

William D. McDougald

Interviewed by: Jean McDowell February 2002 at Moab, Utah

Q: What were your parents like?

A: They were basically farmers. They started out farming and they were born and raised in East Texas. They moved to New Mexico later on. They got caught up in a blizzard somewhere around the time of WWI and Dad had 300 head of cows or something like that and he was wiped out two winters in a row there down by Roswell, New Mexico. So they went back to the panhandle of Texas and we lived there by Wellington for a number of years and we moved to Utah in 1939.

Q: How old were you then?

A: I was 12 or 13.

Q: So you grew up in Moab?

A: I was in the 6th grade when I moved here and then that was back in the spring of the year and then I graduated. I went to a special summer quarter in San Diego High later on in 1944 so I could graduate and go into the Air Force early and then they closed the Cadet program. I spent three and a half years in the Air Force and then later on I took ROTC at the University of Utah and became a lieutenant which I served a total of eleven days as. That was my military fling. The reason for that was we had the right to finish our degrees. They called me in by mistake in 1951. By the time I graduated in '52 or '53 the Korean War had settled itself back and so I was free to go again.

Q: So you came back to Moab?

A: Well, after two years working with Atomic Energy Commission over in Grand Junction uranium, they were the ones that had hired me, the AEC, they hired me after the University and I came back to work for them in an administration job for a couple of years. That was our schooling in those days for uranium was out of Grand Junction, you know. I was with USAEC for 2 years.

Q: In Grand Junction?

A: No, I came back to Moab in 1955 to practice geology in uranium exploration, mining and development. I graduated from the University of Utah in Science in 1952 and then I had a Masters in '53.

Q: So you were here when Charlie Steen was here?

A: Yeah, Charles was in full bloom when I came. He was quite a guy and he had quite a thing going. Real nice guy, quite eccentric but Charlie's a fine individual.

Q: So this was boom time in Moab when you were here?

A: Yeah, I came in on the tail end of the first one in the fifties and then we had a second boom in the sixties and that's when I was big in consulting.

Q: That's when Rio Algam came out?

A: Yeah, I was traveling five western states at that time as a consultant on uranium projects and then I had a service deal going at this mill out here for the uranium shippers that I worked at part time for years. Max Day helped me out in part on that. I also did work down at the

Mexican Hat Mill and Tuba City. I was supposed to be an expert on sampling raw ores. And they sent me down to check mainly moisture sampling and it was funny how much you can lose on these moisture samples. You take this ore and you dump it on this pad somewhere. Those guys come along and they scoop little samples in to determine your moisture and, my gosh, it depends on their disposition for that day and how they might like this company sometimes. They want to get even with this company over something, why, they purposely get into wet spots. These ores come in in the winter time and they're mixed moisture. So moisture sampling's a big thing. And Phil Lindstrom from Hecla mining is well known and Gordon Miner from Homestake and Virgil Bilyeau from UTEX hired me to go out here for 90 days to check out Atlas and we still had a service there when the mill closed down in 1986. Rio Algom closed in 1988.

Q: So were you tempted to become rich?

A: Well, I did this. I had some good holdings but as a consultant you had to keep your name clean. Mining is pretty critical this way. I know there's a lot more promotions going in oil and what not but mining was kept pretty clean in that respect. I had a chance to receive and interest in some claims that were vacated out in Lisbon Valley, ran down the information and got the information and, in fact, bought some information from this guy who used to be in this area out of Wyoming. And I ended up with 2% royalty in the Velvet, later to become, and I gave away one and a half percent. The building contractor, Bill Bush, in Grand Junction wrote me a check out for \$4500 or something when I set up in the consulting business to set up my office and buy me a Jeep station wagon and I still have some of the original furniture. It opened up and I was right in the northwest corner of the Prospector Lodge and at the time it was called Twenty Nine. Of course it's been replaced with this beautiful unit there.

Q: Oh right. They tore it down just last year.

A: It used to be a log siding and I had the corner right in the northwest corner, number 29 Prospector that's where I worked out of. One time I had five people working with me. It first operated under former mayor Winfred Bunce and Chuck Cunningham, Madge Miller's husband.

Q: Did you get involved with oil at all?

A: No, I didn't. I didn't have the background for oil. See, once you get out of a general university where you have a general degree you're not specialized and usually by the time you get your Master of Science you might be a specialist. But when you get out of these general universities like the University of Utah in mining then companies hire you and train you the way they want in some related geologic field.

Q: I think that's the way it works in most of those engineering fields.

A: Specialists in the oil industries are company trained.

Q: Did I get the idea that your classmate was Don Baars, the author?

A: Yes, Don Baars was a classmate and a very bright young man and we had a funny thing going at the University of Utah. We had Dick Zitting from later Kerr McGee fame vice president was there at the time and Don Baars and myself and Dean Webb ended up in Wyoming. These were just some of my classmates but Dick... we used to joke later on that I was the mayor of Moab, Utah, and he was the vice president of Kerr McGee Mining. We used to joke down in New Mexico and I used to do work for Dick doing reserves work in the Ambrosia Lake area big time for royalty holders. Yeah, I had a lot of experience, a lot of experience in uranium. The AEC guys before we closed out over there really, they quoted me as the authority on the Chinle formation in this area. And of course the Big Indian's in the Chinle and the Inner River deposits are in the Chinle. You have a unit down in the Monument Valley termed the Shinerump

conglomerate, or grit. It sits at the base of the Chinle and extends into the White Canyon Elk Ridge Indian Creek area. In Big Indian we mined another basal unit in the Chinle formation.

Q: When did you get into politics?

A: You know that's a funny thing and I'm telling you the truth. I grew up here in Moab, you know, I finished high school here. Family still lived here and then I moved back. At some kind of meeting with the famous ex-mayor Winfred Bunce, who was also a County Commissioner and really a very capable guy, we had gone to some place for some reason and we were havin' a sip of whiskey there and fraternizing. And there was John Mullins from Hidden Splendor Mine which later became Atlas Mining and Bob Curfman who was a surveyor basically. Later he ended up with Texas Gulf down here. The Curfman family, the daughters are still here. We made a bet with Mayor Bunce that we could elect three guys to the Council. And we won. We finally got this fifth of whiskey out of him.

Q: And you were one of them?

A: I was one of them! And that was 1956 we went on the City Council.

Q: And you never left?

A: No, I served from '56 through '60, and then there was an absent period, I think, from '60 to '64. It's on that plaque we showed you. I served 32 years on the Council, four years as Mayor, four years on the planning commission. Mayor Karla Hancock gave me this plaque.

Q: So you served a total of forty years?

A: I served forty years.

Q: How many as Mayor?

A: Four years, '74 through '78. I served as City Planning Commission from 1960 to '64.

Q: So you just retired last year?

A: No, I retired in 1999. I went off the Council in 1999. I want to explain to you a little bit why I served so many years on these boards like this. First of all I was in mining and consulting around mining. I didn't have a retail shop downtown. Now these guys that have retail shops on Main Street they're usually limited on the years on that because they're going to make customers mad at their store or something and I wasn't affected that way. I was working for executives or bosses at the mining company who I answered to.

Q: They didn't live here?

A: They lived in Moab, yeah, and they'd give me all kinds of advice on being a Councilman and all that. I mean, I never will forget when we started this moisture sampling deal that went on for all those years. I went out to see Gordon Miner out at Homestake one time and he says "I want to show you why you're not worth a damn, Bill." And he showed me that the moisture had gone up. But we still were doing that work and we were hired for sixty days and it lasted from 1959 till when they closed the mill in 1984 or '86. I was the shipper's representative is what I was called and in hard rock mining you're called a "moocher." You take samples from railroad cars and all that. I never will forget how I got offended one time by Willard Johnson from Atlas who was well known and was one of the guys under Roy Hollis. He come out to crushing and sampling and he says "Hi moocher!" and I was offended because I didn't even know what it meant, see? By the way, one of the finest executives I ever worked with in mining was Roy Hollis.

Q: The Museum has a picture of him but I didn't know him.

A: He was the finest man I ever worked with. We worked together in this shipper stuff. We understand each other and he'd come out and chew me out just like an employee when something come along. One time they brought some high silver in from the infamous Happy Jack mine. I didn't know anything about it. I wasn't even working for these guys. And he chewed me out because I let 'em mix it in a stockpile of other ores. They put it in the regular pile, having copper values. This had 58 ounces of silver.

Q: The Happy Jack?

A: The old Happy Jack, underneath. These guys took a little lead that went down in the floor of the Happy Jack and led into an ore body. They mined \$850,000 out of this pothole. Underneath the main deposit! John Black, and another guy and a guy named Hurst out of Blanding Utah did the mining. The famous Happy Jack was first located as a copper deposit. Same history as Great Orphan Lode, south rim of the Grand Canyon.

Q: Yeah, there are Hursts in Blanding.

A: Yeah and Blacks in Blanding. But they cleaned up on that. Me and one of the old Atlas engineers, we went down to look at that and see what the heck was going on. He asked me "You want to go down and see the Happy Jack?" And I said, "Yeah." So we rode down and went through it and it was really something. They showed us how they chased that little old lead that went down under this formation into this pothole and that's what it was.

Q: Well there's a silver mine down along the way to St. George that's in the sandstone which is in Leeds, isn't it?

A: Yeah, some of these guys from Moab went down there and worked in Leeds in the 1980's.

Q: Well, back to the Council, I've heard it said that you were a diplomat and that you were a good person on the City Council.

A: Yeah, well the women always called me sweet, soft-spoken and easy to work with. When I served under Tom Stocks, for example, my pet job was as a mediator in between. And one time I was in a conference up in Salt Lake City and his wife, Gaye, said to him, " Why can't you be like Bill McDougald?" And she was a mean turkey too. I mean old Gaye was that type of personality! But Tom got up in the morning and he had to have controversy to go. That was his life. If Ralph Miller said that the sky is nice and blue this morning, Tom says that it's going to be gray or black, not blue. Those guys had a feud running that stayed forever and I think a bunch of them were Masonic Lodge members.

Q: They kept re-electing him?

A: Oh yeah, but these guys opposed him but Tom got re-elected. He served like 16 years, I think, and now he's the mayor of LaVerkin. Oh yeah, Tom is a politician and I could tell he didn't cheat the people. He served the city of Moab well.

Q: You must have enjoyed your work because I'm sure you put in a lot of hours?

A: Oh yeah, we enjoyed it.

Q: Then when did you get into teaching?

A: Well, in 1970. They called me over. Ahead of Kay Hancock. Tom-Tom? Tom Arnold. They had just that little educational center and I started teaching for him.

Q: You mean Tom-Tom was in charge of the CEU?

A: Well, it was just called Educational Center, just sort of an extension deal and Tom was the first. And he was replaced with Kay Hancock and I worked for Kay and I taught these beginning courses which is all I was qualified to teach in Moab. First of all, we didn't have any lab facilities so I taught Geology 1, which is physical geology, for all those years and I taught some historical. I was allowed to do that. And then we had that #490 course that you might be familiar with that we tooled for Moab, Utah, called Moab Geology for USU.

Q: That must be what I took when we went down in the Rio Algam mine?

A: That's right and that was tailored. And I'll tell you how that was started and you'll be interested in this. Dave May, remember Dave? He used to come and take this class. Well, I was lecturing on mining, mining, mining and he says "Bill, there's other things out there." So I said to him, "Dave, how about helping me out. How about you lecturing the Parks?" And I said, "We'll set this up and we'll tailor a section for the parks a section for the BLM and a section for mining and it'll take less time." So we started tailoring the course and it was through his suggestion that we started enthusiasm in the parks and of course they're our natural wonders. Today eighty per cent of our resources is parks so it's important but then, in 1970, we thought this recreation and tourism was about 10%-20% of the economy. We were in that uranium boom in the fifties and sixties and all the way up through the seventies. We were big up through the seventies and we mined up to the eighties and our mill ran up to the mid-eighties. Rio Algam closed in '88, I remember that. I did work out there too. But Merv Lawton was the general manager of Rio Algam when I did work in Big Indian mining district.

Q: I think that trip you had us take down Rio Algam was one of the last trips?

A: That were allowed? Yeah, we brought samples out of there. We were the last public group that toured Rio. I like to teach college courses. I guess that's in my blood. My oldest sister was a teacher.

Q: Well, you've had several careers. You were a full-time geologist and a full-time council man and a full-time educator. I guess they overlapped?

A: Well, I had to be highly qualified in sampling, you know, because of my work around the mills. That's what I was mainly concerned about, the sample that these guys got from their shipments. I was their shipping representative.

Q: I don't know whether you want to give any thoughts about the Atlas tailings?

A: Well, I kept reading the reports and I was concerned about the quantity of water seepage through the tails into the river. And I held back and I just don't get into those fights anymore but if they could take the water from around the tailing pond and cap it, it would work fine. In other words, take the water out that's going in and going back to the river. In other words, you have to dry up your tailing pond and put a cap over it and all that. They can do it providing that there isn't too many gallons going into the river. Well gee, when Atlas did their testing I used to talk to these guys. They had to go down the river and check the river and everything when they were there and they would check for this contamination we're talking about and the time they sampled down at Texas Gulf there was such a large volume of water running through the river through Moab which is 12,000 cfs I think it is minimum and it was diluted down to where there was a trace. And if the quantity that you'd leach out of the tails exceeds that where it doesn't dilute or if the water itself was reduced to a certain low level I suppose you got a real problem. But from the tests and the gallonages I saw it wasn't a problem. Now there will be a

certain amount of ammonia that will leach out that will affect fish and things in the near vicinity. But the thing is, if they get the water out of the tails and instead of running it through the tails and into the river, if you can do that by capping and proper surface run-off detouring around the pile, capping would work at 1/3 the cost.

Q: It sounds as though San Diego isn't threatened?

A: Oh, you know, I think the most classical thing I ever said to Secretary of the Interior Babbitt. By the way, regardless of the comments we see about him, he was a down to earth person and you could really talk. We went out and we visited the tails out at the Atlas. The Secretary was here out of Arizona and I said to him, "You know, the thing that bothers me about this whole thing? They're saying to me if I pollute a drop of water here in Moab, it's going to affect San Diego, California." And of course he'd been in on the water battles between Arizona and California and he says, "They'll do anything to steal your water!" I got the biggest bang out of that. I really had an enjoyable visit with him.

Q: It sounds like you've met a lot of interesting people.

A: Oh yeah, over the years I have.

Q: What do you think about Moab over the years? How has it changed for you?

A: Well, it went from a mining town to tourism, about 80% tourism, today (at least 80%). It's a changed town. It sits between two wonders – Arches National Park and the Canyonlands. It's located ideally for tourism along the Colorado River and that's our industry. So if you gonna live here, you might as well like it because that's where it is, you know! I don't have any problem with it. Three or four years back there were 56 food and drink stops along Main Street.

Q: Well, that's good to hear.

A: I found out many years ago and I don't know how it came about, probably consulting water with Jim Salmon up there in Castle Valley. I found out that Castle Valley had a different populace than the old Moab, you know. We had different people coming in. But I found out and Bob Jones told me one time in a very nice way, "I have the most educated tour guides in this world." And he did! They had more degrees. So see we've got a blending of people here, but we've still had good people coming. We had good people during the uranium boom and we had different people move in later on that are excellent people.

Q: Well, it sounds like you're an optimist.

A: Oh, you can work with these guys. Certainly you can. They're going to bring you some new ideas that'll benefit, say, the Moab City government. There's going to be some new ideas that come along and they'll benefit you.

Q: Are you worried about Cloudrock?

A: Until we got that new well and I'm on the Water Board. Until we developed that one well, that one we just brought in and it's a strong well. I think we'll be okay on servicing Cloudrock. I don't have no problem as long as we have the water to service them. And they have to do their own sewer connecting lines to discharge into District sewer lines that flows to the City sewer plant. Now the development up there is large acreage except for the limited housing development along the valley rim. The developments up on top are to be really large tracts so to use a lot less water.

Q: So do you miss being in the midst of City Government?

A: Well, no I don't miss that. I'm still on three boards. I'm on the Water Board and that was one of my projects in the city was water over all those years. I was on the Board that bought the Sommerville Ranch, you know, and Dick Allen was the one that negotiated with Lloyd Sommerville to buy the ranch that gave us springs #2 and #3. We already had spring #1 by the crossing termed Spanish Valley Drive to the golf area.

Q: Is the Sommerville Ranch where they've been digging the wells?

A: Yes, the watershed is over part of the Sommerville Ranch and Dick Allen negotiated with Lloyd Sommerville in 1959. We also purchased four 40 acre parcels from BLM for recreation. Most of the golf course is in the BLM 40's. We had cattle one winter. We lost eight head, I remember that. The first year we had cattle, the City of Moab, so they got out of business after the first year.

Q: The City of Moab owned the cattle?

A: Yes, we bought the cattle with the ranch. And we lost eight of them the first season.

Q: We got out of the cattle business?

A: We wanted the springs and we wanted the water rights. Now spring #2 and #3 used to run over to irrigate the Sommerville Ranch. We sold to George White, except for 180 acres of watershed. We sold him the basic land without the water. He came from La Sal and was first to develop water wells.

Q: Did that take the water?

A: George White #4 sitting up on the side hill up there that has the tank setting by it? Now it goes into the Diostrict serving the upper valley. This well became a trade with George White for water from Ken's Reservoir or Lake. He was a fantastic guy, probably one of the great ranchers I've ever worked with. You know people fight and die over this water and George was such a reasonable man. Now he looked out for his own interests but he was big in developing the water on the upper end of the valley. He was a great leader in water projects.

Q: So did he sell the water rights to the City?

A: Yes, we bought up the rights. The two larger springs are all fenced in on what's known as the golf course now.

Q: South of the golf course?

A: No, they're on the golf course lease of 80-100 acres. In fact, the golf course was mainly bordering four BLM quarter sections. By the way, the ranch cost \$65/acre and the BLM land \$2.50/acre.

Q: At one time weren't they worried about the fertilizer at the golf course contaminating them?

A: Yes, they hired a certified greenland/fairway operator, Ned Kirk. They hired Ned to come down and supervise the watering and fertilization of the golf course. The City insisted on them doing that. And I am also a member of the Moab Country Club which leases the land from the City of Moab.

Q: That's right, you're quite a golfer?

A: Yes, they really flew the red flag when they brought this guy in but he's done a good job controlling it. And they have nine monitoring wells. They drilled 9 wells that have these monitoring positions and can check this ammonium nitrate in the water from the aquifer. Before the second nine holes were developed they did quite a study. I remember we had quite a study where we were required to drill wells up by the springs, monitoring wells down below, coming down through the golf course. Monitoring wells testing movement of nitrates getting into the ground water. We have the finest drinking water in the world, just as good as it comes.

Q: So how is the water supply for Moab?

A: Last I had a handle on, I think we had water for 8750 people in Moab and see we're sitting at 4800 or something like that.

Q: But what about Spanish Valley?

A: Their growth was bigger than Moab by far and they now own water resources. Between Spanish Valley and Moab we have sources for population of 20,000, between springs and wells. The Conservancy District drilled four wells before they found a big one. We were lucky when we penetrated the aquifer. We did geophysical studies in between and they outlined the better places to drill. You know you can use geophysics for water and that well we brought in. I witnessed the well tests. It is located about 1500 feet from an existing strong well, the George White #4. It's about 1500-2,000 feet along the fault line.

Q: So is this all in the fractured Navajo sandstone along the fault line?

A: Yes it's all in the fractured Navajo. And the rule of thumb with these wells if you develop along the fault line and you find a section of fractured Navajo where the water is, you'll have a big well. I spotted one for the City and Bob Norman had previously spotted one below the

springs. I think it's number five that sits there and it used to pump water for the golf course. But it's so sandy and it's really weak. Well number six, located at the top of the golf course, produces 12-1500 gallons per minute. Then I was real smart so I went along the fault line an eighth of a section, 660 feet, to drill number seven. It's in solid formation and produces only 450 gallons per minute. They use it on the golf course between irrigation seasons of Ken's Lake water. If you hit the right fracture conditions in the Navajo along this fault, you get a big well. And I imagine you intersect a blockage of the water by down thrown block.

Q: Tell us about the fault. Some people are worried about the fault.

A: The fault through Moab? It's stable. I'll tell you, in Moab valley you sit over a core of anhydrite and salts in the Hermosa and you know the Hermosa comes up and, of course, it's strong over in the gypsum hills by Mountain View, real strong and all that. Fault movements creating earthquakes do not fracture salt the way it does a solid formation. Salt will absorb the shocks. We're sitting on the safest environment I know of, in the valley itself. Now the fault itself is there and it bifurcates and splits in two paralleling the valley. All of the salt anticlines, some eight in number, have similar faults. And we produced our water along the east side coming down, northwest flank and that water comes in and it's mainly fed from the Mill Creek drainage. That's the main source of the water. We intercept it with wells and springs. Where you have fractured sandstones on Sommerville's Ranch, out comes nice springs. But we've had to drill wells to supplement everything since those springs were put into culinary use. The City first bought Sommerville spring #1 located on the crossroad over to the golf course, termed Spanish Valley Drive. It's the fenced area on your right on the way to the golf course. That is a good spring. I forget what the gallonage was but it was rather small (less than 200 gpm). Then we bought the ranch later on, in 1959. Then we developed springs #2 and #3 as culinary. We drilled big wells for supplement later on. We got into quite a water crunch in like '75 to '76. By that time what had happened in the aquifer and everything was production from big irrigation wells in the valley that was pulling down the water from that aquifer which is in the

gravels mainly. But some of those wells interfaced with our pristine water along that fault. In fact the Corbin well that we bought later on from Delbert Oliver and associates is a big well but it has an interface of hard water from the valley gravels and the pristine water from the Navajo. We piped Corbin well flow to discharge it into the City system hard water. Later on we leased that pipe to the irrigation system and they used it in their irrigation system out in the upper valley.

Q: So they strictly used the hard water in the irrigation?

A: Yes, mainly Ken's Lake waters.

Q: Do they ever comingle the hard waters?

A: No, so far, product into the irrigation system for irrigating the farms.

Q: But they don't put it into the culinary?

A: No, they have their own sources for the water and sewer district in upper valley. We developed good fresh water so far for the upper valley. We're very fortunate.

Q: What other boards did you say you were on?

A: Higher Ed, of course that's from my teaching experience. And that's been a good assignment I've enjoyed. I joined the Water Board in 1984, and for a long time it wasn't so political but it's more of a political battle anymore. It's not quite as enjoyable as it used to be. But it comes to that, I guess, because of the new development and this Cloudrock is one of the issues you're looking at and of course I've always said Cloudrock will go if you can develop the necessary

water for them and to do the job. The District is in the business with a new well, the second well and storage tank on the edge of Johnson's Up on Top mesa or on the valley rim.

Q: You're not worried about Moab becoming an Aspen for rich people?

A: We're a little desert today. We don't have a poor people populace in the upper valley the way it is today as far as I can tell.

Q: I think that's true. I live by J.D. Norman's gated community.

A: Well, I don't think that the valley's poor at all. Well, of course, the danger of going to Aspen is that things are so highly priced. I think we're a long ways from that.

Q: It sounds like you enjoy the mixture of Moab.

A: We have a good mixture and it's a wonderful thing, semi arid Aspen-like community.

Q: Are you worried about anything?

A: No we've got a good City Council. We have an excellent new mayor. I worked with him on the City Council, Dave Sakrison. Karla Hancock was a fine Mayor and good person. The County Council when they changed over to seven had their real problems and I still wish they'd gone for five but, of course, I'm partial because I served all those years on a five-man Board. So that's why I speak that way but they're getting along and doing all right. We have a good community.

Q: Well I think that's the most important thing for people to know the facts instead of arguing about things that they do not comprehend. They should work together.

A: In Higher Education I try hard to teach them a good course of elementary geology. This year I taught one course, #101, which is Physical Geology to you and I, beginning first course in geology. I taught it for the College of Eastern Utah and of course we're on a semester basis now so that runs fifteen weeks instead of ten. We didn't have the enrollment for Winter Semester. I teach the classes when they have the enrollment. We have to have the enrollment of eight to ten students.

Q: Moab could become more of a college town if they'd develop facilities.

A: Yes, that's a long haul and a very expensive situation when you get into all those things. Of course they got that land donated for a campus. The problem is the junior college in Grand Junction and the college in Price. Populations only support so much Higher Education facilities and staffing.

Q: Blanding has sort of a little community or campus.

A: They've taken their CEU and expanded it into an on-campus center. They're ahead of Moab as far as CEU. We kind of sit in between there but at the present time we're in the process of buying up CEU, the complex including Moab City Hall.

Q: Oh, where the City is?

A: That would then succumb. Oh course the City owns their own land and property in west Moab complex.. That would only come about when or if the City moved to the retired high school and middle school along east center by the ballpark complex.

Q: The one that's empty now?

A: Yes. In the 1930's, 1940's, we used to occupy an old building behind the 1930's constructed K1-12 buildings, a library and auditorium, including a lunchroom.

Q: Well you've seen Moab through thick and thin and must like it one way or another?

A: I still like it, it's a great place to live. A bunch of wonderful people, yeah there's lots of good people. Moab has always been a blend of LDS and others. Maybe 40% LDS.

Q: Blanding?

A: Yeah and the tough town, by the way, the real tough town as far as looking at the religious part was Monticello. I am told that they are more jealous. I've golfed with a mixed crowd of people. I'm not LDS but I do have two sisters that belong to the church. Mary and her husband, Jim Davis, have been on 5 missions. Mary's a wonderful person. And I have the highest regard for the LDS and have no problem with them. If I had a problem with them I wouldn't have stayed in Utah.

Q: Well, Moab isn't predominantly Mormon.

A: No, it isn't. I think one time it might have been 60% and it's probably less than that now, about 40%. Don Cook told me somewhere about the statistics here. We was down around 40% LDS.

I'll tell you about my early years serving on the Moab City Council. I served two years under the late J.W. Corbin and he was the president of the Midland Telephone Company. That's Ila's

husband and he has grandsons J.R. Carter and Russell Carter's wife, the nurse, is the daughter, Helen. And I served two years with J.W. And I served two years with my brother, Ken, and this picture depicts the time he was awarding me something for my service in '56 through '60. And Ken was quite a community leader, to say the least. We lost him in 1983 in an airplane crash in New Mexico. But Ken was quite a guy. He was a giant in the community.

Q: Was he older than you?

A: Ken was about 18 months older than I am.

Q: Was he in politics before you or vice versa?

A: Oh, about the same time, off and on. Ken was always a community leader.

Q: That drinking affair when you said you'd get elected?

A: Oh, that was with Mayor Bunce. It wasn't Ken. John Mullins, Bob Curfman and I came from mining and were elected to Council that year (1956).

Q: So you were elected before Ken was?

A: I think if I recollect right that I served '56 through '58 or '60 and I served two years with Ken. So there were two years of my council time when Ken was the Mayor. We had a little old City Hall up by the old swimming pool which is by where the library is today? The old Moab Swim City used to be right there and we had a little building east of the pool. Some of the buildings are still used today.

(Reading from back of photo) In 1956 –60 were the first four years of Council and '73-'77 I was Mayor and '58-'59 I served with Mayor K.E. McDougald and 32 years Council, four

years Mayor, principal interests were streets, water and sewer, recreation. The only real distasteful term was the last term when we changed the garbage contractor. That was the worst situation I ever worked into and I never did work out of it either. That was a conspiracy that succeeded by the way.

Q: People were so loyal to Bob, weren't they?

A: Yes, Bob's a good service company. Now here's the deal where he gave me this little clock and it had a plaque on it. That's Mayor McDougald and Councilman McDougald. That's when I went off the Council (1960). (*see photo*)

You know I got a kick out of Adrien Taylor. I worked with her over the years. She's a great lady, very capable, and she had the honorary degrees ahead of me, an honorary doctorate degree. Mine was the first one conferred locally.

I fell on the rocks out there on a geology field trip in Sege Canyon. I got the shoulder. And then I fell off a stepladder out here in this place. We'd just moved here, whenever that was, '95 or '96, I fell off this ladder and broke my leg in the garage out here. So I had this right side rebuilt. I have a rotor cuff in the shoulder. The break in the leg didn't involve the hip socket, thank God. It broke across the femur below the hip junction.

What was this gimic here that the teachers gave me? It was one of the cute things in my life. I was substitute teaching one year. I had sixty days and I went through it in middle high school and middle school and these guys gave me this as my award when I was free. They donated free time. These were the problem guys at high school. These teachers gave me these things and I got a kick out of 'em. Weeding, rototilling, water....BC Enterprises, their first anniversary sale and all that stuff. J.C. Eddie who was one of these kids. I never will forget that.

I love this picture of the two of us (*indicating photo of Bill and his wife*). We went to Dr. Tice for this tumor on her spine and it was very delicate and left her with chronic pain for the rest of her life. He spent about four hours taking this little tumor off her spine and he got it

but there was so much damage to the nerves and everything. Well, we were in there talking to Dr. Tice somewhere along the line we were saying that we were both married three times and she related to Dr. Tice that she'd lost both husbands to accidents. And he had no sense of humor but he looked over to me and he said, "You better watch out."

Now we're talking about northern Grand County and the coal. Okay, the coal that was mined at Sego was for the Rio Grande Railroad and it was a quality of coal that was excellent for cleaning the clinkers out of the fire boxes on the locomotives. And they mined two and half million tons plus from two and a half square miles. I guess it is there on the ground there in the Sego area. The bulk of it went down to the main railroad. They had a little narrow gauge spur that went up there and connected with Sego and that was our coal industry. In fact, we used to even have a doctor living in Sego at one time. And we had probably 80 workers or miners. Remember when we went on a field trip and we had little dugouts up the canyons there and some of them slept in there? They 'd come over there in the week and they'd work and they were out of Price and Green River and all over.

Q: We have a sample saying anthracite and one saying bituminous. Which was it?

A: It's a bituminous coal and the seams in lower Mesa Verde formation. It's cretaceous above the Mancos. The time the coals built up in Emery County we had a high grade bituminous coal, real choice. Now your anthracite coals are your metamorphosed coals out of the eastern U.S. including Pennsylvania and West Virginia.

Q: So we don't have that?

A: We don't produce anthracite. The Pittsburgh seam runs all the way underneath that whole country over to the Michigan basin. That's your hard anthracite coal. It goes from coal to coke to Bessemer furnaces.

Q: But this was high grade bituminous in northern Grand County?

A: Yes, now they would add that under certain conditions with the anthracite but they'd also add diesel fuel to it for better burning. Carbon and Emery County coals go to power plants.

Q: I was wondering what it had to do with the clinkers?

A: Clinkers are coal residue. It has to do with the right amount of bone or the rock that you find in coal but this was ideal for them. It was their selected coal and that was their mine there at Segoe. The Rio Grande Railroad. This coal business out there, that was their coal. Now our coal there in Segoe was a lot lower than the Emery County. The coal seams as we move to the east to Colorado state line, the grade and quantity went down.

Q: But the railroad liked it?

A: Yes, for their fire boxes. They cross through all kinds of coal fields. They rail from Denver to Salt Lake going through all kinds of coal. Once they got their mining set up they were locked in there more or less because of their expenditures. The spur accessed the coal field of Rio Grande coal, that Segoe was.

Q: So then you got talking about the Hilltop Drive In?

A: Oh, I don't know how this came about but the Hilltop Drive-In was built during the uranium boom.

Q: It's up above the Gravel Pit Bowling Lane.

A: The gravel pit is Grand County Road Departments. Yes, the Hilltop Drive-In and later on we had the one built down on the Howard Lance farm. People reside in this building. People came in from all over for the uranium boom and part of them were business people, including those who operated the Drive-In Theatre.

Q: So was that during the uranium boom?

A: Right, the group that built the Hilltop to the best of my recollection came in from Cortez. Max Day at one time ended up with it, and operated it till closure. Dee Tranter at one time had something to do with those theaters, he lives right nearby, and operated one of them for a few years. A family came in from Carbon County, Joyce Ossana's folks and family and Tom Ossana. Their folks, Tom's folks, had something to do with the theaters, I remember that.

Q: Two drive-ins at the same time?

A: At one time they were both operated. The one up on the hill top closed first. The lower theater only opened at mixed times per week and finally closed. Television had taken over.

Q: Shirley Lance lives nearby?

A: Yes, she's a daughter-in-law of Howard Lance.

Q: What's Shirley husband's name?

A: I think it's DeLoy. I've known them forever.

Q: The valley had the two drive-ins plus the one in town?

A: Theaters, yes. The one on Howard Lance's lasted longer and the little theater downtown, the old Ides Theater. That goes back to the Clark family that lived and has the famous tree up on the corner of 3rd East and 1st South that they finally took down that they took sections from. Mrs. Clark operated the theater. She came from the Uintah Basin, Neva Kirk, daughter and family raised in Moab. Husband had a Brown's Hole Ranch and later on located in the La Sal Mountains. The Ides was our entertainment.

Q: Did the little theater in front of the second drive-in come later?

A: Yes, it was the last constructed and the last to operate in the valley. Well, you realize that our little town was pulled from 1200-1500 people to up into the thousands. In the early sixties they built the Holiday Haven for this purpose, 100 plus spaces, this was all part of the latest boom. This town expanded in a very short time to 6000 or 7000 people. I've heard 8(000) and I've heard 9(000) for the valley but the whole county is just around 9(000) now. Moab expanded by leaps and bounds and the highest population that I can recollect for Moab was probably in the early sixties during construction of the Cane Creek Potash complex.

Q: Were you in on that?

A: No, except as an elected official.

Q: So it was sort of at the same time the uranium was going strong?

A: A second main uranium boom came in the late sixties. It came along at the end there and it came along in the early seventies. They attempted mining for years. When they tunneled into

the center of the anticline it intercepted distorted and overturned beds. So your continuous miners used in the coal fields couldn't stay on grade of beds. The whole center of the anticline was taboo and lost mining. They abandoned the mine, and lost \$60 million. They went to solution wells in the old workings and then they've been harvesting potash ever since that way. They have recouped a lot of their losses. They pump the river water down the wells, it loads with brine and they pump the brine out, piping to the evaporative ponds. They add a beautiful color down there and it makes it look pretty but it's supposed to expedite the evaporation. But you look off of Dead Horse Point down there and see the beautiful blue ponds and it's created by chemical additives to increase precipitation into beds to be harvested.

Q: I guess you know we have the condensed version of the potash operation they used to have up on Dead Horse Point down at the Museum. And we have pictures from Hellmut Doelling.

A: Hellmut is very capable in salts and a real fine associate. He's another Lee Stokes to me, Hellmut is. Lee was one of my professors at the University of Utah and I've had an opportunity to work with Hellmut and he's another Lee Stokes as far as I'm concerned. Lee Stokes is one of the greatest professors I ever met. Lee was a Jurassic Morrison dinosaur expert. He also was a real well-equipped stratigrapher and Morrison salt wash uranium deposit expert. We have reviewed a number of Stokes' publications. Dr. Stokes has to be one of the top three geologic authorities and teacher of Utah Geology. He consulted for the USAEC on Morrison deposits. My first college classes relating to uranium-vanadium deposits of southeastern Utah were offered by Dr. Stokes.

My professional life covered some 36 years as an Exploration Geologist - USAEC 2 years, Consulting Geologist 34 years. I was a uranium scientist. This experience ended with the uranium industry in the Four Corners region in 1988.

My political life covered some 40 years – 4 years Moab City Planning Commission, 32 years as Moab City Councilman, and 4 years as Mayor of Moab City.

My public boards and commissions included Moab Planning Commission, County-City Consolidation, Higher Education Council. Grand County Conservancy District and Agency, Department of Workforce Services Council, Association of Governments: Grand, Emery, San Juan, and Carbon County, and the Utah League for Cities and Towns.

I am a member of the American Institute of Mining and Metallurgy (AIME) from 1955 to present, BPOE-2021-Elks from 1976 to present, National Wildlife Federation 2001 to present, National Rifle Association, American Professional Geologist 1972 to present, Moab Country Club 1963 to present,.

To best summarize my many years of elected and public service I found all of the boards, commissions, councils, and positions to be very rewarding by service. I left some and still serve on others with no regrets. I had a basic desire to serve with honor many, many years. It was always desirable to work with the Moab City watershed.

My professional life extended through basically two uranium booms. By the latter time I was well equipped and experienced. I was a consulting and professional geologist from 1955 to 1999.

I met and worked with many choice people. My motto in public meetings was to remain calm and take good notes. I made more friends than I lost. I will be ever grateful that I was elected to serve and volunteered to serve on other boards.

I became an expert on Chinle formation uranium deposits in the Four Corners area, Ore Reserve calculations, and shipper representation.

Teaching geologic courses has been a challenge and real experience.

My personal life has been very rewarding. I have been married to three good women. They raised fine children and friends. One of the most satisfying expressions ever was their staying close to me as a father and stepfather.

I am a very happy and satisfied senior citizen, age 75. For the numbers of real good people that I've associated with as an elected official, professional geologist, and board member, I thank you all.