CAP Oral History

Bonnie Leverton (Q):

Okay, it's May 24, 2005; I'm Bonnie Leverton during the interview. Bill Leverton shooting it and your name is?

Dess Chappelear (A):

Dess Chappelear.

Q: Where did the Dess come from?

A: Well, I had an old grandmother that laid that on me. There used to be one probably 150 years ago and she thought it was a pretty name and so she thought there ought to be a second one.

Q: Talk a little bit about where you were born. When? What was your education was like as a kid?

A: I was born in 1930 in Southwest Oklahoma. I was born in the northwest corner of an old rickety farmhouse, during a snowstorm on the way. And the doctor that was coming out to deliver me got caught in a snowdrift and the next day when he tried to get back to his car, he left the window in this new little Ford cracked a little bit and it was packed full of snow, but so much for that. Really, I saw a lot of the Depression days and the dust bowl days as a kid growing up. I can remember things were pretty rough there as I was a small child.

One thing I remember vividly was being out on the porch and looking to the north there and gosh, I thought I saw a cloud coming in that's going to give us some rain and I was so happy. I was probably five or six years old. The folks had been talking about oh we sure need some rain. I went running in the house and overjoyed with it and about five minutes later, one of those Kansas dust storms hit

the north side of the house. At that age, I couldn't tell a rain cloud from a dust cloud.

Q: But you knew that water was important.

A: I did learn that water was very important. One of the things that took us through the Depression was that my father, when he was a young man, helped drill a lot of shallow oil wells in the basin in Southwest Oklahoma. And he came away from that with the experience and the knowledge on drilling water wells. So he bought a set of cable tools and during the Depression days, he could go out and drill water wells for a dollar a foot for the first hundred foot and a dollar and a half for the next hundred. That helped tide us over during the Depression days.

Q: Talk about your education and how you ended up doing what you do.

A: Well, I was trying to farm a little when I was a real youngster and didn't have any success at that, dry land farming in southwest Oklahoma. I figured out right away that I needed to do something else. So that's how I decided, well gee, where's the money at and someone lied to me and told me it was in engineering. So I then went to a little junior college, Cameron Junior College, in the southwest part of the state for two years and got through the more advanced math courses. But then along came the Korean thing and I was in the Air Force from '51 to '55 and then following that, why I went back to school at Oklahoma A&M and finished my degree in Civil Engineering. I started to work for the Bureau of Reclamation in August of 1956.

Q: How did you end up with them?

A: I had several job offers after I graduated. With my Air Force experience, Boeing made me several offers, but I looked at them and said gee, they're dependent upon these military contracts and things of that nature and I didn't think I wanted the ups and downs of that. Had some other offers to build some grain elevators in

Kansas and that sort. So then I decided gee, the Bureau of Reclamation is good solid work and so I went to work for them at a far lower salary then I had ever anticipated starting for work. At the end of six months, I think the wife and I were broke and at that time I got my first raise. My first little jump and from there on it's been real great.

Q: What were your main focuses on with the Bureau?

A: Well, initially I started out on the Oklahoma City Development Office and we were investigating the potential for projects in Oklahoma and several of those wound up being built. And after I spent a little over a year in the Oklahoma City Development Office working as a hydraulic engineer, I then proceeded to go down Fort Cobb, Oklahoma where we had underway a construction of Fort Cobb Dam. I went to work in the materials lab down there. And worked on embankment control, it was an earth filled dam. And also worked on the concrete, the mixes that were used in building spillways and...This then got me started in the materials control section. I did two schools, the two schools that they have at the Engineering and Research Center in Denver. I went to both of those. And then the next job that got going good was Foss Dam in western Oklahoma located on the Washita River. And I went up to Foss and was in charge of the lab there. And a little later on as that work progressed; another project was started in the Texas panhandle, the Canadian River Project. I went to Borger, Texas, and was there as the number two construction engineer on the building of Sanford Dam. And as that dam was becoming near completion, I moved down to Amarillo. Started gathering design data for the aqueduct system and then subsequently as the job was winding down, moved down to Lubbock and I was put in charge of an office there which was really my first big break. And in that office, I was responsible for building the four pumping plants, some surge tanks, making water deliveries to seven different cities there in the Texas panhandle and also the laying of another 140 miles of pipeline.

Q: How did you end of doing anything involving Arizona?

A: Well, I kind of got to Arizona in circuitous route if you will. As the work was winding down there in Lubbock, in the Lubbock area, I started looking for another job. And I got interested in a job in India called the Beas Project and I was thinking about going there. And in the course of things, the wife and I went up to Amarillo which was headquarters for our regional office and Floyd Dominy was up there at a party that they were throwing for him. Well, I got talking to Floyd about I was going to take this overseas job and he got going with a big list of expletives and cussing and what not and wound up saying, "Hell boy you're not going to learn a damn thing if you go over there," he said, "you ought to come to the Washington office."

And so I thought about that for a while and I did my application for a job in the Washington office and went up there in the Division of Water and Land and went to work for Morris Langley. And under Morris Langley was Dick Shunick, who turned out to be the Project Manager here on the Central Arizona Project. I spent a couple of years in this Division of Land and Water in the Washington office and then an opening came along in the Division of General Engineering. Well, I'd always enjoyed the engineering work and I wanted to get back doing something that was affiliated with it. So then I got this job as Chief of the Construction and Contracting Activities Branch within the Division of General Engineering. K.K. Young was the head of the division at that time and I'd only been there two or three years and K.K. decided it was time for him to retire. I applied for his job. The Commissioner then was Gilbert Stan and Stan gave me the job. So I was very interested in what was going on with the Central Arizona Project.

I had just gotten into the Washington office in '68 when the project was authorized and everybody was really elated to think about getting to build this big project and all the benefits that it would provide for Arizona. Well, the project, the Central Arizona Project really didn't get under way until about 1973. I think that was the year of the ground breaking for it. And in those first few years, we were getting a little bit of money. During all this time, I was really enjoying my job as Chief of Division of General Engineering. Having a great deal of fun and it's very interesting

getting to meet a lot of politicians, working with OMB, and working on the Bureau's budget.

Well, along came a peanut farmer by the name of Carter, Jimmy Carter, who I have to tell you could never pronounce lived here. Ole' Jimmy, why he wasn't too interested in the water developments in the West. In fact, he was pretty much an environmentalist and threw in with the environmentalists and tried to shut down all the ongoing work that we had going in the West. From the time that he got in, he got in in January of '77, from that time on I had the so-called environmentalists in my office wanting to know about all of the ongoing work and projects that were going on in the West. And wanted to know where the money was going and what the benefits were going to be and just really trying to shut things down. Well fortunately, the politicians in the West got united and got Carter off this kick of shutting everything down. By that time, I was so sick of what was going on that I decided I got to get out of here and get back on a construction job. So at that time, I applied for the job of Assistant Project Manager on the project because the project was starting too really to roll at that time and Dick Shunick was needing a little bit of help. So they advertised for an Assistant Project Manager and I got the job.

Q: Was that for the CAP?

A: For the CAP, yes.

Q: It's not about Carter, it's about what would've happened.

A: Gee, we got a population boom and the amount of water that was available for the agricultural groups was decreased rapidly and there were other problems in this area with agricultural groups. Inflation really ate us up on the project costs. And what was initially thought that this water would be economically available to the ag groups but by the time the project was finished, it was so darn expensive

they could hardly afford it. And a number of agricultural districts had to give up their water allocations and I regretted that very much being an old farm boy.

Q: Now when you became the Assistant Project Manager with CAP was that before or after Carter did this thing with trying to stop the CAP?

A: Oh, I was in the Washington office at the time he tried to do that. That was what I was trying to explain to you. There I was Chief of the Division of General Engineering and I had all these people coming into my office trying to pick at every little project, ongoing works that we had. And they were interested in stopping the Central Arizona Project because boy, it was going to be a big one. And going to cost a lot of money and those people were very much against building any more dams in the West.

Q: So what did you do when you went to work for them, you said you applied for the job and got it.

A: Yes.

Q: What did you do then?

A: Well, I had responsibility in three or four different areas. One of the primary areas that gave us a problem was in the planning area. When a Bureau of Reclamation project is authorized, generally preceding that authorization there's all sorts of planning that goes on. There's preliminary planning and you look at all the various options that are available. And then you go into a little higher grade planning report and you finally get to a definite planning report in which you think you're going to build a project. Well, all that transpired on the Central Arizona Project. The project was authorized and many of the structures that were identified as to be built were never built. We never built the project that was authorized is what it comes down to. The big fly in the ointment was Orme Dam. Orme Dam was a structure which was to be constructed downstream from the Verde, the

confluence of the Verde and the Salt Rivers and this involved the Fort McDowell Indians. And we were going to take about two-thirds of their existing reservation and it was thought that a deal had been cut for they were going to take some additional lands to offset those upstream on the Verde River. And we were going to build all those Indians new homes. They were going to have frontage on the new reservoir which they could develop for recreation. And they were going to have hunting and fishing rights on the reservoir. But Indians being Indians sometimes say gee this land has been good enough for us and we're going to stay on it. So that was the fly in the ointment. They put thumbs down on Orme Dam.

Well, one of the requirements of the authorizing legislation was that we were going to provide flood control for the Phoenix area and Orme Dam was also going to provide what they call regulatory storage for the Central Arizona Project. A place to bring water in from the Colorado, store it until it needed to be used, and where it would be readily available. So then we embarked on a very large planning study. And we were trying to find a place for the regulatory storage and we were trying to figure out how to provide flood control for the Phoenix area. This planning study culminated in a planning report called Plan 6. And Plan 6, getting down to the very elementary parts of it, consisted of a New Waddell Dam to be built on the Agua Fria River. It was going to consist of raising the old Roosevelt Dam, which was part of the original Salt River Project. And then was going to consist of a new dam called Cliff Dam to be located on the Verde River. Well when...before we got the plan developed, we of course looked at the existing dams on the Salt River. Found that none of the spillways were adequate by modern day hydrology. We also found that there was a safety of dams problem with Stewart Mountain Dam. And that's how we arrived at Plan 6 was by raising Roosevelt Dam and providing Cliff Dam, we were going to provide flood control. And it was going to make the dams located downstream on the Salt River and the Verde, it was going to make their spillways adequate so we got away from the safety of dams problem. Well, it was a good plan, but even it didn't get implemented.

Q: Why wasn't it ever implemented?

A: Well, it was partially implemented. The two parts of it were completed that was the raising of Roosevelt Dam about 72 feet and then the building of the New Waddell Dam on the Agua Fria was completed also. The New Waddell Dam inundated an existing structure on the Agua Fria River. It also provided a lot of benefits for flood control along the Agua Fria downstream from it. So it turned out to be a real ideal structure and also a pretty good cash register for the project. The water that was coming from the Colorado River and was pumped into the new regulatory reservoir was pumped in through pump generating units. So we pumped the water in there in the winter time when the cost of power is slow and there's a lot of power available in the winter. And then whenever the water is released for use for the municipal and industrial users and that and the ag group, you generate power, which doing the time we're generating it, brings a good price. So it's a little cash register and that part of the project has been very successful.

But when we got ready to build Cliff Dam on the Verde River, there were a pair of nesting eagles on one of the abutments. And the environmentalists said "oh you can't build a dam there" and so there was some compromising that went on and Cliff Dam was never built. And really I think this turned out to be a mistake and this is a structure that still needs to be built today. It's pretty close to equal drainage areas for the Salt River and the Verde River, but there's very little storage on the Verde River. So we're still going to get a lot of flooding through the Phoenix area just because Cliff Dam wasn't built. And certainly...well besides providing the flood control, it was also going to provide some additional conservation storage to meet some of the water needs of the area.

Q: I was just getting ready to ask you a question about how you felt about Orme Dam and that fact it didn't go through, do you still think that would've been a better idea then what they ended up with doing or not doing? Do you kind of feel that Orme Dam would have been a better solution or did it work okay?

A: I think it's worked out fairly well, but I do think that Orme Dam would've been the better solution. And the reason for this is the Endangered Species Act. They're putting so many restrictions on those reservoirs that are existing on the Salt and Verde River to provide nesting areas for various birds and things of that nature which are actually hampering the operations of the Salt River Project to retain and operate their project in an optimum manner. So maybe with a new Orme Dam, we wouldn't have been up against those things initially but maybe they would've got worked in. I think it's very ridiculous for us to have an act like the Endangered Species Act which comes in on an existing project and then starts putting restrictions on it. Now if a project is built for the enhancement of a particular species, you can put rules and regulation on it and they can be protected. But when the endangered xpecies comes into an existing project, I think that it's very foolish to let them dictate the operation of the project. And I think that those endangered species should be the responsibility of the fish and wildlife organizations. So no I am not very happy with some of this.

Q: As the Assistant Project Manager, the CAP was such a complex issue and all the water issues in Arizona are so complex. Did that ever start to overwhelm you or was it like no here is another challenge, just carry on?

A: Well when this was going on, I was much younger. I don't think it ever got overwhelming. It was just a great challenging job and I certainly enjoyed it.

Q: In the late 1970s and into 1980 and everything that is when they did the Groundwater Act, and everything else, were you involved that?

A: No, I wasn't. I've been more involved with it since retiring then otherwise. Been concerned about the groundwater here in the Sun City West area. The Sun Cities were named as one of the critical groundwater management areas in the state. And of course, they are part of the Phoenix Groundwater Management Area. So within the state I think there were about three different areas named as critical groundwater management areas. And since I retired, I've been working very hard

trying to get CAP water into the Sun Cities area. And was a member of a groundwater planning project, groundwater savings project that's what we called it, I'm sorry. We've been all the way through getting proper approval for it and the only thing we lack now is to build it. Build a pipeline from the existing canal down to this area and certainly hope that we accomplish that.

Q: You haven't accomplished that yet?

A: No, we haven't accomplished yet. We've had group over in Sun City that's been fighting it because they didn't want to pay the additional water charges which would've been in the vicinity four or five dollars a month.

Q: Do you think that the Groundwater Act of 1980 was effective or not effective or was it realistic?

A: I think that it woke people up to the problems that exist with the groundwater in Arizona and the fact that it's been over pumped. And I think people now recognize it, it's a finite resource and we should be trying to conserve it as best as we can. But I'm not completely happy with the way the management of it is going. At one time, in Arizona I think we had a leadership here that was very concerned about water and conserving groundwater and getting the CAP authorized. And there's been such a turnover of management people at the top level, they've sort of lost sight of where we're going. And I think the big problem with the Groundwater Management Act is I see it is any entity that can get a Central Arizona Project allocation can go out here and start building a subdivision and they're permitted to take their CAP water allocation and recharge it in some remote area. There are a number of recharge areas that have been designated and they are several more in the planning stages which are going to occur here in the state. But anytime that you permit this to happen, we are going to have areas where they're going to continue to pump the groundwater which is a limited resource. And in the long haul, we're going to have problems.

To me the answer to this problem is to require the CAP water to be recharged in the area where the water is being pumped and used. If we don't get to that further down the road, the state's going to have problems. Also, we have people in control here that are very development minded. We're seeing a tremendous population boom. And with this sort of a boom going on, it's got to stop somewhere because Arizona is going to run into water problems again. And there are some basic water problems which need to be addressed. And one of them was, occurred way back when the project was authorized, when the project was authorized, to get California to go along with its authorization, Arizona had to take a lesser water right to CAP, pardon me, to Colorado River water. And such in a time of water shortage, Arizona will have to take the first cut on the CAP. So the CAP water isn't a firm water to start with.

It was always thought of initially to be a supplemental water supply. And here in just the last few years, we've had a lot of...an extended drought condition. And with this extended drought condition, we're seeing the entire basin is going to have problems. Back when Nixon was the President, Mexico was very concerned with getting Colorado River water. And they were bickering back and forth and finally Nixon signed a treaty that guarantees Mexico one and a half million acre-feet a year. Well with that and the reservoirs in the lower basin losing about a million acre-feet in evaporation and with the seven and a half million acre-feet that we are trying to use, and the fact that the river only produces about 15 million acre-feet, you can see when you add all this up, we've got a water shortage. The only thing that's been holding this thing together is that in the upper basin, many of the projects that were promised to them have never been built. And probably today, they're only using about four and a half million acre-feet of their rightful seven and a half million acre-feet. So there's about maybe three million acre-feet there that the upper basin isn't using, but you read the Denver Post and gee what's happening up there? They're developing too. They're going to be using more and more of their water rights and this is going to put the entire basin in a real crunch.

Q: And that will put the CAP in a real crunch?

A: And that will help put the CAP in a crunch.

Q: At first I want to talk about the Indian Rights. While you were with CAP or with the Bureau of anything else, what were the Indian Right things? Were you involved in any of that?

A: No, I wasn't directly involved with any of that. Most of it was politics and trying to solve the water claims of the Indians. Initially when the project was authorized, there were five Indian Tribes which were going to receive just a little over 300,000 acre-feet of water. Well, we had a number of different Secretaries of the Interior come along and each one of them would trying and to solve these Indian water rights problems. And each one of them kept jumping the number of tribes up that were going to receive the water and the amount of water. They started out giving only a little over 300,000. We finally got to a recent settlement here which gives one percent of the population, the Indians, approximately 50% of the water of the Central Arizona Project. This is absolutely ridiculous. And how we ever got into this situation, I don't know, not being the politician type, being more of the engineering type. But the bottom line is that the people in Arizona are going to feel a crunch from this. And it's going to cost them in the long haul because when there is a scarcity of water and there is water available to the CAP, they're going to have to go to the Indians to get it. So it's a problem and a major problem.

Even during this period, the Indian water allocations were giving me fits during the planning process. We were fortunate in the project that when it was authorized, it said that the initial Granite Reef Aqueduct, which has now been renamed, was to have the capacity of 300,000 cubic feet per second. So when we started getting the initial money, we had a place to put it. We started building sections of canal. But when we started approaching time to figure out how to take, how much water should go south and how big that canal should be and here are these different Secretaries bumping the amount of water up that's going south. For me,

it's just like shooting at a shooting star you know. It's time to figure out how big the size of the aqueduct, how big to make the Salt-Gila Aqueduct. It created a lot of problems in that type of planning also. But in the end, when I was right up against it on the Salt-Gila Pumping Plant, let's put an extra forebay in there so we can throw a pump in there and take more water south and maybe by that time we'll know how much we are going to take south. And so we wound up making the canal pretty large going south but it's worked out in the long haul.

Q: With the construction, was that really a complicated thing or was it pretty much the way you planned it to happen?

A: Well the construction went pretty smoothly. We had a bunch of real smart engineers up in the Engineering and Research Center and they designed a good project and one that has been working well. We've had some problems, not anything that I recall too major. During construction, we had some construction problems, but the design and operation of the system has gone very well. Another problem with the construction of the canal going south from the Phoenix area, when I came on the project, we had a minority group down there that was saying, "We don't want that expensive CAP water, you keep it away from us. We're not going to buy it." And I probably hadn't been on the project more than a year and half, 2 years, and another minority group emerged saying, "You bastards are robbing me, robbing us of our birth right." And so we wound up taking more water down to Tucson. That got a little bit more complicated in size and the features of the canal going south but all in all, it's a done deal.

Q: You weren't keeping anybody happy.

A: No, we couldn't.

Q: When you were with the project, who was your biggest opponents?

A: The environmentalists more than anyone. We had a number of them, of course, that were very much against building any dams. They want to see free flowing rivers. The environment was the biggest headache as far as building the project.

Q: And who were your biggest allies?

A: Our biggest allies were most of the people in Arizona wanted the CAP. In fact, there was a Central Arizona Project Association and it was headed by a number of real active people in the Phoenix area. They were just great. In fact, I would have a meeting with the Executive Director of the Central Arizona Project Association probably once a week. They would want to know how the work was going, what the problems were, did we need to be working with the politicians in Washington to get anything accomplished. They were interested in seeing that we got the money for the project and that is was finished in a timely manner. So they were a great group of people.

Q: You were saying before the projected cost of the project and what actually it did cost like there was a little bit of a difference there and everything else, did you have problems constantly coming up with the money so you could keep on going?

A: I don't think that it was all that difficult once the project got under way. It was pretty much a done deal that we were going to have to finish it. You know under the authorizing legislation, it seemed like if I recall it was projected to cost something like $832 million dollars but the end number was closer to $4 billion. During the course of building the project, there were a number of people that expressed concern about inflation and what it was doing to the project costs. We had Senator Moynihan come down here to look the project over and that was one of his concerns was gee just where is this going to all end. I loved a comment of his in talking about inflation. He said, "We are eating their seed corn and you can't do that for long." He saw the need for the project in Arizona and was supportive of it. I spent a great half day with that gentleman.

Q: Is there anything that during your years with that and with the Bureau and dealing with the CAP that you would've done differently looking back on it?

A: Well, not with the CAP, I can't think of anything. With all the time that I was with the Bureau, the one thing that concerned me was how we had to operate. And of course, when politicians get a project authorized, they want to see it funded. They want to see it built as quickly as they can. And so I think often the pressures of the politicians got the Bureau of Reclamation into trying to build too many projects at one time, spread the money thin, took additional years to complete the projects and get them operative. Where if we would've hit just one, two, or three at any one time and use our full capability in to it we could've finished those projects timely. It might have been better to have operated that way but that's not the way this world operates.

Q: You were the Assistant Project Manager for the CAP and then you went back to the Bureau of Reclamation someplace else?

A: No, no. Originally the Central Arizona Project was all under the Bureau of Reclamation. And after I retired, the operation and management of it was transferred to the Central Arizona Water Conservation District and they are now the CAP, as the Bureau of Reclamation activities got released and out of the picture.

Q: What problems relating to Arizona's water resources do you see at the most critical now or in the near future?

A: Well, I think we're definitely going to have problems in the future. Part of it is going to result from long droughts that can occur in the Colorado River Basin. No one knows how long some of these droughts may occur but we do know that some of them lasted 25 or 30 years. If Arizona is cut back in the CAP, water allocations that they receive for a particular year, we're going to have to have groundwater available to make up the difference. A lot of work is being done to help in this

regard through groundwater recharge projects. But nevertheless in, I think the first ten years of groundwater recharge that occurred, we only brought in the equivalent of what you can bring in in one year through the Central Arizona Project. I'm thinking that's not going to be the solution. I think the big thing that needs to be done is, we need to find a firm additional two and a half or three million acre-feet of water. It's got to be imported. We've got to get it for the arid southwest some other way. I think there needs to be some long-range planning and it needs to be going on now. And I don't see anybody picking up the ball and worrying about this. Many of the people who are in charge of our government, local government, now thinks everything is hunky-dory and I think that they're really missing in seeing what the long-range problems ara.

Q: You don't seem to agree with several people that told us that we probably have enough water to last thirty, forty years and then after that and that is just for surface, and then after that we have plenty of groundwater. You don't seem to agree with that.

A: No, I don't agree with that. Certainly in the short haul, we've got water that's going to take us out there for twenty or thirty years, maybe longer than that. But once that groundwater is gone then you're going to get into a real bind.

Q: I think I have one more question. What do you see as the future challenges? Is it pretty much what you just said the groundwater thing? The future challenges for Arizona involving water issues?

A: Oh, I think the big challenge is we've got to work harder at conserving the water that we've got. We've got to curtail construction and expansion in Arizona. We've got to come up with another source of water because of the problems that we've got between the upper basin and lower basin. They're going to be using more water. The whole thing is going to get pointedly more serious. If our leadership doesn't wake up to this, Arizona will be in the same position it was before the Central Arizona Project was constructed.

Q: My last question then is do you have any advice for those who are running the CAP right now?

A: I think that the operation of the CAP is great. They're working real hard on groundwater recharge. I think that they'll be able to operate their project efficiently. I think they've done a great job. We've got all these cities here in the Salt River Valley that are now dependent upon the CAP water. We've got Peoria and Glendale and Phoenix and Scottsdale and others that are using CAP water and it is helping with their groundwater management problem. But that water may not always be available. It's rather peculiar, but when there is a drought over in the Colorado River Basin, often there isn't a drought in the Salt River Basin, in the Gila Basin. It's because the way the air currents go I guess.

Q: It seems like everybody thinks well we had a wet, you guys had wet winter so the drought's over. Everything's okay again.

A: Little do they know.

Q: I mean New Mexico's got it too.

A: New Mexico has got a lot of water problems. I spent a lot of time in New Mexico working with the State Water Engineer over there. One of the projects authorized is Kerr Dam to be located on the Gila.

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