Interview with Bert Levine

Intro: Today is Friday, July 29, 2006, I'm Bonnie Leverton, doing these interviews for the Colorado River Water Users Association and if you would introduce yourself.

A. My name is Bert Levine and I was Project Construction Engineer on the Navajo Indian Irrigation Project on the San Juan Reservation.

Q. When and where were you born?

A. I was born in New York and when, a long time ago. It was too many years to recall.

Q. How did you end up in New Mexico?

A. Oh, I came West to work for the Bureau of Reclamation, and after finishing the job in Oklahoma, I came here to work on the Bureau of Indian Affairs. You see this was an unusual project for the Bureau of Reclamation because it was a Bureau of Indian Affairs Project and we were just a construction agency and I was sent in here to get the project started and to do the supervisory construction of it.

Q. What year was that?

A. 1963.

Q. And you decided to stay, huh?

A. Oh, a very fine area and I decided to retire here.

Q. Talk a little bit about your education, what you studied and where you studied.

A. I graduated from the University of South Carolina with a BS in Civil Engineering and that was shortly after the big depression. I then took the Civil Service Exam and went to work for the Navy Department just prior to World War II, worked in the Navy Yard for awhile, and then served in the Navy, and came out and worked for the Corps of Engineers, and then transferred to the Bureau of Reclamation on Davis Dam, which is the first dam below Boulder Dam on the Colorado River.

Q. So, you were kind of familiar with the Southwest.

A. Yes, I've been in the Southwest for many years.

Q. When you compare the Southwest to maybe back in New York or whatever, are the water issues pretty much the same or are they unique?

A. Oh, they are completely different, naturally. Out here we have viscosity of water and back there they normally have sufficient water or surplus. In the West actually, development is contingent upon the availability of water. Fortunately, we have managed to survive all these years, but one day we will probably get to a problem area where development will be slowed down depending upon the availability of the amount of water necessary to maintain the public.

Q. The construction projects thought that you had in the Southwest, though, didn't they try to alleviate that problem?

A. Well, not necessarily, I worked on municipal water development projects. Let me think, oh yes, I worked on a project in Oklahoma that furnished municipal water for seven cities. Then I came over here, in charge of the Navajo Indian Irrigation Project which utilized the water primarily for farming purposes rather than for domestic use or municipal use.

Q. Do you approach those projects differently, if you're doing something for municipal water as opposed to irrigation water?

A. No, not necessary, naturally irrigation water requires larger quantities and normally travels in open canals and municipal water normally goes through closed pipelines.

Q. When you worked on Davis Dam, what was your field?

A. When I first worked on Davis Dam, my first job with the Bureau of Reclamation, it was just after the war and the availability of materials was very critical in constructing the dam and my job was to make certain that all the materials necessary for the contractor's use were obtained because at that time there was a priority system on getting materials and if materials weren't available we used to have to leave openings in the concrete so we could come back later and put pipes in or conduit, etc, etc. It was a very trying period of time because the country was really just recovering its economic development after the war from military to civilian use.

Q. The way you did construction back then had to have been a lot different from say the way, you did when you built the Navajo Dam?

A. Not necessarily, the equipment got a little bit faster, a little bit larger but basically the procedural way of constructing a dam, as I recall it, it didn't vary from back in that time till we built Navajo Dam. Actually, I was not involved in constructing Navajo Dam I got here at the end of the dam to build the irrigation project.

Q. Oh, oh, okay. I'm sorry.

A. That's alright; I'm familiar with the construction procedures they used on the dam.

Q. With Davis Dam, because of the way you had to build it with leaving holes and later on coming back and putting pipes in it; did you have to make sure that everything was still as strong as it would be?

A. Oh, yeah, yeah you couldn't make . . . we would leave a trench maybe in a concrete placement until the materials arrived that was suppose to be originally put in but the reinforcements and everything else were still in place, so when we came back and filled that trench up with concrete, it was a strong as the original should have been.

Q. I know some of the dams, like along the Colorado River into Arizona and everything, they ran into very unique problems, sandstone and canyons and a lot of . . . was there special problems surrounding Davis Dam?

A. Well, not while I was there, but prior to my arrival, they had a problem where the original location of the power plant had to be relocated because of poor foundation

material. They thought they had investigated it thoroughly, but there was a large fissure and they had to move it to make certain there were no problems with the power plant. But when you stop to think how old a lot of these projects are like Boulder and so forth, and how well they have stood up, it's remarkable.

Q. And how fast they built some of them. They built Boulder in what, just a couple of years.

A. Well, no, not, that was the one that they had a very difficult time because of the depth of the canyon and they had to come in from cable ways above . . . I'm not . . . I'd better not talk about it. But I've seen it in pictures and so I know.

Q. Of course they like to call it Hoover.

A. They call it Hoover and they call it Boulder, depending upon which political party is in power, I guess.

Q. So Davis Dam was that your first project you ever did around the Colorado River?

A. Yes, that was the first project I did on the Colorado River.

Q. What was Davis Dam built for? Was that flood control or was that...

A. Well, it's power generating dam and it's primarily part of the Colorado River where the flow of the river was controlled by the number of structures they could build to make certain they didn't lose a head that could generate electricity so Davis Dam

came in below Boulder or Hoover, whichever one you call it, and then below that was Parker and so forth and down the river, and the Colorado River was built in stages of that nature.

Q. It had to be hot when you were doing that project.

A. Hot?

Q. Was it hot, yeah?

A. Yeah, it was hot.

Q. I think one of the problems they have with the Colorado River and also San Juan, I'm sure is the evaporation thing?

A. Oh yeah, well that's natural.

Q. Did you do anything when you were constructing any of your projects where you're trying to keep it from being so evaporative?

A. No, I don't know what you could do.

Q. Do you think they will ever come up with anything?

A. Well, I don't know if there is a solution to that. You've got evaporation from the

lakes and so forth. I don't know how you could prevent, when you've got a large surface of water, it from evaporating, depending upon the heat and humidity and so forth.

Q. If you are dealing with the scarcity of water, you'd think there would be . . .

A. I know it would be an ideal situation, but what can you do to prevent it. I don't know if there is a solution to it.

Q. After Davis Dam did you go back to New York or did you come over . . .

A. No, no, I stayed with the Bureau of Reclamation for forty years. I worked projects in North Dakota, Oklahoma, oh gosh, New Mexico. I worked three or four different projects in the eastern part of New Mexico, Fort Sumner Dam and so forth and so on. So, I was moved around in construction; that was my career.

Q. Tell me about the Navajo Irrigation District Project; tell me what you did there.

A. Well, the Navajo Irrigation Project was a Bureau of Indian Affairs Project and the Congress decided that the Bureau of Reclamation should construct it for the Bureau of Indian Affairs. It's a hundred and ten thousand acres of land to be irrigated with five hundred eight thousand acre feet of water to be diverted annually. The project as its built is water coming out of Navajo Dam. It travels, as I recall, about thirty, thirty-five miles to first lands; through a series of five tunnels, siphons, one of those small dams, Cutter Dam, which is on the line and so forth. And then it reaches land, it's on, to give you an idea, the first land's on the west of the highway from Bloomfield to Albuquerque. And then we developed, we built, that thirty-five miles

and then we developed, what we called the “Block”, which was approximately ten thousand acres a year. And when I had retired I think we had finished about fifty thousand acres of the hundred and ten thousand. And built the, at that time, the most advanced irrigation system in the country, where a farmer on that project that wants to irrigate his field, all he does, is what we do at home, we open the tap and the water goes through where we control the amount of pressure and they are using center pivots to irrigate with, so every field from the time the water leaves the canal until it gets on the land is in an enclosed pipeline. I don’t know of any other project, at that time that was fully that type of irrigation. The reason we could do that is because we only had one farming organization to deal with and that was the Navajo Tribe, who does the farming. Normally on an irrigation project you have a large number of farmers and one or two of them want to do it this way and one or two want to do it that way, so you have a problem of trying to get a uniform type of project. I think at the time we had quite a bit of interest in the fact of how unusual it was that the pressure was there and the water was there and all you had to do was open the valve and you started irrigating.

Q. What kind of problem did you run into when you were building it?

A. Oh, well the normal problems. We had tunnel problems. Naturally we had problems in the siphons, normal construction problems. I don’t think we had anything which I would call drastic. I think most of the problems were normal type of problems you would encounter on an irrigation project.

Q. You would think with something that big and complicated and the first of its kind you would run into some problems?

A. Oh well, we had a few problems after we finished and that was primarily due to the

fact that we went to another shale which was fancy in the open canal and even though we treated it, I don't think our treatment, in some cases, was big enough to where after several years of irrigating the water would get in and expand the soil and still give us some problems you have to remember now all of this canal system was a concrete lined canal so you're talking about evaporation at Juarez that wasn't evaporation but that was, we didn't have very much seepage loss because we didn't use concrete lining.

Q. Tell us specifically about what your duties were.

A. Specifically about what?

Q. Your duties, what you did.

A. Well, I was in charge of; I was the Project Construction Engineer in charge of the project. The way it was set up with the Bureau of Reclamation was that our Denver office always did the design and was the contracting officer and we were the representatives of the contracting officer. They would put out the specifications after we collected the field data as to where we could build the project, where we could put the canal, where we could put the siphons and so forth. We would submit that to Denver. They would prepare the specifications and then we would go into construction, and I was in charge of construction. When it got to the, when we were finished and we went into operations, that was turned over to the Navajo Tribe and that is being done by an organization called Navajo Agricultural Products Industry. They do the farming and they have a big operation up on the mesa where they have, well for example, they raise an awful lot of potatoes, I understand on the project. They have big storage sheds up there where they keep them under temperature and humidity control and these potatoes are sold primarily to potato

chip companies, Frito-Lay and so forth. So they're hauled out of here by truckloads, all year, because they store them here and the companies take it as they need it.

Q. That's kind of neat.

A. Yeah.

Q. Since you were doing it for the Navajo Nation, were they also involved in the construction or in the planning?

A. No, they weren't involved, well; they were involved in the planning. Originally the project as it was authorized by the Congress was what you call a surface irrigation project where the water goes down through little laterals and they put tubes in to irrigate down the lateral, down there, their furrows. After we started construction and we built the first year, the tribe decided they didn't want to proceed that way. They wanted to have sprinkler irrigation so they requested the Bureau of Indian Affairs to change the basic design of the field project. So, we, from the second block on, it's all been sprinkler irrigated.

Q. Now was this the job you were working on when you retired?

A. Yes.

Q. So, since then, they finished it and everything?

A. Oh, no, no, it's still going on. I don't know what's, I haven't been out there since I

retired. My philosophy is once you quit let the young ones take over. I don't know what's going on, but it's still going on. When we left there was about sixty thousand acres to be developed, but the water from Navajo Dam was brought to the project, which in my opinion was the biggest part of the construction, that coming through that rough terrain from Navajo Dam to the first lands.

Q. You weren't involved in that though, right.

A. Yes, we built that.

Q. You did, OK. Tell me about the dam, was it . . .

A. Well, I didn't build the dam, I wasn't involved in the dam, but I was involved in the irrigation project which we built after the dam was completed. I don't know much about the dam, except I know it's an earth-fill. It was completed in '62. So that makes it what, about 44 years old. All I know is what I read in the newspapers.

Q. Who were your best allies when you were trying to do the irrigation project? Who were your best allies? Who helped you the most in accomplishing what you wanted?

A. Who helped us the most?

Q. Yes, or was it a thing where you were basically just dealing with the Navajo Nation so did you have any opposition from anybody around?

A. Oh, I don't know. We had normal, normal problems naturally. The biggest problem we had was funding. If the project had been funded as a Bureau of Reclamation project it would have been completed when I retired. We had such a continued lack of funding throughout the life of the project that it extended it quite a bit. You have to remember; at the time we built this the Bureau of Reclamation was considered the world's leader in irrigation project construction. We had trainees coming from all over the world to work on our project so they could see what are procedures were and so forth. So from an engineering standpoint I think the Bureau of Reclamation was quite confident. But the fact that the funding had to come from the Bureau of Indian Affairs is what delayed the progress on the project considerably.

Q. Did you have any opposition from environmentalists or people who didn't want you to do it?

A. No, no, at the time we started the environmental program was not very active. No I don't recall; oh I had a little problem on the river. We were going to build a power plant, a very small power plant, to help furnish some of the power for the irrigation project. It wasn't for sale, it was going to be for the project and we ran into a problem there because the stream immediately downstream from Navajo Dam is a very high quality fishing area. People come from all over the world, I guess to fish in that stream. Our problem was we had to work out a scheme on how to operate the power plant so it didn't hinder the fishing area. We went to the State Department of Fish and Game, Game and Fish; or whatever they called them. So they advised us what they thought would be the best way. When we did that, the fishermen went straight up in the air and said you can't do that to us. They raised so much cane that they actually got it so that they decided that we would not build a power plant. The power plant has since been built by the city, by the city of Farmington and they operate it in a different manner. It was one of those unfortunate things that we had gotten some bad information and the thing turned

around because of the fact the fishermen, fishing groups raised so much cane. But that was the only environmental problem I remember.

Q. You're remembering a lot more than you said you were going to remember.

A. Well this is just general things. You haven't asked me what the size of the canal was, because I don't remember that.

Q. What was the size of the canal?

A. Big!

Q. When we're talking, and this is just because I'm not an engineer, but when you're talking about the Navajo Dam and the irrigation district how do they, like the Navajo Dam was put in to furnish. . .

A. The Navajo Dam was put in as part of the Upper Colorado Project to control the flow of water so that when we built the project there would be sufficient water for the Irrigation Project, which was New Mexico's share, part of New Mexico's share of the Colorado River. So the dam was constructed under one authorization and then years later they came back and authorized the construction of the Irrigation Project and naturally the availability, we've never had a water shortage out on the project since we've been operating.

Q. Is that going to stay like that though, do you think?

A. Well, I have no idea. I would assume, well, now that we're using sprinkler irrigation rather than surface irrigation, we actually use less water than we originally had planned. So, I think they're in good shape from now on.

Q. Is that dam holding back water that's only used for the Irrigation Project or does some of that water go for other things?

A. Well, they have some prior water rights. People that they release water to. That's an ongoing thing.

Q. What's the Bert Levine Excellence Award?

A. What is that?

Q. It's one of the colleges. It's San Juan College; it says one of their students got a Bert Levine Staff Excellence Award. Is that you?

A. That's me, but I don't know what the award is.

Q. I was thinking maybe it's an engineering student.

A. What school was is given too?

Q. I saw it on the Internet and I can't remember the name of the student, but it was San Juan College.

A. Well, I give the college; I give the college, **(29:31) this is off the record**. I give the college a pretty good donation each year and I don't know what, sometimes I know what. I know for example, the last one I gave them was for a Speakers' Bureau. We now have a Speakers Bureau and we bring speakers in from all over the country two times a year to speak to the college and to the community. But I don't know what the Excellence Award is.

Q. You might want to ask them that.

A. That's a funny name, excellence.

Q. Right, named after you.

A. I don't know who they'd give it to, because there is one award that I give that's an annual award that's given to some staff member and there's an award there for a student. But I didn't know . . .

Q. This was the staff award. They must have given it to a teacher.

A. Oh, I know what that is. It's an annual award that's given to an outstanding staff member of the college. It has nothing to do with engineering or anything else. They make the choice. But I didn't think they called it an "Excellence" award, but maybe that's what it is.

Q. Oh, yeah. You said that you were only on the San Juan Water Commission for a

little bit, talk about your time there.

A. Well, there's nothing to talk about. I went to; I think I went to two or three meetings. I don't remember what we talked about, the only thing I remember was, we were hiring an attorney, I don't even know if they hired him while I was on, and they went through a procedure of taking comparable bids, the normal way they do that. But I don't think anything came up, any decision during that time frame that affected, I think the plan was being revised and so forth. I decided it wasn't my ball of wax so I got off of it, there are certain things you're interested, certain things you're not.

Q. What kind of water issues were going on at the time that you were interested in or that you were concerned about when you were building the Irrigation Project?

A. Well, the one I think about and it's never been resolved is Gallup, there's a deal to take the pipeline to Gallup and say well to the Indian Community. Well that started when I was still working and good lord, it must be forty years they've been talking about that and nothings happened that I know of. Well, I don't know what's happened, course I've been out of it.

Q. How'd you feel about that idea? I think they are still talking about it.

A. Well, I don't have any feelings about it. I don't know enough of the details. Naturally, it was none of my concern. So nobody asked me my concern. I don't know of any other projects. We did a little community stuff, some of the small irrigation projects on the river, if they had a wash out problem or something, we would go in there and help them get it rebuilt and so forth. We didn't have the equipment, but we had the engineering techniques; things of that nature, but that were relatively minor. I don't recall anything outside of normal business.

Q. You were President of the Farmington Chamber of Commerce for awhile, huh?

A. Yes for, in 1880, I mean 1980, eighty-something.

Q. Well, you said you were really old.

A. Yeah, I forget when it was.

Q. Were you trying to promote the city to get people to move in or just trying to let people know that Farmington was here?

A. The Chamber of Commerce, well it's a promotional deal. I was Chairman of the Highway Committee for the Chamber of Commerce for about twenty years. I feel that our committee has some responsibility in the fact, that we have, a main project, we thought we were very successful, were rebuilding the road to Albuquerque, building the road south, 371 that goes to Crownpoint and on to the Interstate and rebuilding the road to the Navajo Reservation, which use to be 666, but they have another number for it now. But that was when I was on the Highway Committee and as President of the Chamber, the idea of the Chamber is naturally, is to increase business. It's an association of business people primarily and it is to have your town move on, be a better community.

Q. And that leads to my last question, because a lot of towns in New Mexico are promoting their towns, as far as bringing in more business, bringing in more business.

A. Oh yeah, everybody is.

Q. So what kind of advice would you give to state leaders who are involved in water issues so they can accommodate all these people?

A. I don't know if anybody's ever asked me.

Q. We're asking you.

A. I don't recall . . . what advice I would give to them now. Oh I thought what advice I gave to them.

Q. Oh no, what advice would you give?

A. Oh, I don't know. It's a problem. Particularly in this area, where we're very fortunate to have, have a sufficient water amount available, to make certain that it is utilized in an efficient manner. I wouldn't advise them to bring an industry in here that would take a tremendous quantity of water. I think that you have to look at the overall picture and make certain that, what the end result is going to be and that you can live with it. I think that almost anybody that's involved in a water project looks at it the same way, I would think.

Q. Do you think they are looking far enough into the future?

A. Oh, you have to. Well, if you don't look into the future, you're in trouble. There is just so much.... you're not going to have any more water in the future than you have

today, unless you have a rainy year. I'm talking about normal. You're not going to have any different quantity of water than you have today.

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