were all raised and gone. So, it was okay, except within a week after I left, one of our twins came down with chicken pox. And it went through all three of the kids, so my wife Carma had to endure that most of the summer. She was not very happy about that.

TM: I bet. So, let's back up a little bit. As a young man interested in geology, you could have gone to any number of universities for your further studies.

SB: Right.

TM: What was it about UCLA, of all places, in a giant town, that attracted you?

SB: Well, partly the financial part of it. I applied to the University of Wyoming and was ready to apply at the University of Idaho, and then UCLA came through with an offer, and it was better than I had gotten from the other two. It was almost double. In other words, they gave me a job. They knew I needed some financial support so I could be a grad assistant, teaching assistant. And so, I went, knowing that I had a better shot at that, at least a better salary, so to speak, going to UCLA, so that's why I went. I'd never really been much, had much to do with Los Angeles before, but—

TM: Had you even been there before?

SB: Yes, I'd been there. I'd been through the city, but that's about all. I'd never known it very well.

TM: All right, so let's back up a minute then again to Alaska for this summer. What was the oil company you were working for?

SB: It was General Petroleum, I think, was the name of it.

TM: I'm sorry. I missed—

SB: General Petroleum or something like.

TM: General Petroleum. Okay.

SB: It was actually— It was part of a larger company, and they're exploring because that spring the geologists in Alaska, and there were lots of people working there in oil, they'd discovered oil in the Kenai Peninsula. So, the next summer, there were geology parties from various oil companies traveling in Alaska, using a helicopter. And they were so, so, there were so many of them, if you passed them in, passed them in the sky and you saw the planet and two or three miles back, you knew it was another geology department looking for more oil!

TM: You'd wave at them! What year was this?

SB: Well, let's see. I got out of the Army in '55.

TM: So, '56, '57, '58?

SB: '56, '57 '58', yep.

TM: What kind of helicopter were you in?

SB: It was a fairly standard one. It was piloted— We had, in our team, we had two geologists in the team and two graduate students like myself who were assistants to the two geologist, you know, they would— And then we had a helicopter pilot who was with us all the time. I still remember his name. It was Orlando Greeno from South America.

TM: Okay, and where— He was from where in South America?

SB: I don't know. Somewhere in South America. But he was a good pilot. He knew what he was doing with that. And then we also had, from time to time, we'd have a mechanic, you know, come and check on the helicopter. And after a while we learned why that was pretty important. They didn't want anything to happen that helicopter.

TM: Thinking about helicopters at the time, I'm thinking about a two-seater with a bulb, kind of, big plexiglass kind of front—

SB: That's what it was. Something like that.

TM: And some sort of a tubular framework going out to the back propeller, and that's it. It probably had metal blades but might have had wooden blades.

SB: No, it had metal blades. Big ones. And one of the other parties, because this company that I was with had several parties besides ours. We learned that. And then they had a supervisor who was over all of us out there that summer, and he checked in with us periodically to see how we're doing and so on. And one of the, one of my good friends who is on one of the other teams, made the mistake of when they got, when they got out of the helicopter, you know, you just walk out from under the blades and get away from it. He tossed a rock sample up, hit that big prop, and just put a big dent in it. They had to send back to Los Angeles for a new helicopter prop for that.

TM: He's lucky it didn't just shatter and kill him in the process!

SB: Right. It didn't shatter, but it did put a tremendous, big, I guess, big notch in that propeller. They couldn't use it anymore. He just didn't think, you know, but he tossed it just up high enough to hit that blade and [makes crashing sound]. So, I remember when the guy who was supervising us called up and said, "What happened?"

TM: Yeah! So, I'm thinking about oil in the Kenai. I'm thinking about maybe you're using seismic testing, or how are you doing—

SB: We were actually doing field geology mapping. We were far— we were north. We were really in central Alaska much of the time, you know. We spent most of the time off the, off the highway, camping in the woods with a helicopter to supply us. And it was pretty well set-up so that every, about every fourth or fifth day, we'd have a flight coming in from whatever the nearest big city was. Most of the cases, it would have been the big city in southern—

TM: Anchorage or Juneau or Fairbanks?

SB: No, it wasn't any of those. It was— I'll think of it in a minute. Anyway, the nearest city, they would, they'd supply food. They'd bring food in every three day, four days. We'd order food. So, we always had plenty of food in the camp. And our two graduate assistants' assignments were when we were not in the field we were, imagine camping, fixing meals and so on. So, we had to do all that, too. But it was a great adventure because we saw a lot of central Alaska. You know, we moved around from place to place. The helicopter would take off every morning with one pair, and sometimes come back for the other pair later, but he would say "We want to, we want to go there." He'd put us down, and we didn't have to walk through the tundra. He let us down there, and we'd look at that outcrop and measure and sample and make some notes. Then he'd go move the other team to another place and come back and move us, so we just kind of leapfrogged around.

TM: So, the helicopter could seat three.

SB: Yep.

TM: Okay. Could it seat four?

SB: I think so, but I— Normally just three of us in there.

TM: And so, it wasn't like you were walking miles and miles. They moved you from outcrop to outcrop.

SB: No, we didn't have to do that. We didn't have to walk across the tundra, which is hard to do in the summer, you know, because it's spongy and wet. It's frozen in the wintertime. In the summer, it's just hard work. [Laughs]

TM: Spongy, yeah.

SB: So, we rarely had to walk very far. And the helicopter would put us down where we wanted to look, and then he'd come back, and he put us down where we wanted to look at the next place and just leave us there for an hour or two and then come back. And we look at the outcrop and sample the rocks and make some notes and—

TM: Sort of going from outcrop to outcrop to outcrop, just what you could see out there.

SB: We were putting together geologic maps, general maps, anyway, of what the geology was in those places and which part looked more promising for more oil. We found some areas that looked promising. I don't know whether they ever developed or not, because every other company had also found those same places.

TM: Doing the same thing.

SB: Doing the same thing, yeah. In fact, once in a while we would stop at an outcrop, you'd already see the geologist had been there and marked what they call a strike and dip, which is the orientation of the rock layers. Somebody, he'd scraped it on there, you know, strike and the dip in the rock.

TM: Had already put it there.

SB: Had already put it there for us.

TM: Oh, my gosh.

SB: But it was an exciting place. And we had, we had some scary experiences, too, that kept us really alert. We each was armed with a 300-magnum rifle all the time.

TM: Okay. Each of you?

SB: One of the grad students carried that rifle every place we went.

TM: So, each of you had a rifle or your team?

SB: No, just one per team. Each team had one rifle.

TM: Okay. All right.

SB: So, we had two going, and it was a good thing on one case. But I didn't experience this. The other team did. They were parked on little hill, above which was a stream down there, a big female grizzly came up the stream bed with twin cubs and smelled them or sensed them and came right up after them. She just sensed them as dinner, and she was going to attack them. So, happily, this other student who had the rifle just knelt down and killed it, killed them, killed the female before she got to them. It was too bad, too, because then the cubs were there and, you know, what we do? We reported to the, to the wildlife people in Alaska, and they said, "We probably can't do anything with them because they're too young." At least we told, reported what we had done and why, and so that was okay but— And the second scary one, and I didn't experience this one, either. Happily, it was the other group again, the other team that got this one. When the helicopter lifts, first lifts off, you know, it lifts off from a cushion from the ground. Then it gets just off that cushion and when it's up, it goes down like this and then takes up. But they were right on the edge of a slope, and up above was a big glacier with cold currents coming down from it, and as they lifted off of that little ground cushion and starting to go forward, they came to this slope, and they went down the slope, but the cold breeze coming down from there just blew them right down and they just went right down the slope, slashing off trees and everything with it. Destroyed another helicopter, at least another big prop, you know.

TM: And they were okay, though?

SB: They were okay. They got bruised and bounced up a little bit, but they, they were okay. That was really close. And we learned that in one of the other teams that summer, one of the geologists was just standing just a little way from the helicopter, looking at something, and a big boulder came down and, in fact, it killed him. Boulder came down this slope. So, it was hazardous, and we didn't, we didn't realize how much until we got there. But we were fortunate we didn't have any serious problems other than these two that I mentioned, and they were, they were a problem, but they weren't dangerous to human life.

TM: And this was a three-month assignment for you?

SB: Yeah. About three months, two-and-a half to three months in the summer. We just left right after school without— And came back in time to get the graduate school at UCLA. I had to drive from Idaho where my family was. During part of the summer, they

spent with my wife's family, then part of the time with my family in Idaho. So, when I came back, I landed in Idaho Falls, and the family was there. And the twins, by this time, were still pretty young. But one of the twins— Well, I, we all grew beards, everybody Alaska grew beards, you know, big, big, dark brown beards. One of the twins would not come to me. She couldn't believe I was her father. This is this great big, you know— Until she got acquainted a little later. She would not have anything to do with me when I got off the airplane.

TM: So, I'm assuming being out in the field that much you were able to save up some money.

SB: Yeah, yeah. We didn't spend anything while I was up there.

TM: Great. Yeah, and send that home.

SB: My wife saved some. She was staying with family both places, both in Idaho and Utah, so we did save some money. We ended up at UCLA with the money from, all the money from our summer employment, which was a lot at that time.

TM: More importantly, I'm assuming that three months of field mapping would have been great experience as a new graduate.

SB: Oh, yes. Yes, it was.

TM: Can you tell me more about what you learned that summer with regards to mapping?

SB: Well, I learned a sense of having been, be more observant as to what can we look for that would suggest oil possibilities, you know, or potential for a trap for oil underneath the layers and so on. I learned to look for things like that that I hadn't done before because I never really concentrated on oil for extraterritorial. I just concentrated on what I did for my master thesis, which was stratigraphy, which was helpful because most of the oil occurs in strata, in sedimentary rock layers, you know. And so that's— There were some connections there, but—

TM: Okay, because I would think that would be a great, a really great exposure—

SB: Yes, it was.

TM: —to just looking at structures that aren't, you know, that actually move, bend over the landscape—

SB: We could reconstruct the structure of a certain area if we see the rock. We can reconstruct what this looks like underground, you know. We like to see nice folds, which would be a trap for oil, and so those are one of the things we looked for at the time. It was a great experience. I saw, we saw almost all the wildlife. We were there for the caribou migration. We were there for the salmon run. We were in these little streams, you know,

and when the salmon came in one day, the stream would be empty. The next day they were full of salmon heading up to spawn. You could walk out in the stream, and they would just swim around you or something. If you weren't moving, they just ignore you, you know. You could almost reach down and grab one.

TM: Wow. I assume the bears would just be feeding on the fish.

SB: But it was just incredible. The bear were there, too. We saw lots of, lots of black bears and a few big grizzlies. And we learned to be very careful of the grizzlies, of course.

TM: Yeah. When I think of the caribou in Alaska, I just think about a sea of animals.

SB: We did. We saw— We flew over a virtual sea of Caribou just migrating slowly along. We saw— Well, mostly, I can't remember all that, but we saw the Dall sheep that are native to the mountains of Alaska. They're somewhat like bighorn sheep, but they're called Dall sheep.

TM: More like mountain goats, kind of? White? White in color?

SB: Yeah, sort of. Sort of, yep. They weren't mountain goats. Well, they had wool. But they weren't like domestic sheep. They were called Dall sheep. They were white, fairly white.

TM: And did you see any Northern Lights at all?

SB: Yes, yes. Beautiful displays in the evening.

TM: But this was like— Were you in the Arctic Circle or just south of it?

SB: No, we were below the circle aways, but it wasn't very far from it. We got up close to it there.

TM: So, it would be light quite a bit of the night then.

SB: Yes. We just had to learn how to go in the tent and shut the flap and forget about it and go to sleep, because it was still daylight.

TM: But then the Northern Lights, you would see those in the daylight, kind of.

SB: Well, no, not in not really in the daylight. At least I didn't. But the night was short, you know.

TM: Okay. Got it.

SB: We'd go— We just— After we'd been working all day, we'd be tired. After dinner, we would just go in the tent and shut the flap.

TM: And go to sleep.

SB: And go to sleep. The sun was still up sometimes, you know. [Laughs]

TM: Were there mosquitoes?

SB: Yes, there were mosquitoes.

TM: Would you wear a net or just repellent?

SB: We did repellent some. We picked our camps in fairly clear areas, you know, where we'd have some clear space around. But we always had mosquitoes. We knew we have mosquitoes every day. They were there all summer long. They're just part of the scene. But it was a marvelous experience, just to see the things we saw and to learn the things we learned about oil exploration. It was very helpful. It was a great experience.

TM: So, after a summer in Alaska, what was moving to Los Angeles like?

SB: I borrowed my father's pickup, loaded it— Let's see, we had two, we actually had two pickups, unless we had a car and a pickup. I'm trying to remember how we did that. We had a pickup, and my younger brother drove the pickup most of the way to Los Angeles to help me move. We went— I guess my wife and I and our kids came in the car, in a car. So, we had a car and a pickup. The pickup was loaded with our stuff.

TM: Which younger brother? What was his name?

SB: Stephen. He ended up going into chemistry and got a PhD there and had a career in chemistry and—

TM: At UCLA as well?

SB: No, he went to University of Utah. And then was assigned for many years, he worked back in Pennsylvania. That's where I got this— He gave me this T-shirt because he lived in Pennsylvania for a number of years and worked there. And then he worked with the Atomic Energy to some extent, because after he'd been there while, they shipped him out to Idaho to where he'd grown up, nearly where he'd grown up, to the, you know, to the experimental place they were doing out there with the submarines, submarine engine with atomic power, atomic-powered engines.

TM: Is that the Stanford nuclear energy place?

SB: No, it was just near Arco, Idaho, on the desert. Just the other side of Arco, Idaho. That was only about— He lived in Blackfoot. Blackfoot was the nearest city. Arco was

this little town on the other side. But they had to, they had to transport every day out to the site where they were working on this stuff. So, he was there for a couple of years, almost back home, and then shift him back to Pennsylvania.

TM: So, he helped you move to Los Angeles.

SB: Yep.

TM: Where is the UCLA campus? And where did you live?

SB: I lived on the campus. Mercifully, they do have student housing, married student housing on the campus, which was a real blessing because it was a modest price. And we were not very far from Hollywood and, you know, all those fancy places. It's in the western part of Los Angeles, though not as far west as the, as the coast, quite. But we were just— Trying to remember what we were near. We were near a lot of industry, of course, all around us. I can't even remember the address it was on, but it was in, it was a nice area. It was a nice campus. It was a big campus. And there were enough of us who were members of the church that we had, after we'd been there a while, they formed, again, they formed a student branch of the Church of Jesus Christ for students of UCLA. And so, I got acquainted with a lot of the fellows that were there. Mostly— Most of them were married. We had a wife, or we wouldn't have been out like that, living off— So, yeah, it was a marvelous experience as well.

TM: And so, did you have an idea of what you were going to be studying at UCLA in your PhD program?

SB: Yeah, pretty well. I knew it's going to be a lot of geology and chemistry and stratigraphy and some math courses.

TM: And what did you end up doing your PhD in?

SB: Well, it was, again, it was a stratigraphic study. One little incident on the way. The first— After I've been there one year, all of us that were first-year graduates had been accepted there, they gave us a written exam to see what we could do. Ho ho! And I had only been there one year, so I wasn't very familiar. Some of the others had been there several years and knew the professors even as undergraduates, you know, but I didn't. So, they asked some questions that I didn't answer very well. So, at the end of that exam, they said to the some of the students, they said, “Well, you didn't pass exam, so you can't continue.” And I thought, “Oh, my gosh. Is that going to happen to me?” They said there were six of us who had done reasonably well, but they wanted us to try another year before they decided. They said they'd give us another year see if we could improve our performance and examine the second year. And oh, my gosh.

TM: Okay, and so, this is sort of geology proficiency they were testing you in?

SB: Yeah, that's what it was.

TM: Okay, and you only had—

SB: And, of course, it was also colored in part by what they knew in the area that they had worked in California.

TM: Which is tar pits and subduction zones and—

SB: Yeah, and I had never, I never, I didn't know much about that. One of the questions I know they asked me is to describe one of the major faults, you know, and I picked the Wasatch Fault in Utah because I knew that pretty well. But that's not the one they would have liked me to take. They wanted me to take one in California. I mean, the San Andreas Fault was right there, you know. Anyway, so when the second year came about, and I really worried about that, I sat in on all the classes I could, besides the ones I was assigned to take. I just sat in on other classes, you know, that I knew I was weak in and to get some help just on my own. I spent most of my time on the campus, sitting in classes. So, when they took the exam the next time, I got the highest score. That really thrilled me because the year before, the guy who had the high score was really the brightest one I'd ever seen in our group. He would have been ahead of me if I had taken at the same year, but he passed the first year and I didn't. So, I got the highest score that second time. Then I was okay. I followed the assignment, you know. Some of the professors there had classes to take, and I picked a subject, again, back in Utah-Idaho area because I knew that geology better, and the reason I picked it— They would have had me do something in California if I hadn't done this, but I had to, I had a good friend at the University of Utah who knew me, knew some of my interests, and he suggested there was an area on the Idaho-Utah border that did not been studied very carefully called the Blue Spring Hills, and it had some interesting structures in it. It had lots of stratigraphy of the kind of rocks that I knew something about. By this time, I had shifted pretty strongly into stratigraphy, studying sedimentary rocks and paleontology, the study of the fossil record. Mainly little invertebrate sea creatures, you know, as I wasn't— We didn't— I wasn't studying dinosaurs, even though they're more exciting. But the fossils were far more abundant. The geologists usually were the ones that were in the marine deposits, in the strata. Some of those were microfossils, microfossils. I didn't work with those very much, but I did work with the— We just called them seashells, you know, seashells, seashell creatures because they were useful in dating the rocks and in determining the environment and a number of other things. This area I picked at the Utah-Idaho border, it was assigned, it was suggested to me by William Lee Stokes, who was at the University of Utah, on the faculty there. But I had met him and knew something and because he knew something of the work I've done and my master's degree in Utah, so I appreciated him suggesting that, and he arranged for me to get paid something to do it because I produced the geologic map. At the end, I produced the map and got paid something, not a lot, but paid something to do it.

TM: And the UCLA professors were— They probably wanted you to help further the study of California geology.

SB: But they were excited when they, when they understood what I was doing,] they said, “Okay. That's fine.” So, they accepted it and let me work it through. It took me two more years. I just had been there two years. It took me two more years. The third year, of course, I took more classes mostly in and then concentrated on the thesis area. And then the fourth year, I practically spent the summer in Idaho, working at the outcrops there while my children and my wife stayed with my parents, who lived nearby. Not exactly nearby but in Southern Idaho.

TM: They were still at the farm.

SB: Yeah, they were still on the farm.

TM: Okay, so Carma and the children were at the farm.

SB: And of course, the grandkids got to well acquainted with their grandparents and vice versa. It was a nice experience all around. And I could get to see them once in a while. They were up in the Snake River Valley, some miles north of where I was. I was right on the Utah border. Part of my thesis was in Utah and part in Southern Idaho. A little bit of a— And that's where the Blue Spring Hills were, so my dissertation said The Geology of the Blue Spring Hills, Utah-Idaho.

TM: What was the neatest thing you found there in the Blue Hills that's something you might have been unexpected to find?

SB: I guess the main thing I found is that I found a lot of fossils that I had learned about and had to learn what they were and how to recognize them and what they meant in terms of time and environment and so on. I didn't make any big discoveries, except just the details of what was in that area and made a geologic map of it. That was the main part of my dissertation was the geologic map I produced and the description of the rock strata and the description of the fossils.

TM: Did your professors at UCLA, did they go out with you?

SB: Yeah, one of them did. One of them came out to spend part of the summer, all that summer, looking at my field area.

TM: Great. To make sure that what you mapped was actually on the terrain. And what did they think?

SB: Well, he approved of it. His name was N. Gary Lane. He was about the same age I was, actually. He was fairly young. He was a new faculty member there. He was my advisor. N. Gary Lane, and he did— He was a good help. In fact, he helped me with the first fossil publication I did. He had worked on some of the same fossils I had, and he helped me write that, the first publication I did in the fossil record.

TM: What year was that?

SB: It was about— Let's see. I started in UCLA in— I've got to think back now. What year was that?

TM: So, it was '57, '58, the summer of in Alaska. So, it would have been the fall of '58.

SB: '58, '59, '60, '61, '62.

TM: '62. Okay.

SB: Yeah. '62.

TM: So, that's a five-year program. Well, let's see: '58-'59, '59-'60, '60-'61, '61-'62 for four years.

SB: Four years.

TM: Got it. Okay.

SB: And even that took a little longer than I had— I had the mapping all done, and had it examined and accepted and so on, but then I had to write the dissertation, and I wrote most of it while I was at UCLA. But I finished it up, actually, after I got a job, because I applied, you know, for teaching jobs in various places and was accepted at Flagstaff— Let's see. It just made— No, Flagstaff was still called— It was still called the—

TM: Arizona Teachers College?

SB: Arizona State Teachers College. But the year or two after I've been there, it became Northern Arizona University that it is now. By this time, it had developed into more than just— It had been a teachers' college for some years, but now they expanded it beyond that and so on.

TM: Okay, so you had to finish up. Let's go back a minute—

SB: Yeah, well, what I meant back there, they had, they offered me a job. I got a job offer from—

TM: Hang on a second. Let's go back a little bit more. Let's go back to your mapping. I'm interested in Dr. Lane. What do you remember about him?

SB: Well, he was a very good stratigrapher and paleontologist and was patient with us that he was teaching and patient with me while I was trying to learn. He was very helpful. I appreciated him. Soon after, surprisingly, soon after I was gone from there and then gone, had come to Flagstaff, he left and went back to where he came from for a teaching job therein— I've got to stop and think now what state he was in. I know it very well if I can think of it.

TM: Not to worry.

SB: Well, I'll think of it in a minute maybe. Anyway, he went back east to the, to the Midwest, anyway, which is where he'd come from.

TM: Was there anybody else at UCLA that was really instrumental in your education that you think of that was inspiring you or helpful in any way?

SB: Yes, the paleontologist, the main paleontologist there was an older guy. Got to think of his name now. He was very helpful to all of us, and we were working in paleontology. Oh, shoot. I may have to look that up. I know who it is. I can't think— I can't place his name now.

TM: Not to worry. The last question about this time— A couple questions I want to ask you, were there any women in your class? Were there any women geologist at that time?

SB: Not many, not many. Very few.

TM: Few. Okay. All right. And did you have any more children during this time?

SB: Yes, we had— The next child we had was a boy, and he died at birth.

TM: I'm sorry.

SB: That was kind of a sad thing. We were— He was doing okay. He was just awfully big. We realized— My wife, my first wife was fairly short, five-foot-two, and she knew that she was carrying a pretty heavy load with this one. And when he was born, the problem is the doctor that been attending her, when he went to UCLA hospital, which is a marvelous hospital, you know, but the doctor that had been attending, had been attending her was away from the campus when she was ready to deliver, so some other doctors had to pick it up, and they tried to get her to bear the baby in, you know, the normal way and they couldn't, it couldn't go. She worked all, worked all day long at it, and finally they realized it was not going to happen. They had to take her Cæsarian section. They did a hasty Cæsarean section on her, got the baby out, but it was too late. The baby had struggled enough that it had the umbilical cord wrapped around his neck. It strangled him. He was still alive, just barely breathing when he came out, and just didn't last very long. Just a very short time and he was gone. No way to get him back, so we just lost that one. That was a hard road to take. That came the second year we were there, I guess. Sometime in that second year.

TM: '59, '60?

SB: Yeah, somewhere in there. Then we had two more in the next two years and a half. We had another son.

TM: What was his name?

SB: The only son I have who lived.

TM: What was his name?

SB: And one daughter. His name was Sterling, and then a daughter we named Jennifer. She was born, again, just a few weeks before we left UCLA to come to Flagstaff. And that was a pretty enjoyable experience in a way. We, we drove— So, we left, leave Flagstaff in the middle of the night. A hot summer day, driving across the Mojave Desert in the daytime. We didn't want to do that. So, I started at midnight, and we were driving across the Mojave Desert. Got hot later on, but we'd mostly crossed it by the time the afternoon heat caught up with us and—

TM: But by then, you were climbing up into the high country.

SB: Yeah, we were getting into the higher country, and that was good.

TM: And this would have been just at the time or maybe just before the building of the Interstate highway system.

SB: It was partly done. Part of it was done. And we got, we'd got across the Mojave Desert. I remember my kids, my kids were, my older kids looking out the back window that— We had a station wagon, big station wagon, pretty loaded, and they said, "Dad, what's all those lights in the sky?" They never seen stars because they'd grown up in Los Angeles, and you don't see stars in Los Angeles. The smog didn't allow it. It's better now, I understand, but they, my kids had never seen stars at night. Out in the Mojave Desert, you know, it's clear and bright. You have all these sparkling stars. "What are those lights up there?" [Laughs] Then I realized they had never seen stars. Of course, they were only young, you know. The older one was in school by this time, but younger ones weren't quite— The twins were just ready to go to school, but they weren't in yet.

TM: But you'd been busy. It's not like you'd had the time to, you know, take them camping.

SB: No, we haven't taken anything like that for quite a while. So anyway, we got, we got almost to Williams, which is just west a little ways of Flagstaff, and they were working on this interstate highway. I was very concerned because our car was getting warm. I could see the temperature coming up as we were climbing up the elevation, and we got part way up the climb to Williams, and they stopped all the traffic dead on the road. Oh, my dear! Well, while they stopped, our radiator boiled over. So, what do I do? I was, I was blocking traffic. I couldn't go anywhere, but bless his heart, some guy from Williams just whipped around and pull up in front. He had a truck, a little truck, and pulled up in front of me and hooked on to me, towed me up to the top of the hill, gave me a thing full of water. He wouldn't take anything for it. I tried to offer something, but he wouldn't take, but he was— I was so grateful for that. We put water back in the radiator and started the

car up, and it worked okay, and we got to Flagstaff that afternoon. We'd been driving since midnight, you know. I was tired.

TM: You were beat. Yep.

SB: We were all tired. But it was a marvelous blessing, for this guy to come by and just— He could see we were stranded there, and he just whipped by and hooked onto us with his truck and towed us to the top of the hill, gave us a thing full of water.

TM: And this was the summer of 1962?

SB: Yes. It was, like, August of '62. I was supposed to start teaching that fall. And I hadn't finished writing my dissertation. Bless their hearts, they treated me as if I had finished it and started me out with a good salary anyway. But I didn't have it finished until about Christmas time. I turned it in finally at Christmas time. And then one of the two students said, "Well, we thought you were already through."

[Laughter]

SB: So then, so what about getting the degree? Well, I went back. I had to go back to UCLA to be sure that the dissertation got turned in and accepted. And one of my classmate friends there had invited me to stay with him a day or two while I was there, waiting and trying to get things done. So, we had a nice, I had a nice visit with him while I was there. But I didn't go to the official graduation because I would have had to make another trip back to Los Angeles in the spring. I didn't want to do that even though they had the President United States was a guest speaker at the graduation ceremony.

TM: Oh, my. Who was that at the time? '62?

SB: '63?

TM: '63? Kennedy? Eisenhower or someone. Well, no, not Eisenhower. I'm trying to remember who the presidents were.

SB: No, it wasn't Eisenhower. No, it was later than that. It would have been the next, um— Can't even think now. Anyway, I missed out. I'd like to have gone, but I just couldn't do it. I was just getting settled with the first year of teaching at Arizona State College.

TM: You know what let's do here. Maybe this is a good place to put a comma in this—

SB: Okay.

TM: —because I've got a lot of questions now to ask you about Flagstaff—

SB: Okay.

TM: —and all that. Is there anything else you'd like to add to this as part of something that I didn't ask that you think would be good to know?

SB: Well, the one thing maybe when I first came here, there was just a lone geologist here, and he had just taught here a couple of years and he was leaving. He was the only geologist on the faculty here. There was no geology department yet. But I was hired to teach geology, replace this guy who was leaving.

TM: Okay, I'm going to ask you a lot of questions about that. You know, did you come out to Flagstaff? Did they interview you, or did they just take you sight unseen? Let's get into that maybe next time.

SB: Okay.

TM: Because I can see one thing is going to lead to another.

SB: Yeah, they did interview me because while I was coming back from my last summer of field mapping is when I talked to them because I knew I was, I was applying for jobs, even though I knew I wasn't going to be ready until another year. So, they did interview me.

TM: So, that would be 1960, '61? Summer of '61?

SB: It must have been the summer of '61.

TM: I'll ask you next time what you remember about that, and the other schools applied to.

SB: Okay. Okay.

TM: Great. Well, with that, this will conclude Part Two of the Grand Canyon oral history interview with Dr. Stanley Beus. Today is Monday, August 16, 2021. My name is Tom Martin. And Stan, thank you so very much.

SB: You bet. You're welcome.