

**Transcription:** Grand Canyon Historical Society

**Interviewee:** Barbara "Gay" Tidball Cameron (GC) and Kenneth Lincoln "Buzz" Cameron (BC) Part I

**Interviewer:** Tom Martin (TM)

**Subject:** Gay recounts her childhood, Lees Ferry and Phantom Ranch in the 1950s, Part 1

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TM: Today is Monday, December 4th, 2017. This is a Grand Canyon Oral History and today we're speaking with Barbara Gay Tidball Cameron and her husband Kenneth Lincoln Cameron. Barbara goes by "Gay". Her husband's nickname is "Buzz." My name is Tom Martin. So Gay and Buzz, may I have your permission to record this conversation?

GC: You sure may, Tom.

BC: Yes Tom, you may.

TM: Thank you so much for your willingness to be interviewed here. This is part one of possibly a multi-part interview. Gay I'd like to start with you. What year were you born and where were you born?

GC: I was born in 1936 in Butte, Montana.

TM: What were your parents doing in Butte?

GC: Actually, they were living 30 miles east of that over the continental divide in a little town called Whitehall, Montana. My mother was a schoolteacher, my dad owned his own creamery. I am an identical twin, 15 minutes younger than my twin. Our older sister was born in Butte also, in 1931, but we grew up in Whitehall.

TM: What's your identical twin's name?

GC: Wanda Jo Tidball Schellbach.

TM: Thank you. And your older sister?

GC: Her name is Dawn O, middle initial, Tidball. Last name Myers.

TM: Thank you. Do you have any brothers?

GC: No brothers, just we three girls.

TM: Okay. How was it that your dad was doing the dairy farming?

GC: He grew up in Whitehall. I don't know, honestly, if that was just the first job he got in the creamery, but as far back as I can remember that's where he worked. Then he bought the ownership of the creamery, which eventually he had a partner named George Hakola, whom my dad sold his interest in the creamery to in 1951.

TM: I bet your father knew all about the Babcock milk fat test. It was a simple test to figure out, you know, like 2%, half and half, no fat milk. There was a simple test for that and as a creamery guy he would have known all about that.

GC: Sure he did.

TM: Sold out in 1951. So, did you grow up in Whitehall then?

GC: Yes we did. We started school there. There was no kindergarten so we started first grade there. We stayed in Whitehall until Jo and I were 13 years old. We moved to Arizona in spring of 1951. We had taken a summer vacation from Montana in 1950, my dad, my mother and my twin and I, down to Arizona and my parents fell in love with it and the climate. They said let's go back to Montana and sell everything. We did and moved to Arizona, which is what happened.

TM: My gosh. Can you tell me a little bit about growing up in Whitehall? What was that like?

GC: It was a very small town. We didn't know that there were big cities around. [laughing] Everybody knew everybody but it was a lot of fun. We were involved in all kinds of things. My twin and I were very active in the music department with instruments. We each played three musical instruments, the piano, the violin, I played the clarinet, Jo played saxophone. My mother got us started early when we were about five years old. We just had a wonderful growing up childhood, the normal stuff. Rode bikes, got in trouble with the neighbors [laughing], you know, just the normal kid things. But it was a wonderful way to grow up in a small town. It was a real education to get out of Whitehall and see more to the world than just that little dinky town. [laughs]

TM: You mentioned that summer vacation in 1951. Between 1936 and 1950, between when you were born up to 14, did you all... The creamery business can be very demanding. Dairy cows need to be milked twice a day. It can be a job that gives you no vacation time at all. If your father was kind of owning the company, it's possible that he had other people working for him. My roundabout question is: did you have chances to get away and explore more of the world as children growing up?

GC: The only recollection I have of doing too much exploring is every Sunday my dad says we are taking the day off. We would go out in the hills. He would shoot guns, we would explore mining claims, and invariably we always got stuck.

TM: [laughing] Tell me more!

GC: Yeah! [laughing] We would plan for the whole day outing. We got to the point where Jo and I would say, "Daddy, please don't get stuck." [TM laughing] We had an old car, I can't even tell you what it was. But, the Whitehall's, the hills of Montana, they were always full of ice and snow for the good part and mud. We would really get in trouble. I remember one time we went out for a Sunday drive and got stuck in the snowbank and my dad had to walk a mile and a half back to Whitehall to get help. [laughing] That was basically our only recreation that we had other than family picnics with friends and family and that

kind of thing. But no long trips at all. We did go to Yellowstone Park I remember, I don't even know how old I was. We saw a few other places like that. There's a hot springs plunge, we called it a plunge.

BC: Pipestone.

GC: Pipestone plunge. We would spend a lot of our summers there in the water. My older sister, Dawn, worked there when she was in high school. Helped run the plunge and all that. We just had a really wonderful, normal childhood.

TM: Tell me more about the pipestone plunge. I've never heard of it and I don't know what it is, how would you describe it for me?

GC: It was a hot springs and it was between Whitehall, it was probably 10 miles west of Whitehall on your way to Butte. I don't know if it's still there or not.

BC: There's an RV park there now.

GC: Yeah, there's an RV park. We stayed in that years ago.

TM: So, was it people would go to the hot springs just to soak and sort of medicinal take a bath, hot springs are wonderful deals, or were there big swimming pools? What was it like?

GC: Well it was a pretty good swimming pool. Most of us just were swimming I believe. It was in a covered Quonset hut if I remember correctly. They had showers that you would take before you got in and when you got out. But I don't know as though it was for medicinal purposes as it was just for pleasure. We were kids and didn't pay that much attention. [laughs]

TM: Right, no worries. What was your mother's name?

GC: Her full name was Edna Nancy Bolen Tidball.

TM: Thank you. Where was she from?

GC: She was born in a town in North Dakota called Butte. Same town as we were born in but it was Butte, North Dakota.

TM: What were her folks doing up there, do you remember?

GC: I really don't remember.

TM: Okay. How did your mom meet your dad?

GC: She and her older sister, who's named Ella G Bolen, were both schoolteachers. Ella G had moved from North Dakota to Whitehall and got her first teaching job. Two years later, my mom graduated from college and she [Ella] got her a job in Whitehall. So my mom moved out to Whitehall and that's how she met my dad.

TM: Do you know roughly what year that was?

GC: They were married in 1929, June 2nd of 1929.

TM: I just think about how wonderful it would have been to have a parent who was a teacher who really would have then given their best to their children as a teacher. Did you find that helpful and were you introduced to reading? You mentioned you were introduced early on to music. It's a wonderful thing.

GC: Oh yes. Oh yes, our mother was a teacher from day one. She cracked the ruler. She insisted that we do our homework and she worked with us. She worked, I think, more with our older sister Dawn because she was five years older than Jo and I. By the time we came along she went back to teaching and she didn't quite have the time to spend with us that she did with Dawn. But she was very much the educator. We had to crack the mark or we got in trouble. [laughs]

TM: Okay, okay. What fun stories can you tell me about your mom?

GC: She never knew a stranger, she talked to everybody in the world.

BC: Never shut her mouth. [TM laughs]

GC: [laughs] She was very opinionated. If she liked you, she liked you. If she didn't like you, you knew it. [laughs] She was a fun person, very musically inclined herself, very talented. She was a wonderful educator. She could take a classroom and get their attention. Everybody just raves about how lucky they were to have her for their teacher.

TM: Nice. So was she teaching in the school that you went to as a child?

GC: Yes she was. Whitehall Grade School, it was only one school. She tried to avoid us as much as she could, thinking that she didn't want to teach us, give us a chance with somebody else. But there were a couple classes, I know, she had to teach. Like when we were in the 4th or 5th grade they had teachers that roamed or whatever you want to say. So we had a couple subjects from her. But she was hard on us, we had to do it or we didn't make it. [laughs]

TM: Okay. Trying to think, any other stories about your dad you want to recollect right now as you were growing up as a child?

GC: He loved to hunt. He was quite an avid hunter and a fisherman, too. That was his one recreation If he could get away on Sunday or for half of a Saturday afternoon from the creamery. Every year he would go out and get us a deer and get us an elk most of the time. The outdoors was his life as much as he could make it with working. He was a brilliant man, he graduated valedictorian of his class.

TM: Where?

GC: In Whitehall. Yeah, he was born in Whitehall also and graduated. I don't know how many were in his class, probably not too many. He had a sister, Josephine, who was two years younger. She grew up in Whitehall, I believe too, until she got older and got married and moved to Detroit, I believe.

TM: Do you know what your father's parents were doing in Whitehall?

GC: I really don't.

BC: If my memory serves me from listening to them, Dean's father was a mining man and he ran the lifts that brings the ore and stuff out of the mines/out of the shafts. I don't know about his mom.

GC: Yeah, I don't know either.

TM: Alright. So then, that summer vacation in 1951, was the first time you guys really headed out any substantial distance away from Whitehall where you grew up. Is that right?

GC: You're right, yeah.

TM: Tell me about that summer vacation in 1951. What do you remember about that?

GC: My twin and I didn't know where Arizona was on the map. [laughs] But anyway, we took off from Whitehall and ended up... I know we came down through Mesa and we went to Phoenix and went through the capital. We were amazed at the saguaro cactuses. We didn't know what a saguaro cactus was. We went all over down in this area more than anything.

TM: What do you remember about the roads?

GC: They were narrow, but they were paved. I don't remember how long that vacation was, maybe a week at the most. Maybe 10 days.

TM: And there were five of you in the car?

GC: No, four, four. Yeah, my dad and mom and my twin and I.

TM: So, Dawn didn't go?

GC: No, no. She graduated, whatever five years back was, from high school and then she went to nurses training in Bozeman. When we moved to Arizona we left her in Bozeman going to nursing school and she graduated and got her degree.

TM: Great. Alright. So it's you, your twin and your mom and dad. You know, the typical vision of the American family with the kids in the backseat. What else do you remember about that trip?

GC: How hot it was [laughs] down here in Arizona compared to cold Montana. We were just in awe of everything. I don't think we went to see the Grand Canyon on that trip, I don't know why, but I don't remember seeing it. We just were amazed at all the history or the country here with the plants. I can't remember where all we went, Tom, but it was exciting for us. We'd never ventured out of little Whitehall our whole lives so our eyes were really open.

TM: So let's back up a little bit because clearly it sounds to me, if I can be so bold, your parents were fairly smart, fairly intelligent, and I don't get a sense that things were happening kind of off-the-cuff. It sounds like this was a planned adventure. Just kind of thinking, do you know, through the family stories, were your dad and mom kind of discussing "alright we need to change out of Whitehall. There is more of a world out there than this and let's go exploring". Do you kind of know how that came about?

GC: Well, I think a good part of it was, and I don't even know what even made them want to come to Arizona, but after that trip they had the bug "we gotta get out of cold Montana and move to a warmer climate." My dad was all for it because working, you know, he'd get up early and go get the milk from the farms and all that. So he froze, I'm sure, for years. They were just kind of getting tired of the cold and so we came to Arizona. One of our first stops, I believe, was at Marble Canyon. That's where they got acquainted first with Lorenzo Hubble. Whoever was running the trading post there said, "If you ever want to move, we'll put you to work." So that's what happened when we first moved down here in 1951. We landed in Marble Canyon and my dad was a maintenance man for Lorenzo Hubble.

TM: So hang on a second, let's kind of expand on this a little bit. The summer of '51 was a vacation and your parents came back to Whitehall and said, "That's it, we're packing up, I'm selling out," just like that?

BC: The vacation was in '50, wasn't it?

GC: Oh, the vacation might have been in '50, Tom.

TM: I'm sorry. Okay. No that's my fault.

GC: No, I'm losing track of my years here.

TM: Got it.

GC: Probably did that vacation in '50 and then moved in '51.

TM: So, on that move in '51, do you remember what time of year it was when you left Whitehall? What were you thinking as a teenager now, "gee, I'm leaving my friends and family." Well, family was with you but...

GC: Yeah, we were a little upset. We didn't want to leave our friends, of course, and this was in the spring of 1951. We were freshman in high school in Whitehall.

BC: You were going to be freshmen, weren't you?

GC: Or were we in eighth grade? Let me think a minute here, Tom.

TM: No worries.

GC: When we moved from Whitehall we had six weeks left of our freshman year.

BC: Eighth grade.

GC: Eighth grade.

BC: I think it was eighth grade because you spent freshman year here. Or maybe the last six weeks of your freshman year.

GC: Yeah, we had the last six weeks of our freshman year of high school when we left Whitehall. We landed in Marble Canyon where my dad got a maintenance job for Lorenzo Hubble. I remember he helped clean cabins or whatever else you'd do to help. When we landed here we had six weeks left of our freshman year of high school to go. Just up the road was another trading post owned and run by Buck and Betty Rodgers called Vermillion Cliffs I believe. Buck was white fellow and Betty was a full-blooded Navajo. They had five children and they had a beautiful home in Flagstaff where they all went to school. My mother, not knowing any strangers, got acquainted with them real well. Betty and Buck said, "Your children can come stay with us for the last six weeks and live with us and finish out their freshman year of high school in Flagstaff." So that's how we did our freshman year.

TM: Wow! What a huge change for you and Wanda.

GC: Oh it was, it was. Yeah, we got acquainted with the Indians. [laughs]

TM: Yeah, well, and Flagstaff, mountain town. I'm assuming Whitehall was probably elevation 5,000 feet or so, maybe six.

GC: Right.

TM: So you weren't too unfamiliar with a mountain town, but the whole thing of like, mom and dad are out in the desert with Lorenzo and we're here quite a ways away in Flagstaff trying to meet new kids in your freshman class and dealing with Buck and Betty's children.

GC: Right, right. The one good thing, Tom, we've always had, Jo and I always had each other. [laughs] And that was a real blessing.

TM: Oh my gosh, yeah. What can you tell me about your recollections of those final six weeks of being a freshman in what would have been Flagstaff High School?

GC: We were nervous as all get-out. We didn't know anybody, whatever, but it didn't take too long until we got acquainted with certain friends and we got into the band right off the bat. We would spend the weekdays living with Betty and her children in the home and then Buck would come in from Vermillion Cliffs Trading Post that they had and pick us up every Friday afternoon and take us out and we would spent the weekend at Marble Canyon with my dad and mom. Then their children would go on to their trading post. And then he would take us all back on Sunday. One of the experiences, Buck was a real rough-tough whatever he was and I remember he... I don't remember what the history was at all but one time when we had some Indians come to the door, Indian men come to the front door, and Buck was there and they got into a huge fistfight. Blood was splattered all over the walls and my twin Jo was playing Jesus loves me on the piano. [laughs] It was a nightmare free-for-all and I think the cops were eventually called. I don't know it was all about but I'll never forget it. [laughs]

TM: This was in Flagstaff, at their home in Flag?

GC: Yes, in Buck and Betty's home in Flagstaff.

TM: Oh my heavens. Did you tell your mom and dad about this?

GC: Oh yes, oh yes. They were shocked, they didn't know what to do [laughs] but they knew we were on the homestretch of school so if we could wing it out... [laughs] But Buck was the kind of...he was kind of a fighter. It was either his way or whatever. Nice guy, I think, but he didn't let anybody tell him what to do or how to do it. [laughs] What this was all about... I think these were Navajo men that came to the door and I think there was some history going on there that caused all this, so who knows what. [laughs]

TM: Well Buck and Betty were way ahead of their time as a mixed-race couple...

GC: Yes.

TM: ...with children and I really laud them for saying hey, we don't care about that stuff we're going to hang together as a couple. That could have been very upsetting to not only Buck's family, but Betty's family as well.

GC: Right, right, that's very true. Yeah. I do remember Betty is the one that pierced our ears one day. They had two daughters and three boys. One time we came home from school and Betty said, "Let's get your ears pierced." So we had pierced our ears and put potatoes on them and whatever, her two daughters and Jo and I. So I've got pierced ears and it's because of Betty Rodgers. [laughs]

TM: Well, wait a minute, I'm just thinking about your mom and your dad that are pretty sort of straight upright kind of folks. They send you off with these people and there's fistfights and you come back with your ears pierced. [laughs]

GC: I don't think they knew what to think. [laughs]

TM: This is the Wild West we've sent our children to. [laughs] Oh my.

GC: It is. [laughs]

TM: What do you remember about Lorenzo Hubble?

GC: I don't remember too much, I wasn't around him all that much. I know my parents liked him. I think he was a matter-of-fact business man. My folks got along with him real well. He didn't come out to Marble Canyon too very often.

TM: Can you describe him for me, what you remember?

GC: He was a heavyset man, if I remember correctly. Very polite. I really didn't pay that much attention to him, Tom, to be that honest with you.

TM: No worries. Can you describe for me the Marble Canyon lodge as you remember it at that time?

GC: Okay. It was a nice motel, I can't remember how many cabins they had attached. It was all built with native rock sandstone around it. The cabins were very nice. We had stay in two different cabins, my folks in one and Jo and I in another, for that six weeks or whatever it was. Then right across the highway was the curio shop and the restaurant. My mother would go over and help in the curio shop a little bit. There's a water tank up on the hill that provided the water to the...

BC: Facility.

GC: Yeah, facility. My dad would have to go up there daily to do something, whatever he did.

BC: Probably fire up the pump.

GC: Yeah. Fire up the pump or whatever he did. It wasn't a real big heavy job he did but he liked it. It was outdoors and he was very good with machinery.

TM: Well, your dad might have liked it, how did your mom manage?

GC: She liked talking to the people. Of course a lot of tourists would come by. She would make friends with all the tourists and she would help rent out the cabins. Maybe she did most of that. So she kept busy, you know, cleaning cabins. At that time it was just a little narrow highway going through there, which it probably still is.

TM: That's right, that's right.

GC: She kept busy but they knew that this wasn't going to go too far. Then they got acquainted with Lorenzo Hubble and he said, "Well I've got an opening to run the trading post in Oraibi." So after we got out our freshman year in Flagstaff, my folks and Jo and I moved to Oraibi.

TM: And that's in Arizona?

GC: That's on the Hopi Indian Reservation.

TM: Okay.

GC: Yeah, that's just east of Marble Canyon.

BC: Southeast.

GC: To the southeast.

BC: That's on the Hopi Reservation.

TM: Yes. Yes, I got that. And that's in Arizona. So then, you really didn't get a chance to time... You sort of had weekends, it sounds like, there at Marble Canyon for a month/month and a half, and then fairly quickly moved off to Oraibi? Or did you actually spend that first summer of 1951 there at Marble Canyon Lodge?

GC: No, we moved to Oraibi shortly after we were out of school.

TM: Okay. Because, of course, I'm thinking about the river and river runners that might have been coming through Marble Canyon Lodge but that, I'm sure, will come up later down the road and there's a good chance that that quite didn't get into your radar screen in 1951, but I just want to check.

GC: Right, I don't believe it did, Tom.

TM: Okay. Another question I've got about the Marble Canyon/Vermillion Cliffs area at the time in 1951, did Cliff Dwellers Lodge get on your radar screen?

GC: Yeah, it sure did. With Art Greene?

TM: Yes, please tell me.

GC: Art was the owner and I can't think of his wife's name, but he ran Cliff Dwellers.

TM: He had some daughters as well, didn't he?

BC: Quite a few kids.

GC: I really can't remember. He did have family and I can't remember how many or where.

TM: Okay. At that time in 1951, I seem to remember that he had his giant aluminum airboat with a huge engine out the back of it, the airboat that he would take down to Lees Ferry and put in the water and then drive that thing thundering all the way to Rainbow Bridge. Did that get on your radar screen there in 1951?

GC: No, it did not. I've seen pictures of that, but it wasn't present when we were there.

TM: Okay. You've said a couple wonderful stories about Buck and Betty Rodgers, any stories about Art Greene over at Cliff Dwellers?

GC: We would go up there, my mom and dad and Jo and I, would go up and have a coke late afternoon or something. Of course my parents would visit with him. My mother and dad got really well acquainted with Art and they would tell stories. But we were just young girls, we weren't paying too much attention. [laughs] I really don't recollect too much out of the ordinary other than having a good time up there with whoever might have been there. [laughs]

TM: Nice. Fun. Okay. Then let's go to Oraibi.

GC: Okay.

TM: How did you get there? What do you recall about it?

GC: Like I say, Lorenzo Hubble gave my mom and dad a job running that Hubble Trading Post in Oraibi.

BC: There are two parts of Oraibi, there's Old Oraibi and New Oraibi. The Old Oraibi was where the trading post was, wasn't it honey? Yeah. The Hopi Indians are a very private type of people. I guess they took to your folks without any problem. But still, it was very, very primitive as well as Marble Canyon. Marble Canyon at that time there was no electricity except the coal plants and things like that. I don't know what sort of... You had electricity at Oraibi, too, didn't you, hon?

GC: Yeah, we did.

BC: I don't know where they got that.

TM: So you loaded up the car again and left Marble Canyon and drove over to Old Oraibi. That would have been down to Tuba City or over/down toward the Gap, and, let's see, is that right?

BC: Yeah.

TM: And then down over to Tuba City and off to points east. Gay what were you thinking suddenly driving out through the Painted Desert?

GC: "Where are we going now?" [TM laughs] "What are we going to do?" [laughs] I think by this time Jo and I didn't know what was going on with our lives but we didn't worry about it, we knew we were in good hands with our folks. Anyway, there was a nice big house right attached to the trading post, that's where we lived. Of course it didn't take my mom long at all to get acquainted with all the Hopis. She soon found out, Tom, that there was a Hopi band and they would practice two or three times a week, or maybe more. She said, "I've got girls that can play instruments, can they join you?" And these men said, "Of course." These are all grown married men.

TM: Wow.

GC: So we soon started practicing with them down in a kiva.

TM: Wow! Tell me, so wait, wait, wait. Let's back up a bit [laughs] before we get to the band in the kiva. Tell me about the big house next to the trading post, tell me about the trading post, tell me about Old Oraibi.

GC: You know, I don't remember that much about it, Tom. The house was built, I think, with rock. I don't remember. It seemed like it was big compared to what we had at Marble Canyon, which was just two motels put together. I don't believe it was quite attached to the trading post and I don't remember that much about the trading post, either, Tom. It was full of Indians goods, you know, and Indians coming and going all day long. My mother loved it, my dad didn't like it so much. He wasn't an Indian trader. My mom could have taken to it, and did with the Indians. She loved that but I don't... We were not in the trading post that much. Jo and I made our own playtime with some Hopi kids and just did our own thing as eighth graders do, whatever that was. [laughs]

TM: Yeah, yeah. Let's stop for a minute 'cause you mentioned that your mom really enjoyed the trading post and your dad not quite so much. Were there a number of tourists coming through Old Oraibi at the time or was the trading post, as you say, simply set up as a, if I may here with some generalizations, be sort of the only, if you will, supermarket in town in a small, rural community and it was the place to go for dry goods and food stuffs and things. It wasn't the trading post we might think of today with handcrafted goods for the tourist trade. Can you kind of tell me how the trading post was set up?

GC: I believe it was mostly set up, Tom, for the locals, for the Indians themselves, for a place to go trade their goods and buy their groceries and all that. I do not remember too many tourists. There were a few, but not very many that I recall. It was mostly for the Indians well-being, to bring their wares and trade whatever or sell whatever they made and buy their flour and their sugar and whatever else they needed.

TM: So this was in a way, a barter exchange rate. I can appreciate that might have been very difficult for your father, coming from the creamery business where, okay, you have a set schedule, you pick up the milk, there's some financial trading that happens, but there is not a lot of head-scratching to figure out, well how much is this milk worth today and how many blankets are you going to give me for it. As a barter-based store, that's a fascinating business.

GC: Right, right, yeah. I believe that's what it mostly was, Tom, is the Indians coming in every day. I think we kept it open, maybe not on Sundays, but I think it was open the other six days of the week. So they were pretty well tied down. I think our only day off, again, was on Sunday.

TM: Alright, so now let's wander off to the kiva. Your mom kind of set you up for this. It doesn't sound like something that you girls went out and figured out, is that right?

GC: No, we did not even know what a kiva was and we didn't know what an Indian was. [laughs]

TM: So, what do you remember about that first band practice?

GC: We were nervous, you know, but we had this musical background. I remember going down the ladder into this kiva with our musical instruments and it was just a big round circle room. The men were all there and they said, "Okay we want you to join us." So they set us up with music and all that and so we started practicing. I'm sure we practiced, two or three/four times a week. These men, they were grown men, but they were excellent musicians. They didn't miss a note, they didn't do anything. Jo and I were pretty proud of ourselves that we could keep up with them.

TM: You bet and what kind of things were you playing?

GC: What kind of instruments?

TM: Well instruments and then type of music?

GC: Oh, all kinds of music. A lot of marching music. I was on the clarinet, Jo was on her saxophone. We played all kinds of music, I don't remember exactly, but it led us into marching with the Hopi band in Prescott, Arizona on the 4th of July that year for the Prescott Frontier Days or...

BC: Frontier Days, I believe, yeah. We were the only girls and the only whites, the rest were all Hopi men.

TM: Wow. That's brilliant! This was then in the summer of 1952.

GC: Right, July, uh-huh, in the summer of '52.

TM: Tell me, tell me. What else do you remember about that?

GC: It was just a fun experience. I don't know what prompted my folks, but there again, they ran that trading post for probably a couple months and then there was another Hubble trading post at that time up north of Oraibi called Pinyon. The people that were running that went on vacation and we were up there for, I think, 6 weeks maybe not even, maybe a month, not very long. They went up there and I don't remember too much about that it was a pretty fast thing. Actually, it wasn't even six weeks, more

like two weeks. Then from there, Lorenzo Hubble offered my folks the job of running the Hubble trading post in Ganado. So we moved to Ganado that same summer of '52 in August, I believe.

TM: Okay, before we scurry off to Ganado, and by this time you're really starting to get an awareness of high-desert country, pinyon, and rural remote. Talk about rural remote, kind of puts Whitehall to shame.

GC: Right, got that.

TM: [laughs] I just, kind of, don't quite want to leave the girls in the band in the kiva. I mean, [laughs] any other stories about that? What other instruments were the men playing? Do you remember?

GC: They were playing all of them. The trumpet, the trombone, all the brass, the clarinet, all the woodwinds. There wasn't one that they weren't playing, Tom. And the drums, you know, they were excellent musicians.

TM: That would have been a crowded kiva.

GC: It was. It was. Yeah. But they made room for Jo and I. And like I say, I wish I'd paid more attention to what was in the kiva besides people. [laughs]

TM: Well you couldn't see! [laughs] I mean it was just full of people and musical instruments!

GC: I tried, yeah. Every one of those men took Jo and I under their wing and they just treated us like queens.

TM: Oh, that's wonderful! What were the acoustics like?

GC: Very loud.

TM: [laughs] I was going to say.

GC: I remember that. [laughs]

TM: What a wonderful story.

GC: What a wonderful experience, we'll never forget it.

TM: My. Okay. Now let's shift to Ganado, there's a missionary hospital in Ganado and the Hubble Trading Post is there, just a mile or so west of the mission hospital area. Is that right?

GC: Are you talking about the Pinyon Trading Post?

TM: No, I'm sorry, I've gone off to Ganado now. I should have told you.

BC: I don't think there was anything there at Ganado at that time, was there?

GC: No I don't believe so. I know there was a hospital there in Ganado.

TM: Right, the hospital, that's right. Because the hospital was started in the teens or twenties, wasn't it?

GC: I'm not sure. It was there, I know.

TM: Right. And that's run by... I'm trying to remember the religious organization that ran that hospital, it still is connected with it today.

GC: Oh. I don't remember, Tom.

TM: Okay, well what do you remember then about Ganado?

GC: We moved there, like I say, probably around August of '51. There again my mom loved the Navajos. That was on the Navajo reservation. They ran that trading post. My mom loved the Indians, my dad didn't like them so much. [laughs] I think it was just a different world for him and he never really got quite used to it. They had another caretaker living on the property. He was a Mexican man with a wife and they kept having a lot of babies, I remember. They had a whole... [laughs] We would try to ride the horse and the horse didn't know what we were doing so he'd take us under a tree and knock us off.

TM: [laughs] What a smart horse.

GC: Yeah. [laughs] Yeah. But, I say we were only there about a month before we had to, there again, go to high school, so we had to find a place to go to high school in Gallup. So my mother being my mother, we went to Gallup and she got us enrolled in... That would be our sophomore year of high school. I don't know how she found this lady, but her name was Mrs. Pascaloni. She was Italian and I don't know how you spell Pascaloni.

TM: Do you remember her first name?

GC: No, I don't.

TM: Okay, and she had a house there in Gallup that you and Jo were able to room in?

GC: Right, right. She had a front living room that had a sleeper couch and then a big chair that made out into a bed. She cooked us wonderful Italian dinners. Yeah. [laughs] She was a widowed lady, an elderly lady, but she was very nice.

TM: Nice. So, Gallup, this would have been now into the fall/late summer 1952. Gallup was on Route 66, is that right?

GC: That's right.

TM: And Route 66 at the time, of course, the train was still really important in the country but the roads were more and more important now. Do you remember that being a fairly busy town?

GC: Right, it was busy. We thought we'd gone to the city. [laughs]

TM: Wow. What do you remember about Gallup as you started your sophomore year in 1952?

GC: We were in awe of the big city, so to speak. I say, we were sophomores in high school, got acquainted, there again, with the band. Long story short with the band, we tried out for all-state band and Jo took first chair for the state of New Mexico with her tenor saxophone. And I came in fifth chair clarinet.

TM: Wow! In the state?

GC: Yeah, in the state.

TM: Well done!

GC: I think we owe a lot of that success to the Hopi band. [laughs]

TM: Is that right? That's wonderful.

GC: I'm sure we owe much to them. [laughs]

TM: Why do you say that? Did they give you confidence in performing?

GC: They just thought we were wonderful and they... We played hard music and you either had to practice and do it or... Of course they never said no to us, but you know, they challenged us. And then we were from my mother, from day one you got to meet the challenges in life. [laughs]

TM: Nice. Nice. What do you remember about travelling then on the music circuit, if you will, to go to the competitions?

GC: I believe we went with our band instructor from Gallup. We'd go over to Albuquerque to try out and that was just a long day, if I remember correctly. Then of course with the Gallup band, we went places for high school with a football season and that kind of thing. Just a marching band type thing. Then we put on our concerts, of course, in the winter time. There again I had to try out for first chair clarinet in the Gallup band. I competed against seniors and juniors and I was the only sophomore.

TM: Wow.

GC: Yeah. [laughs] Jo was the only tenor saxophone that made it. [laughs]

TM: That's amazing. How many other sax players were there?

GC: I think there were two others with the tenor. There were more alto, that's a smaller sax, but tenor is a little bit bigger instrument. I think there were two others. Of course there were, oh, probably 15 clarinets.

TM: So as you as were getting into the music scene there, were your mom and dad still at Ganado?

GC: Yes they were, yes they were. There was another girl from Ganado. Her folks ran another trading post there in Ganado and she was the same age we were. She, too, had to go to Gallup to go to school. So our parents would take turns, if they could, coming in on Friday night picking us all up from high school, taking us back for the weekend. Then one or the other would bring us back to Gallup to go to school the next Monday.

TM: What do you recall about your weekends with your family?

GC: Our mom and dad were gone most of Saturday in the trading post. Jo and I would just horse around, play around. [laughs] That's all we did.

TM: Okay. Okay.

GC: Can't remember too much. I think it was in that summer before we went to Gallop, that Lorenzo Hubble's son John was there. John Hubble was his name. We got to playing chess with him. He was a professor, I believe, at a college back in New York.

TM: Ah!

GC: We would play chess with him and we would beat him.

TM: Wow! [laughs]

GC: [laughs] We were pretty proud of that, too.

TM: I bet, I bet. So I would assume Saturday was a busy day at the trading post?

GC: Yes, it was. One of the busiest, I believe.

TM: I'm thinking, what kind of vehicles would the Navajo have come in to the trading post with? Were these rubber-tired wagons and horses or automobiles? What were people driving then?

GC: I believe most of them was covered wagon, well maybe not covered, but wagons and horses. And they would have it loaded up with whatever they had. They would get hay from the barn that was behind the trading post.

TM: Oh. They had feed there as well. Okay.

GC: Uh-huh. But I believe most of it was all done with horses and wagons.

TM: Were you conversant with how to hook a horse to a wagon? Could you put the pieces all together and figure it out?

GC: No, I didn't even want to try. [laughs]

TM: Okay. Alright. Alright.

GC: [laughs] That didn't interest me at all. [laughs]

TM: [laughs] Okay. What do you remember about the general school there in Ganado, '52/'53?

GC: Oh, actually you mean Gallup?

TM: I'm sorry, thank you.

GC: Gallup, yeah. It was a nice high school and we got acquainted real well with all the kids in our school. Jo went one way, she took different classes than I did. Being twins we wanted to kind of go our separate ways. I know we both had to take algebra. She took hers from one teacher and she said that they just played and lit firecrackers and had fun. [laughs] It was just a typical high school, but we got acquainted with everybody. It was enjoyable and, of course, our band was our main goal in life I think.

TM: Okay. I'm curious, thinking about twins in the American West. It's kind of a novelty. Twins were rarer than they are today.

GC: Ah-huh.

TM: Did you guys get a lot of attention? There's a 15-minute difference you mentioned, but still, were you identical twins? There's some different types of twins.

GC: Yeah, Tom, we're identical.

TM: Okay. Did you wear your hair the same and try to wear your clothing the same? Did you play that, could you confuse people?

GC: Well, we did for a while and then as we got older, we didn't want to look alike. [laughs]

TM: Okay.

GC: [laughs] But my dad never could tell us apart. [TM laughs] [laughs] My mother knew who we were but when we got in trouble, of course, nobody admitted to anything so she said, "I spanked you both and that way I made sure I got the right one."

TM: [laughs] Oh my gosh. Did you ever play any tricks on anyone with your twinage?

GC: Oh yeah, we did that. We also played tricks on our husbands, Buzz sitting here and her husband Don.

TM: Well, before we get there, 'cause I haven't even started in on poor Buzz yet today. [laughs] Tell me some of the tricks you might play there in Gallup as twins.

GC: Uh, gee, other than on boyfriends. They'd say let's go out get an ice cream or something so the other one would take its place. [TM laughs] Never knew the difference [laughs] We didn't tell them. [laughs] I can't remember. We were kind of naughty girls, I think. We liked to play tricks.

TM: Well it sounds like you had kind of a healthy sense of humor.

GC: Yeah, we did. We did. Very much.

TM: Okay. Then into the winter... The winters can be kind of tough. Cold and still driving back and forth from Ganado to Gallup on weekends. Did that then happen for the rest of the year and then into the spring?

GC: Yeah that happened all year long. I remember going over icy, snowy roads a few times in the winter time because it can get bad there. But I don't think we missed any weekends that I recall.

TM: What other... Does anything else stand out for you as an adventure or unique things that happened there that would have been in, where are we now in the timeline, '53 into '54? No, this would have been '52 into '53.

GC: '52 and '53, right. I don't remember too much out of the ordinary, other than the normal way of life. Just getting through school and everything. Jo took classes that would get her ready for nurses' training and I was very much interested in the business school. So I took the shorthand and the typing and all that stuff.

TM: What do you think attracted Jo to nursing?

GC: I really don't know, other than our older sister Dawn, she wanted to go into nursing. Whether that was part of it or what, I really don't know. But she always wanted to be a nurse, also, and she was a very successful one.

TM: Dawn was?

GC: And Dawn was, too. Yeah. Dawn didn't really care for the nursing as much as... She eventually went back to several colleges and got her degree in education and so she became a school librarian. Yeah. But Jo stuck it out for the nursing and was very successful all of her life.

TM: Nice. What attracted you then into business?

GC: I just like typing, I love shorthand. I didn't want any part of nursing. [laughs] That medical stuff. I like the desk work. I like meeting people. I just love working, you know, with paper and pencil. [laughs]

TM: Okay. I'm going to go back to...the word I use, again, is twinage. Did you and Jo have a secret language at all, did you communicate with?

GC: I'm sure we had a whole language. My folks couldn't understand us for quite a while.

TM: Okay.

GC: Yeah, from what I understand. I don't remember it, of course.

TM: Not uncommon between twins, twin girls to have sort of either Pig Latin or a certain way to communicate in certain language that would sort of talk right past people.

GC: Right. Right. I think we were guilty of that. [laughs]

TM: Okay. [laughs] Alright. So then into the summer of 1953.

GC: Ah-huh.

TM: I guess I should step back a minute and say, did you go ahead and finish up your high school in Gallup? What happened next?

GC: Okay. We finished out our sophomore year in Gallup. Then at that time my dad said, "I've had enough Indian trading post work." He just wasn't real happy. My mother, being a schoolteacher, she started sending out applications for teaching and she got an offer with the Mesa public schools down here in Mesa, Arizona, where we are now. So we moved to Mesa, probably July of '53, '52. '52?

TM: Yeah 'cause the fall of '52 would have been your sophomore fall in Gallup and then into the spring of '53, if I get this right.

GC: Right. Right, ah-huh.

TM: So mom got a job in Mesa. Woah! The big city.

GC: Yeah, right where we're living now, of all things.

TM: My, so you moved there in July of 1953?

GC: Probably July. It was hot, I remember that.

TM: You bet it was! Oh, my! Well back in those days, air conditioning was like a canvas bag swung onto the rearview mirror of the car and you got to drink some cool water and that was about it.

GC: You got that right. Yeah, yeah. My folks found a little duplex down here. It was one bedroom on one side and the two bedroom on the other. Well, we had to move into the one bedroom because the other side was already rented, or whatever, but that's when my dad started looking for jobs. I don't know how he happened to send off applications, or he did, but that's when he applied to the USGS. He got hired with them in September of '52.

TM: Yeah, 1953, is that right?

GC: '52. September the 11th of 1952. He started with the USGS.

TM: Okay. I'm a little confused, I'm going to back up a little bit here 'cause I was thinking that he was still working in Ganado throughout the '52/'53 year. Sort of the fall/winter into spring there, you were in Albuquerque doing the band stuff.

GC: Hmm.

TM: He could have started working for GS in September of '52 but they might not have assigned him somewhere, is that right? Can you help me out with the timeline here?

GC: Oh, I've got my notes here, Tom, that I made yesterday. I've got a note that he started with USGS September the 11th of 1952 and that would have been right because we started our junior year down here in Mesa in '52, got out in '53. Our junior year.

TM: Yeah, so freshman year finished up in Flagstaff.

GC: Right.

TM: Sophomore year would have been in Gallup.

GC: Ah-huh.

TM: And junior year started in Phoenix.

GC: Started in Mesa.

TM: Started in Mesa. Okay, thank you. I'm just a little goofed up in my years here. [laughs] Buzz, you keeping track of this? Where are we at? Anyway, yeah because it seems like your mom is really adaptable/flexible. Did she learn Navajo?

GC: She did. She learned quite a bit of it. And she loved it. My dad didn't care if he learned any of it. [laughs]

TM: It's a very challenging language to learn and I'm assuming it would have been a struggle for your father as well. I can really appreciate why your mom would have really gotten into it and just loved it.

GC: Oh she did. She just loved it. She loved the Indians and she would love to talk to them, barter with them, or whatever. I think she basically ran the trading post.

TM: Wow. Wow. Okay, so what do you remember... What were your first memories then of Mesa? And again, I'm assuming that's in July of '53, but I'm not quite sure here.

GC: No I think that would have been in '52, Tom, if my dad... I remember my dad... We all moved to Mesa from Ganado and it was hot. Then he got this job with the USGS and I've got a note that he started there in September the 11<sup>th</sup>. Then he took off to the Grand Canyon, for the bottom of the Grand Canyon, that was his first assignment with them.

TM: Okay. You know what Gay, let's stop for a minute, let's go back and work out this timeline. Because I want to make sure. I could get it completely wrong here. Your summer vacation from Whitehall, the first time you guys went down to Mesa, that was then in 1950?

GC: Yeah, that was in '50.

TM: And you guys sold out and then that summer moved off in 1951.

GC: Right.

TM: Okay. And so you finished off your schooling, your freshman year, in the spring of '51, staying in Flagstaff with Buck and Betty.

GC: Right, right.

TM: Okay, so then in the fall of '51, at that point then you're in Gallup.

GC: Right, we're in Gallup in '51.

TM: Alright, so let me make sure I am going back through this. So the Hopi band would have been in the summer of '51.

GC: Right.

TM: Okay, thank you. I've got the timeline goofed up here. So then in August of '51 that was the move then out to Ganado.

GC: Right.

TM: Okay, and moved in with the Italian woman, Pascaloni, then in Gallup in 1951.

GC: '51, ah-huh.

TM: Then through into '52 there, finished off your sophomore year in '52.

GC: '52, ah-huh.

TM: Got it. Then in 1952 you guys moved to Mesa.

GC: To Mesa, you got it.

TM: July of '52. Alright. So then your dad got a job working for the USGS September 11th of 1952.

GC: Right.

BC: No, I don't think so. I just looked at his work records that we got. We decided to press a claim against the United States for the downwinder radiation exposure thing. We were successful in doing that and it appears like he first went to work for the USGS... I'm looking at/I'm reading a paper, it's a typical government thing. Oh wait a minute. September 11th of 1952.

GC: That's what I said.

TM: Yay! I love this kind of history when all the stars align. [laughs]

GC: [laughs] Oh, I feel sorry for you, Tom, with all this.

TM: No, no this is wonderful. It's so easy, as you can see, for me to get dates wrong and then suddenly I'm like oh wait a minute what year is this? Let's go back and figure it out.

GC: After all these years, I can't keep it straight and I was there. [laughs]

TM: Well thank you. This is very... I appreciate that, Buzz, and of course, thank you, Gay, to figure out that timeline and how that would have worked out. Okay, so it would seem to me that your dad got an

assignment to Phantom Ranch in the bottom of the Grand Canyon...in the fall of 1952 and he would have just disappeared.

GC: Right. Yeah. He left us and, of course, he said, "I'm going to the bottom of the Grand Canyon." We didn't know what that was or where it was. [laughs]

TM: Right. So at one point now, pretty soon, you're going to get your first glimpse of Grand Canyon.

GC: Right.

TM: Tell me about that.

GC: Okay, we went down there like I said in September and, of course, my mother... I'm sure we corresponded with him as much as you could when he's in the bottom. Our first vacation would have been I believe Christmas time when we/our first time down after, you know, we had our Christmas vacation from high school and mother was out of teaching. I don't think we went down there for Thanksgiving, but anyway, we went down that Christmas of '52.

TM: Hang on, before we get there, I'm sorry, I'm just going to back up a bit. I'm assuming that job at the bottom of the canyon is an everyday job. It's kind of like life back at the creamery. You've got to collect that data every day and so did your father get a chance to come home and see you guys at all that fall?

GC: No, he did not. No. The only time we got to see him was when we went to see him.

TM: Right. Okay.

GC: Right. A 7-day a week job.

TM: Yeah. Okay. So it's Christmas 1952, you and Jo are out of school, its Christmas break, your mom's not teaching and you guys drive all the way up to... You were familiar with Flagstaff. Did you connect the dots then: okay here's Flagstaff and dad's kind of up north, I know where Flagstaff is.

GC: Yeah. Yeah, we knew where Flagstaff was. My mom drove us 'cause we weren't driving. I don't remember if we went through Williams to get to the Grand Canyon or if we went the back way through Flagstaff, to be honest with you. I know we got up there and arrived and stayed at the Bright Angel motel, or hotel.

TM: Okay.

GC: It was late in the afternoon, I remember. We walked in and we had a room there and these two young boys came up to my mother and said, "We'd like to take your girls to the movies tonight." [laughs] Of course we didn't know anybody, but she said okay. She thought it was a small enough community and everything. One of the boys was, his name was Sam Turner, his dad ran the...

TM: [laughs] No kidding!

GC: His dad ran the train station there.

TM: Yeah!

GC: I don't know if you've heard his name, and then I can't remember the other guy, it was Eddie somebody. They didn't have any money, so they borrowed money from a young man by the name of Donald Schellbach...

TM: Oh my gosh.

GC: ...who was a bellhop there [laughs]. He loaned them the money to take us to the movies. [laughs]

TM: What do you remember about that evening with Sam Turner?

GC: Oh, oh it was fun. Of course, we didn't know where we were or what we were doing. It was fun. I don't even know what movie we saw, but they were very polite young men. Brought us home after the movie, back to the motel. Then we got up the next morning and I believe we rode mules down the Grand Canyon that time.

TM: Yep. Tell me about that.

GC: Yeah. We'd never been on a mule [laughs] and it was kind of scary to be honest with you, but we rode this mule train down. I think that was about the only time we ever rode the mule. After that we hiked, we would all hike. But anyway, we got up the next morning and like I say, rode the mules down. I don't remember too much. I know I thought we were right there at Phantom Ranch when we saw my dad across the river, the Colorado River, on the suspension bridge. Off to the left as you go across the bridge was this little house and whatever and that was where my dad was stationed at the U.S. Geological Survey property. So anyway, I don't remember now how it all worked out, but Phantom Ranch was a mile on further up the trail. So anyway, we spent the whole Christmas vacation there, had a wonderful time. My mother, there again, got acquainted with the owners or the managers of the Phantom Ranch. My dad had already gotten acquainted with everybody. Just to the west of his property was...I think it was a Park Service house and there was a man living there. It was a guy...

BC: A ranger?

GC: It wasn't a ranger. I can't remember what, but he had something to do with the Park Service.

TM: So let's back up a minute. Phantom Ranch at that time, this is going to be...I get my timeline right here, this is the winter of 1952/1953.

GC: Right.

TM: I believe that would have been Slim and Dotty Patrick.

GC: That's who it was, Slim and Dotty.

TM: What do you remember about them?

GC: Oh, they were wonderful people. Very happy-go-lucky, very caring, very helpful. They thought the world of my dad. I have a feeling he probably spent a lot of evenings up there with them visiting or

maybe having meals, I don't know for sure. They were both wonderful, wonderful people and would give you the shirt off their back.

TM: Nice. Wow. Can you describe them at all?

GC: Slim was just a real tall, slender guy. I think more on the blondish, maybe grey, hair, but he was very tall and slim. Dotty was a little on the heavy-duty side, wonderful cook. She took Jo and I, again, you know all of us, and mother, too, under her wing. Of course, she and my mother took up an immediate friendship.

TM: Nice.

GC: Yeah, but they were very nice people, very helpful.

TM: Did you get a sense that your father had... Was he happier at Phantom? It's kind of frying pan in the fire; he's not real happy with the trading post operations, but at least he's a little closer to his family. Now he's working this remote station in the bottom of Grand Canyon. The friends are nice, but his family is like 200 miles away. Did you get a sense talking with your father later on in life, did he ever explain what he was thinking during those days?

GC: I think he was very happy there. I think he was lonely. I think he missed my mom. But he was happy with his job, happy where he lived. He loved it. He had to hike out once a month with reports for the government. I don't know why he had to hike them. I don't know why he didn't put them on a mule. But anyway, he had to come out once a month, which I think was good for him to get a break from there.

TM: How would he work out his groceries or did he eat up at the ranch with Slim and Dotty? How did that work for him, do you know?

GC: I think he got a lot of his groceries on the mule train. I have a feeling, I don't know, but I have a feeling he ate a lot of meals up there with Slim and Dotty. They were just that kind of people. They would say, "Come on up and have dinner or have lunch." or whatever. I think he would cook for himself, too, breakfast and whatever. But he loved his job. He just dearly loved the outdoors and going across the Colorado on the cable car with his fish, getting his water samples and coming home and baking the mud pies in his lab.

TM: Gosh, now I got a zillion [laughing] questions for you now. Let's see, how do I want to work this out. I'm interested in the fish. What kind of fish was he catching out of the river?

GC: Oh actually they called 'em the fish but it was actually just a big metal container that looked like a fish.

BC: Lead container.

GC: Lead container was it, Buzz?

TM: No, I'm sorry Gay, hang on a second. Way back when you were growing up in Montana, your father loved to hunt and fish.

GC: Yes.

TM: And yes, I'm aware that there's a fish. There's this aluminum thing that you drop out of the cable car. You're going to tell me all about that later, but one of the things that kind of perked me up right away, in that your dad did love to fish, there would have been trout in Bright Angel Creek, but there would have been a unique subset of fish in the Colorado River. Your dad as a fisherman, he might have not have spent any time fishing in the main stem, but he might have spent a lot of time up in Bright Angel, fishing up there. Can you fill me in on that?

GC: You know I don't remember him saying too much about fishing the Bright Angel. He probably did a little bit, but I don't think it was to the degree that he fished in Montana, that I recall. I don't think he fished at all in the Colorado that I'm aware of.

TM: Okay. Alright. So then let's talk about what you remember of his duties, because you mentioned the mud cakes and the fish, the steel kind of fin, sort of a teardrop kind of thing that had a good weight to it, might have weighed 30 or 40 pounds. What can you tell me about that operation?

GC: It was a nice operation as I understand. There again, I was young and didn't pay all that much of attention, which I kick myself for now. He would have to go across the Colorado every day on this cable car and drop the fish into certain areas, or wherever he thought he needed to.

BC: He was collecting water samples.

GC: Yeah. Yeah. He was collecting water samples in milk bottles, but they were inside the fish. Then he would measure the flow of the Colorado River on the gaging station. He would do this at least one time a day, maybe two times a day. Then he would take these water samples out of the metal fish that were in his milk bottles. He had a lab, not in the house where he lived but attached pretty close to it. It had a bake oven, of sorts, I don't know, probably on propane, and he would do whatever they did to the water.

BC: He actually, he put the water samples in something like a petri dish and put them in the oven and evaporate all of the water and then measure the leftover sediment so he could get an idea of how much of the river water was dirt.

TM: So Buzz and Gay, I'm going to ask you a little bit more about this so I understand it. The sediment that would be left in the petri dish, would then that get weighed? Because you'd know the constant weight of the petri dish and then if you could figure out the weight of the sediment in the dish, and you knew the volume of water in the dish, you could calculate the suspended sediment in the water. Is that right?

BC: Yeah, I don't know. All I know is his procedure was to take the milk bottle sample, put it in a container, a petri dish or something like that, and basically boil the water out and then measure the amount of sediment. Probably, I don't know, if it was volume or weight. It could have been volume.

TM: Well yeah, exactly. If you know the weight of the dirt, you know how much dirt is going by as a volume of dirt, right? Because you know this much water has this much dirt and then if I have a whole river full of water I have more dirt and I can figure out how much that is.

BC: I would guess that's correct, yes.

TM So let's go back for a minute because I'm slowly learning as I do these interviews a little bit more about that operation and how it worked, especially because you guys... You were so close to it, Gay, with your dad doing the work there. The milk bottles, did you notice they had little numbers on them so the... And did you also notice that on the cable there were little marks and your dad would stop the cable where the marks were. They corresponded to the marks on the milk bottles and the fish would go down and come back with water which would go in that milk bottle.

GC: Boy, I don't know, Tom.

BC: I don't either. I know that the cable was marked but I don't know what the correlation was between that and the milk bottles. But what you're saying makes sense because probably the volume would vary based upon the speed of the water and what was rolling along on the bottom as well.

TM: That's right. The suspended sediment load based on what was happening with the weather upstream, weather events, would throw more or less sediment into the river. Yeah, I'm putting all this together. This is great 'cause I just did some interview work with Shirley Patrick. Shirley told me about the time she went across with your dad. She gave me some of this story, too, so now putting these two stories together, I'm like oh well that was how it was happening! So that's kind of fun. The fish, I'm assuming there was a way your dad could open the fish up to capture the water and then close it and then bring it back up. Do you remember that at all?

BC: You would put the empty bottle in the fish, close the... The front of the front of the fish opened up and you set the...

GC: Milk bottles.

BC: ...milk bottle in. It would have been horizontal to the fish and therefore able to draw the water through an opening in the front of the fish, the water and sediment. It would depend also how far into the water he would drop the thing. As the fish reached the surface of the water, then he would drop it another distance, a measured distance, because maybe the sediment is greater in certain layers of the stream, I would assume.

TM: Sure. Sure. As a turbid stream, it'd be a little less right near the surface and a little more down a little deeper. Do you remember how that fish opened and closed when it was underwater?

BC: It opened right from the front. I'm looking at a picture of one now out of a National Geographic that we have. It's the May, 1955 version. This time I'm looking at not Dean but his predecessor I think. The thing...it looked not much like a fish as it did a bomb.

TM: Right. Exactly, like a bomb would be dropped out of a plane.

BC: Right, right. It had kind of a high dorsal fin on the back and horizontal stabilizers on the side and a horizontal, I'm mean a vertical, fin on the bottom. I suppose that kept it from twisting in the water, I think. Your question was how did the fish open up. I'm looking at this photo and the door is open. It looked like there's about... The milk bottle would go in...well it would have to go in the full length of the milk bottle. This thing it's all made of metal, so it's heavier than the very devil. You would close the lid,

or the front of the fish, and it would kind of... It looks like there might have been a little gasket or something around it to where it would close up the water bottle entirely. When the lid was closed it would completely encompass the bottle. The bottle was inside the thing. It looked like it might be about three or four inches back from the front of the fish or whatever you want to call it.

TM: Okay, so I can think of a simple concept. If I had a hole in the top of the fish, I would put the bottle in there, the bottle is empty, I would close the little door and then I would drop this thing, pretty quickly, down to the desired depth. Then let it sit there while the air bubbled out of the milk bottle and the water bubbled in. Then I would reel the thing back up and it would be full of liquid. Then I could turn the fish on its side, open it up and pull out a milk bottle full of muddy water.

BC: That's precisely, I think, what happened. It couldn't be totally horizontal. It was on an angle, maybe about a 30-degree angle. I'm looking at this picture and it looks like the angle would be about, oh, 25-30 degrees. Then if you go open the lid and pull the water bottle out.

TM: So with a lot of samples to be taken, I mean this is a fairly wide chunk of river right there, Dean would have been fairly busy during the day. He'd have gone out, got his samples. He'd of have had to get those samples back to the lab. He would then have to deal with the prior day's samples, get them weighed out and get the new samples into the oven. Keep the data records going and then... So I can see there's a good amount of time during the day there that he would have had to work on the equipment, make sure the maintenance was up on things and to write his reports. I was just trying to get an idea of what his day would have been like there.

BC: Yeah. If you have an opportunity to get a hold of the May, 1955 National Geographic, page 612 is where all this is depicted.

TM: Thank you. I'll look for that. Okay. You have been so most generously kind, we have been at this about an hour and a half and as you can see, we have not gotten very far. [laughs]

GC: [laughs] I think you've been amazing, Tom.

TM: Oh my gosh, you're the amazing ones, both of you. Thank you so very much for this incredible journey. I would like to end this interview here, but before I do, I've learned to ask: Is there anything else that you were thinking right now that needed to go into this last little bit we were talking about?

GC: Hmm, I can't think of anything off the top, Tom.

TM: Buzz, you?

BC: No, I'm kind of addled now. [laughs]

TM: [laughs] Okay, then please stay on the phone but I'm going to wrap up this interview. Today is Monday, December 4th, 2017. This is the end of Part I, Grand Canyon Oral History with Gay Cameron, that's Barbara Gay Tidball Cameron, and, Buzz Cameron, her husband, that's Kenneth Lincoln Cameron. My name is Tom Martin and we're going to end Part I right now.