PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: Bob McCrossan

INTERVIEWER: David Finch

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DF: Today is the October 23 in the year 2001 and we are with Dr. Bob McCrossan at 650 Hollings Rd. in Mill Bay, B.C. Could you start by telling us where you were born?

BM: I was born in Vancouver in 1924. My father was a lawyer there that came out from Winnipeg after being graduated from the University of Winnipeg. He liked it there for his whole life. For a number of years he was the corporation council for the City of Vancouver, drew up all their bylaws and so forth. And he had a general practice. He was George McCrossan, my mother, Viola also went into law after Dad died in, when was it, I was in university when he died. She had her call to the bar when she was 65. She had gone in under a sort of grandmother clause because she had been articling before the first war with my uncle so she was able to squeeze her way in there without a university degree. Then she practised law right to the day she died, she was about 83 years old working at the dining room table on a brief of some sort.

DF: Did she have a special area of law?

BM: No, anything that came along. She had all kinds of shady mining promoters and hot deals going and forming companies that mostly went belly up and this type of thing, lots of wills and real estate and that sort of general practice. We used to go and visit her, this is maybe getting a little off the track.

DF: No, this is fine.

BM: We used to go visit her out in her home out in Vancouver and we'd get all settled in there and then she'd say, you people are going to have to leave the house, I've got clients coming in and she'd throw us all out.

DF: So tell us about your education then, how did you get interested in geology?

BM: Well, I notice in your notes here that you were interested in whether I had any early interest in science as a kid. One of the things I organized as a kid was this museum that we had. We used to live on the corner of Angus and Granville in Vancouver, we had a great huge room in the basement so we set this up and I had all the kids in the neighbourhood doing this, I'll give you a few photos that I have of this thing. We ended up giving it to the Vancouver School Board eventually. We had quite a lot of good stuff in it because my grandparents, who were early pioneers here, they were actually some of the first pioneers in the lower mainland. Grandfather logged off Stanley Park and took all the first growth out of there to make room for the second growth. He used to drink beer in Gassy Jack's Saloon. Grandma, her family came around the Horn with the Royal Engineers. So they had tons of Indian baskets and stuff and we got a lot of this old artifacts. Then a lot of people gave us stuff from the Crimean War and the Boer War and all this sort of thing. So we had quite a few of these various things. Then when we gave it

to the School Board I think some teachers must have pinched it all because I went back a few years later and it had all disappeared.

#035 DF: That's amazing. And whose idea was this?

BM: Mine. When I was a little guy we used to go up the coast to this place we had in the summer time, Grandpa had a big hunk of an island up there that he got for, I think it was $500 or something. But anyway, there's an old house on there and we used to stay there in the summer and of course, I was down on the beach looking under rocks all the time for things and packing all this stuff home. So that's how it kind of got started. When the people across the street, they were friends of the President of the University of Alaska and they'd had a whole bunch of surplus mastodon bones and sent them down to us. Anyway then eventually we sort of folded that operation and we got into setting up, I decided we'd have a series of science lectures down there and charge for them and we made some money charging all the kids to come into this.

DF: How old were you?

BM: One of them that sort of broke the thing up eventually. . .oh, I don't know, 7 or 8 or 10. I guess we quit this about the time I was in junior high but the thing that really caused a flap and all the parents in the neighbourhood kind of clamped down after I managed to get a veterinarian who agreed to come up and open up a dog for us so we could see how the insides of an animal worked. He was going to put this animal down anyway and it was anaesthetized but there was no opportunity to explain this, they were just all kind of horrified at the very idea. The other day I ran into our Lieutenant Governor here, Gardy Gardom was one of the kids in the neighbourhood and I said, Gardy, do you remember me and he said, oh yes, you were the kid that cut the dog open. He was just the last Lieutenant Governor here and I was in sort of a reception line and we were shaking hands, it was kind of funny, a little taken aback by that.

DF: So he remember you all right. So how did you get into university and into geology?

BM: I kind of took general sort of courses to start with. It seemed to me that one of the obvious things in Canada, if a guy wanted a job in the future would be in the resource industries because obviously Canada was going to be in the business of exporting commodities of various types for a long time into the future. So geology seemed to be a very logical choice, it sort of fitted with the sort of things I was interested in. So I was graduated there eventually, in 1948 with a Bachelors degree and Honours degree in geology. Then I stayed on there for another year for some graduate work in mineral deposits to prepare myself for no jobs when the mining industry went flat. At which point it was quite obvious if I wanted to eat I had to get out to somewhere where there were some jobs, which was in Calgary with the oil business just starting up at that time. Leduc had been discovered and Redwater was just coming on stream, or just starting. So that's the time I got in there.

#074 DF: But you had no petroleum geology?

BM: No, at UBC. . .

DF: So how did you . . .?

BM: Well, they gave us a course in stratigraphy and sedimentation sort of thing, as one of the courses. Old M. Y. Williams was giving that and he was considered a bit of an old fossil but he was probably the only one I got anything very useful out of there. He was really quite a bit ahead of his time actually, even though some of his ideas were old. They came back into fashion later. You know, like on Continental Drift and so on, it had gone completely gone out of fashion at that time and he was still pushing this. It was years after before the whole idea of global tectonics was really developed. Intuitively there had to be something to it but they didn't have the hard data to begin to put this thing together. Well, we won't get into this sort of thing, this is. . .

DF: So how did you get hired in Calgary?

BM: Actually that's another long winded story. Mother said, don't worry about it, we've got cousins out there, the McMahon's George and the rest of them, run Royalite. So she phoned over to, which cousin was it in Vancouver, out in Tarasdale, one of them. So he wrote a very glowing letter and I presented this, went in there and popped this in. Oh, I had to head out there on the Greyhound bus because by this time I didn't have all that much money. And I stayed at the Y. So I went in there with this letter and I was received very graciously and they were very effusive about receiving me and so forth so I thought, wow, I've got this thing made in spades. So eventually, at the end of this interview and all the pleasantries, he said, they'd certainly be in touch with me but don't call us we'll call you. I was a little naive in those days and I thought he really meant it so I went back to the Y and sat beside the pay phone there waiting for the call that never came. Then I decided, by this time the money was just about down to zero so I had to get my rear end out onto the street and start banging on doors. So I went up and down and chased into various companies around there and at last I found one with three names on the door, it was Honolulu, Barnsdahl and Seaboard. I thought, wow, I can knock off 3 companies in one place here. It turned out this was a group of American Texas based little companies that had this office there. Les Clark was the Exploration Manager at that time, I don't know whether you've run into his name in the course of your things here. He was one tough cookie and he'd just finished canning somebody that had been out on a well for a week or two and got in at 2 in the morning and did show up for work at 8:00 so he fired him the next day. He had quite a reputation for that but I rather enjoyed old Les, at least you knew where you stood with him. In any event, they decided to take me on, they needed a body. So that's how I got going. Les's idea of a training program was sink or swim and so basically, they just sort of dumped you somewhere to go ahead and figure it out for yourself. Nobody told you what to do or how to do it. So it ended up I was I guess started out, they said, well, you better start running a well here, have a look at a set of samples. So I didn't know what the heck I was doing and I was busy describing all these rocks under the microscope in minute detail and somebody said, what are you doing all that for. You know, I was starting to describe some limestone at a well around Redwater where there's a lot of fossil material and detailed structures and at that time, the Carbonate petrology was almost unknown. Nobody in their right mind would have thought about trying to describe all the textures and stripes so they said, no, there's no room on the log to put all that stuff down. So anyway the normal procedure in those days was to just

describe something like that as, limestone that's above and you go through all these samples. So you could log a well in less than a day. Nowadays they take a whole week or 2 weeks to log a well. In those days you sort of prided yourself on how many thousand feet a day you could do. The same with looking at cores, they expected you to go through boxes of them in no time at all. It's certainly a different story now. Then they had me working on a few maps and things. It was pretty easy to draw a map in those days, you only had 3 or 4 control points usually, with what wells had been drilled, to contour a map. So they were pretty railroad track type maps. Usually the big thing was how do you space the contours equally apart across a big piece of ???.

#144 DF: Because at that point you're just guessing, right.

BM: Well, you had a few points here and there.

DF: Yes, but in between . . .

BM: Yes. And you really didn't have any idea of structure or anything else, things were incredibly primitive and our knowledge of the basin and so on, in those days was pretty vague. So eventually they decided, it's time to send him out on a well. So Les called me in and he said, I want you to go out here and I want you to log this very important well. So he sent me up to Smoky Lake on this thing. They put a microscope in the back of the oldest car they had in the company, which was a little Chev coupe and off I went. They gave me a map and they said, here's the location of the well. So I had to go up to somebody that I thought wasn't going to squeal on me too much about my ignorance and find out, ask him, what's an LSD in a section. And how do you find this on the map.

DF: Because they'd just given you the coordinates?

BM: Well, they just handed me a map and said, go, here's the well location, and be there on time. So anyway I headed up to Smoky Lake, got set up in a hotel and took off for the well. This thing, you wouldn't believe it, it was a rig, a little old pot boiler thing with a little corrugated iron doghouse on one end of the platform. There was a great big like a bicycle chain lying on this steel deck here that drove the rotary table. And it was all exposed and the workmen were walking back and forth across this great moving chain. The Workmen's Compensation Board would have had a collective heart attack if they'd ever seen anything like that going on. So they told me to just work in the back of your car with a microscope. Put a board across between the window. Well, it was only -20 Fahrenheit then and this was not very practical. So the tool push sort of took pity on my and allowed me in the doghouse and he said, you can sit over there. So I piled up some bit boxes under where they had all the old clothes drying out beside this little oil stove, all dripping mud down over the top of where I was trying to work with my microscope and cover it up. And they didn't have any water on the rig or steam or anything so the samples, I just got gobs of mud off the shale shaker, stuck them under the microscope and tried to pick through them and see what kind of rock I had. And so I was supposed to make a log and phone in a report in the morning. So I did this for a couple of mornings. I think old Les was just trying to test me out here or see just how much I could take. By the time about 3 or 4 days had gone by and finally I was out there, it was getting near the end and the engineer, working for the operator of the well, we were just observing this thing,

came along and he said, what are you doing all that for, this well is of no importance. It's just an infill between some other ones, you don't need to have a log on it. So we ran the logs and they looked at it, and then they were just going to abandon it but they were going to drill a bit more. So I had to go back the next morning so I left my microscope there and everything and I came back and I got the damn car stuck on the way in. By then it was starting to thaw out in March and there was a big mud hole. I started to walk the rest of the way in and I saw the crew coming over the hill and they were all covered in soot and they were all black and their clothes were all burned and everything. It looked like a retreat from Moscow or something and it turned out the rig had burned down. This little oil stove that had been heating it, they'd cross threaded it or something where they'd hooked it up and the oil was all over the floor and I guess the thing all caught fire eventually and the whole thing went. So when I phoned in my report that morning to Les I said, well, that's the end of that well, the rig burned down. He laughed, he thought this was funny as hell. He said, okay, bring your stuff back and you be careful with that microscope. I said, oh, well, it was in the doghouse, it burned down too. So there was a long pause on the phone, he said, well now get right back. So I said, oh yes, there's one other trouble, the car got stuck on the way in and they said, just rock it back and forth by letting the clutch in and out and you'll be able to get out of the mud that way. The trouble was, I may be a few days delayed getting back because I have to get a new clutch and a new transmission in from Edmonton and that's going to take awhile. They said it would be here in a couple of days and it would take them a day to put it in so then I'll be back. Somehow things sort of . . .I had several escapades like that before I was finished. This was my training program, you were asking me about training. Then they sent me up to a well up at Wabasca, you know, Wabasca Lake up near Lesser Slave Lake there, there was a big Indian mission up there. Anyway this was about as cold as it gets in northern Alberta that year. We had a thermometer outside there that went down to -60 and it was down on that for at least 3 weeks and it never got off -60 so we never did find out how cold it was. The diesel oil that we had to use for this little stove . . . [stopped tape].So up in Wabasca we were. . .the management of our company o course, had all come from Texas and they weren't . . .

#231 DF: What's the name of the company?

BM: I forget which one was first, it was Barnsdahl, Honolulu, and Seaboard.

DF: Oh it was all one company?

BM: Yes. Eventually the consolidated it into Seaboard which was taken over by Texaco subsequently and then Texaco was taken over by Esso.

DF: Okay, so you're up at Wabasca.

BM: Yes. And the set up there was pretty primitive in that these people from Texas had no concept whatsoever, they'd never been up in this northern area and winter time, this was just totally foreign to them, sub zero temperatures and trying to work in this sort of thing, they weren't at all prepared for it. So they sent us up in one of these little 15' aluminum trailers, 2 of us. Court Cleveland was the other geologist with me. He used to be another mining geologist that was, he used to be the Chief Geologist in Bralorne gold Mine, in

B.C. here, near Lillooet. But he ended up out in the oil business too. So when we went up there they sent us in this little aluminum trailer which is smaller than my boat. You can imagine, this room is 16' wide so it was. . .

DF: Shorter than that.

BM: Shorter than that. I guess it's 16' long, 10' wide. But it was pretty small because we had a bunk down at one end and a little table down at the other end and another one of these diesel oil stoves in it to heat the damn thing. Of course, it wasn't really all that well insulated or anything. I think actually, it was made by Atco in those days. That was when they started in the business of. . .and I went out and I got it directly from, what's his name, that now runs the horse place.

DF: Ron Southern.

BM: Yes. Him and his dad were making these trailers down there in east Calgary somewhere. But anyway it was just one of these little holiday trailers that we were supposed to be using to live in for 2 months in these terrible climactic conditions. So we had to get all the samples in and try to get them washed off in this kind of temperature. At least they had steam up on the rig and we could wash the mud off them with steam. Which, if there was any oil or gas it wouldn't have helped it much but we didn't have much choice in the matter. Then we'd get them back and try to rewash them and get them really clean in the shack but just dumping them and shaking them in a little sieve in the water. Except the water would be splashing all over the floor and of course, the floor wasn't insulated so it had a layer of ice about 2 or 3 inches thick on it. Luckily I'd gone into a war surplus store to get equipped for this myself. At least I had enough sense to realize this wasn't going to be a warm climate we were going to. And I got a whole bunch of old U.S. Army surplus gear, including a pair of flight boots with sheepskin lining which I never took off all winter. The other little problem we had was, when it came time to do your daily business, they had one little outhouse up next to the rig and it was completely full and it was all sort of piled up to a little point where it had frozen. So this was sort of an unacceptable place to have to do it. So that meant taking your pants down out in a snowdrift when it was 60 below and then trying to concentrate on having a bowel movement, this was not easy I'll tell you. God, I was constipated up there. Actually, Court had just been given a new car and he was very proud of this new company car to go up there, which was unusual. Usually they sent the old junk up out on the wells and kept the new ones for the managers in Calgary. So the old broken down equipment is usually what went out into the field in those days. And it was usually totally unsuited to the conditions. Anyway, by this time I was getting kind of homesick and I wanted to see if there was any mail so I thought I'd go back into Slave Lake and pick up the mail. So Court allowed as how I could borrow his car to do this. In the meantime a blizzard had started picking up and this road went all along the north side of Slave Lake which is a wide open area there. So by the time I got there it was blowing pretty bad, you couldn't even see. So I got lost in the blizzard and I did what you should never do, is get out of the car and tried to start walking to find some help. Which was not a smart thing. Luckily a big logging truck came along, came out of the snow and found me there and told me what an asshole I was and get the hell back to the car. So they pulled me out of the snowdrift I was stuck in and I got turned around and

started heading back. I know, one of the reasons I persisted in trying to get into town was that in the course of trying to get this car going. Of course, in those kind of conditions the axles all freeze up solid where the grease just freezes so you have to get a tow to get them started. And the wheels are all square where the rubber has settled, they go thunkety, thunk. The electrician on the rig got his truck and he started pulling me down the road there that went down a valley and up the other side to where the cookhouse was. Then the thing slid over the side and got stuck so he said, I'll pull you backwards here until we get back in the middle of the road. The back window was all frozen up and I couldn't see out so I had to open the door to look out the side and it got caught in this frozen snow along the side of the road where the bulldozer had been throwing it up, it was about 6' high and it folded the door back against the side of the car, which didn't help much. So then I decided, I was kind of dumb as a kid, so I thought, I can just take it into the body shop in town, I'll get it fixed and I'll pay for it myself, big deal. So that's why I was trying to get into town, more than just get the mail. I'd have turned back sooner except for that. It was kind of cold too. Then coming back Shell was moving a rig in on another road in there but they used the same road for awhile until it forked so one of their trucks had gone and put a wheel over the side, where it hadn't frozen well enough and there was a great load of drill pipe in the middle of the road that had fallen off this big flat bed. So they'd bulldozed kind of another little road in the snow along side it to get around this. So they tried to direct me to go around this thing and as I was going through there the snow gave way and the other side of the car lurched over sideways up against a load of the pipe and that wiped the other door off. Then I drove the car back to the rig and I'm thinking, now Court's really proud of this car, so which side should I park it, which side should he see when he gets up in the morning and looks out at this. I didn't bring the subject up till eventually, he got up there and he looked out at this thing and he was in absolute horror. I said, oh well Court, don't worry about it, the other side's worse, you're looking at the good side. At which point he didn't think this was very funny. As a matter of fact he didn't even communicate with me for the next 2 or 3 days. Can you imagine being locked up in a trailer in these kind of conditions, a 15' trailer with somebody that won't talk to you. So anyway, relations were a little strained.

End of tape.

Tape 1 Side 2

DF: Why were there two geologists on this well?

BM: Normally we had one geologist but you're still, when you're at these strat tests, like this one was something like 200 miles from the closest well that had been drilled. So it was a stratigraphic test of considerable importance to know what the section was like and to take action if it was needed, to test and so on. Normally you'd still be responsible for keeping track of all the samples 24 hours a day. But in this case they wanted to be sure. . . oh, and I was also being trained ostensibly. So I was going along as his helper as it were. This company had a practice that was also brought in from the States that most companies

didn't use, they wouldn't test full hole. They had to have a rat hole to test in. So if we came to a formation that needed testing where we got oil shows or something in the sand that we were drilling into we'd have to g way into it. We might have been out the other side of the thing before we could get this rat hole, a small diameter hole that we could set a small packer in, so they'd get away from getting stuck in the hole. This was in Paleozoic hard formations and it really wasn't necessary, we could have tested full hole. But in Texas they had all these wells with a lot of caving shale in them and they were really nervous all the time, their engineers wanted to cover their ass all the time. So they always wanted to test in a rat hole which used to drive us crazy because we'd have to be right on top of it to catch the thing. And by the time the sample had circulated up you were already into the formation usually.

DF: Or maybe even through it, yes.

BM: And especially on these kind of things that were strat tests way out, you had no idea what you were coking into. Down in areas where you had more well control around them you could predict, make a prognosis of what depth you were going to hit certain formations so you would be ready for it and you could drill into them with a small hole if you wanted to. Where the heck were we, I kind of lost the thread.

#026 DF: That's fine. So you were talking about this well way up north.

BM: Yes. Eventually we did get it through. It took over 2 months but it was a deep hole and there were some difficult hole conditions. It was Commonwealth Drilling drilled it and they did a fantastic job in conditions that you wouldn't believe. In those days the rigs weren't enclosed, they were wide open with the wind blowing through them and everything. At those temperatures, to be able to operate, I just found absolutely amazing. But they were a pretty tough bunch.

DF: Yes. Could we move on to how you first came to be associated with the ASPG?

BM: Sure. Let's see, where were we on this list here?

DF: Well, we'll go down to here.

BM: Okay. You don't want to cover these sort of things.

DF: Well, we could go back to those but we need to talk . . .

BM: Oh all right. I guess my first encounter with the CSPG was. . .well, I have to back up a bit. My interest had developed then, in the office eventually, as I was doing a certain amount of subsurface geology and running wells and starting to map and so on, the big interest was in reefs there at that time, in the Devonian, upper Devonian particularly. It was in this reef section and the equivalent off reef I noticed in the Ireton formation, that when you got close to the reefs there were a lot of limey beds in the surrounding shales. I thought maybe this is some way of finding reef proximity. If you could find these off in wells close to reefs you might be able to recognize . . some idea how close you are to a reef. So I started to look at this stuff and then I decided I was beginning to, at that time, started doing a lot of reading of the literature and so on to find out what had been done on this. I realized there was a need, using the U.S. Geological Survey bibliographies they'd published, that there was a real need for a bibliography of Canadian geology, particularly dealing with the soft rocks of the western Canada sedimentary basin. So I sort of

organized or talked to people about it and I think it was Ted Best or something, at the CSPG was kind of interested in doing this. So the Society sort of thought, if you want to go ahead and do this maybe we can put together a publication on this. So I set up a committee to work on this bibliography. Mostly it was Bill Van Oss was one of the guys that helped me. His wife was furious because it took so much of his time. In those days we didn't have computers so we had to do everything on index cards and then sort them into categories and do it all. . .we had the wives working and everything, against their better judgement. Eventually this thing, it took several years to put it together and get it ready for publication. Anyway, that's the first project I took on with the CSPG.

#068 DF: But it wasn't called the CSPG at that time.

BM: ASPG sorry.

DF: Right. And what year was that, that you did that project?

BM: Bibliography. From 1956 - '59, the committee worked on this thing. It took 3 years to get it done the hard way. And in the course of doing this work, at Seaboard, I decided to take a leave of absence and go back. Obviously I felt I needed more background in stratigraphy and sedimentation and I thought this project that I'd been interested in, and this inter-reef formation, particularly in the reef complex, would make an excellent thesis subject. So I went back to the University of Chicago in '53. In the meantime I'd gathered a lot of core material and so on to take back and work on there. I was just trying to think and get things in chronological order here.

DF: No, that's fine. So you used some of your research to do you thesis?

BM: Yes. So the company gave me a leave of absence for what was it, 9 months I guess, I was working on a Masters down there. Then the school wanted me to stay on and do my PhD. They arranged a fellowship for me and so on to go back and complete this to a rather more finished piece of work. So I did manage to augment my academic background at least, in working on the sedimentary rocks. Now you wanted to know more about the CSPG. So that's how I got started with them and then, I guess I got involved then as Treasurer in 1958 and then I guess was on the Board or Directors there for a while and then was Vice-President in '62 and President in '63. Actually it was '64, when I went to look this up I found out that I had the date wrong in here.

#103 DF: What do you remember of that year you were President, what kinds of things did you do?

BM: I guess there were a number of things in particular. One of them that came to fruition was another project that I'd been working on part time. By then, I guess I had come back from school and worked for Seaboard for another year or so and then Imperial Oil had set up a research department, doing exploration research under Bill Landes, who was a very stimulating guy to work for, full of ideas and so on. We did a lot of work in Imperial there in that department that originated some of the exploration techniques and so on, that were way ahead of their time. I think we did a lot better research in that area than, at that time it was in Tulsa, the Esso Production Research Company did. It was supposedly responsible for most of the research in the company and the affiliates really weren't supposed to get

into this but Bill Landes had a pretty strong personality and he managed to ram this thing through. And we were doing, I think, better quality work than they were down south. Which eventually moved down to Houston, in one of their big research labs down there now. I'm sort of jumping around here a bit but. . .

DF: But you were with Imperial by the time you became President of the CSPG or ASPG?

BM: Yes, that was what I was trying to think of, when I changed jobs here. But that's all in this stuff if you're really interested.

DF: It says 1959 you went to the research department of Imperial.

BM: Oh okay. I had to finish my PhD thesis, it took another year because I had to do it all nights and weekends. They gave me an old microscope down at school there, I could finish working on all these old thin sections I had and so forth and get it written up. So they had no facilities when I was working at Seaboard to do much so I had to do this sort of in the basement at home, a little rented house we had at the time. It would have been a lot easier if I'd have been with some outfit like Esso then, when I was doing this. They might have even let me look at some of the seismic. Old Les Clark was one of the old school, it would have sure helped. But in those days he had a feeling that geologists should not look at seismic sections, that was for geophysicists. He wanted to get independent information from each of them and then compare it, he didn't want them influencing each other. And of course, this is absolute heresy nowadays. They would never think of doing anything that dumb. The two have to be combined together and it sure would have helped on my thesis work if I'd have had that too, been able to have a few sections to look at.

#142 DF: Do you want to look at the things you did in the year?

BM: Okay. Our executive then, one of the main, I guess the biggest things that we did that year was the Geological History of Western Canada, the big atlas of the whole basin which was another whole new idea. I'd been the one, along with Perry Glaister, were the editors and coordinators of this project and we got together a whole group of people to work on each system so that we could study on a basin wide basis, each slice of the geologic section over the entire western Canada basin, from pre-Cambrian Shield, right into the mountains. This was the first time anywhere in the world that anybody had ever tackled a project of this scope. But Alberta had a unique advantage in that the basin was reasonably well tested and the data, unlike other countries where each company kept their own information secret and wouldn't let anybody else know about it, the information in Alberta under the Conservation Board was all pooled. After so many years it would be released so that we had complete records and everybody could work with all the data for the entire basin. This is what made that project possible in Canada where it wouldn't have worked anywhere else. So Perry Glaister and I went on for, it was 3 or 4 years getting everybody from different companies and different departments in government and geologists all over the place to work on this. Some of them were groups of several people and some were one author did it all by themselves. I don't have a copy of that with me, you've probably seen it.

DF: I've seen it, yes.

BM: That was the first edition. They've done a new one after, it was some years later, using computers and a heck of a lot more people for a lot more money. But we managed to get that thing done and published it for, it sold for $15. It's an atlas about this big and about that thick with I think, about 50 coloured maps in it. And to produce colour in those days was not easy. Nowadays with the computer assisted drafting or with the programs that you can get now it's no problem at all to do colour work and synthesize it all in the computer. But in those days you had to make separate overlays for each map. For one map you might need 10 separate sheets of plastic with these carefully cut out colour schemes and they had to overlap each other where you wanted to combine 2 colours together. No, I guess we made each one. We had to get about 50 different coloured inks mixed specially for this. Because each one of these blobs of colour had to be; we had it all systemized for the whole set of maps for certain rock types and so on, we had a standardized colour that every author had to use and this is where we had all the fun doing this was to get everybody to agree on everything. We'd fight over colours more than anything else I think. And then for each unit we had separate colours for all the different formations and so on, that we kept standardized throughout the book. Anyway, this thing turned out to be an effort and this is the sort of thing that always made me want to do things. Everybody said, it's impossible, you can't do it. So then that made us all the more determined that we would do it. Imperial was getting pretty uptight and if Bill Landes hadn't backed me I don't think we'd have ever got through the thing. Because he liked the project. And Perry worked there too. I think our argument for doing this was, while this might take a bunch of people's time, maybe even company time, a lot of these guys did most of it on their own time but every company was going to benefit from this and no one company could possibly do a job like this by themselves. So that by pooling our efforts we could pull together the regional geology in a way that nobody had ever seen it before. Which would be a big assistance in trying to decide where the best areas of the basin were to work in looking for oil and getting new ideas and so on. Anyway somehow we got away with it but I think the company was getting pretty restless with the amount of time of mine it was using up. Well then, on top of that going on, then I got this work for the executive, which was really taking a lot of time up. Then during that year we got out I guess, the second bibliography of Alberta geology. Somebody else had taken it over by then and they put out another volume. Because by that time the literature was beginning to expand fairly rapidly.

#215 DF: How about this attempt to change the name, can you tell us about that?

BM: Oh yes. During that year we discussed, it became obvious that people from all over. . . the geology here that we were doing was more than just Alberta. Certainly all four, B.C., Alberta, Saskatchewan and Manitoba, all were involved in the oil business and all had members in the Society. As things were developing even then, we were starting to look at the east coast and in the Ontario basins again and so on. So that it was obviously a nation wide organization, although most of the members were still in Alberta. And it seemed rather inappropriate to be calling ourselves the Alberta Society when we were actually the largest geological organization in Canada by a long way. It should be the Canadian

Society. So it ended up that we couldn't get this thing through, at the time there was still a lot of resistance to it. I can't remember why. I guess it was tradition or something. So it ended up my term I just made a recommendation that the next executive should take a serious look at this. So even the next executive couldn't change it, it still went on for another year or so. I think it was during Jim Shouldice's time that they eventually got the name changed. But it was quite apparent by then that it should be done. What else went on that year. Well, all the usual things. I remember we got into a big hassle here with the golf tournament.

DF: Why?

BM: It was getting to the point where they were starting to. . they were going to make this all self sufficient and so on by going out raising funds. We were getting a little uptight that if they started shaking down the companies for a lot of money for the golf tournament they're not going to kick it into the Society for scientific projects. Then if this expands we're going to have a ski group and a curling and various other things and they're all going to try and get money. This could be starting to cut in to what the Society is supposed to be really doing. The social activities should be peripheral. Well, the golf tournament was getting to the point where it was getting pretty big and raising a lot of money. Mostly because a lot of people. . .and I wasn't a golfer anyway. Anyway there was quite a few discussions about that and as it ended up, I guess the golf tournament has still kept going but I don't think they've got too many other things going like that.

#262 DF: So what of the things that you did with the ASPG and the CSPG are you most proud, what really stands out for you?

BM: I guess there's not much question that that atlas that we put together that has been then copied in various other countries of the world started doing this as well. That probably was one of the biggest or most useful contributions I was involved in for them. And I think this idea of core preservation, that was another idea that came up at that time. During the course of doing my thesis work and so on, I realized how valuable these old corse were because, again, Alberta was way out in front with the Conservation Board providing facilities to store any cores. When the companies were finished with them on their well sites they filed them away and kept them. So this was something no other country in the world had been doing and then to have these available to go back and do research on or even looking for oil in other areas, to try and see the details of the stratigraphy and sedimentation were like in adjoining areas. It started to be a very useful function and companies were beginning to see this, at least their geologists were, this was of more and more value. Well, eventually the old Conservation Board core house out in Manchester collapsed in a snow storm. It was just a rickety old wooden building, an old warehouse sort of thing and the roof fell in. And there was just a great big jumble of core all over the ground and it was a total write off, there was no way to salvage any of these, you just had to get the bulldozer out. So then the Conservation Board said, that's it, we're out of the core business, the companies can keep it if they want but we don't want to get involved with this any more. So I set up a committee under, I think the Chairman of it was George Grant, oh John Wonfor, he was with Gulf. Gerry Henderson was on it, Dave

Barss and a lot of the people at that time were pretty. . .

DF: Dave's last name.

BM: B-A-R-S-S. He was with Ted Best's outfit over at British Petroleum, what did they call it in those days. And Helen Belyea and so on. Anyway, the upshot of it all was, we had this meeting with the Conservation Board, Gauvier was chairing the meeting. Eventually they were pretty sceptical about getting involved in this again because it was going to cost money and the engineers said, what do you want to keep all those bloody rocks for, you've already got the data, you've measured the porosity and the permeability on it, what more do you want. We said, yes, but. . . we were trying to explain to them, there's a thousand interesting things we could see in the geology of these things, in the grain size of the sediment and the various structures, it all has meaning. And you can't get all this out in one bang and it isn't normally recorded, often, at the time. It may be later on you find out you need to know something about this. And if these records are gone they're gone. Eventually I think I put the two bits worth in at the end on that, suddenly the light went on with Gauvier when I said, you know, if you've got a library simply because somebody has read one of the books you don't throw it out do you. I mean, somebody else might want to read it. And this is exactly the way we use corse, there's this information in these things that will go on for years that other people with new ideas will be able to extract from looking at these rocks again. And of course, now, ironically, after they were squawking about how much this thing was going to cost, that thing was a profit centre for the Conservation Board. They charged a fee to use it and they're making money on it. It's up on the north hill there, it's a big facility. And it's just first class. So again, this was another first that they started to copy all over the world in different places.

#342 DF: So any other main comments you'd like to make?

DS: Let me think, where are these questions. When I started out I was working, one of my jobs was going up to Scout Check and we'd be, the number of exploration wells drilled then, you'd get maybe 5 or 6 over the entire western Canada. Now they're in the hundreds. I guess the activity increased almost exponentially. One of the other big things I got involved in here that I thought was probably rather important from the point of view of Calgary was, with Jim, what the heck was his last name now, he used to be Chief Geologist over at Dome. [tape off]. . .American Association of Petroleum Geologists meeting here in Calgary. This was another thing, they said, you can't do it, you can't have the meeting up there, you don't have the facilities. So we eventually convinced them we could do it, will do it, leave it to us. So we got down and we organized the. . .

DF: You were the Vice-President then?

BM: Yes, Vice-Chairman of the meeting. And we arranged to use the. . down at the Stampede grounds. I forget what year.

DF: That's okay.

BM: Down at the Stampede grounds, what's that great big agricultural building, it's a huge. . .

DF: Big Four.

BM: Like a big warehouse. And the normal thing is that we have usually 12 conference rooms at least, for simultaneous technical papers to be given. They said, how the hell are you

going to do that. So I had phoned up an acoustic engineer in Calgary there and we'd determined that if we used the lead loaded plastic sheets that were especially designed. . .

End of tape.

Tape 2 Side 1

BM: Well, I guess it's a little hard if you want anecdotes as well as what actually happened over 60 years of career. It's kind of hard to get it on 2 tapes. I eventually left the Esso research group because the Geological Survey of Canada was after me to go up there and organize the petroleum geology section for the Geological Survey which is part of, at that time, Energy, Mines and Resources. So I took that job on as well as an adviser to the Deputy Minister in Ottawa on exploration matters and so on. It didn't all happen at once. It started out, went up there and had to sort of put this thing together slowly over several years. But the main thing of importance there that we did was set up and design a system of evaluating all the 15 or so sedimentary basins in Canada for their oil and gas potential, potential resources. Like this Hekkitt Strait thing was one of them that we reviewed that's currently under review again. And we designed and developed techniques and one of them, I guess research contributions I did that had a lot of do with this was recognizing the log normality of the distribution of oil pool sizes. This formed the basis for a probabilistic or stochastic method of estimating future petroleum resources by looking at the cumulative probability distributions of oil and gas occurrences, using a whole set of geological parameters that we put into this thing, as well as analysing the potential size of the reservoirs and so on. And then we'd risk it with a number of factors that we sort of discounted the estimate with by whether the presence or absence of source rocks and all that sort of thing. And this program is still going on at the Geological Survey now, of maintaining a continuing evaluation of how much undiscovered resource we had. At that time, we convinced the department that we needed to have this thing funded in order to try and find where in Canada, not just where we were currently drilling but where the future potential lay in other basins in Canada. At that time we were trying to get the industry to move into the Arctic and the Mackenzie Delta area and so on. And to try and stimulate activity in these other basins and areas of Canada by publishing data on this and publishing these estimates. I don't know just how much it influenced. This included of course, the east coast offshore and so forth. So we were involved as the industry gradually progressed there, we were continually monitoring this and keeping control over it. I'm not sure this didn't turn into, we got involved with that idiot Clark and the National Energy Program in Ottawa and they kind of started to twist our stuff around for political purposes. So I was a little disenchanted.

#037 DF: Do you mean ???

BM: Yes. And the whole gang of them, what was that dink, the Minister at the time. After, when Trudeau's gang were in there they decided they were going to screw western Canada and they started using our estimates as another way of sort of putting pressure on

western Canada. I just forgot all the politics of the thing but it got kind of nasty. I eventually, left there and went back to, Esso was after me to go back there and form a basin study group for them. So I went back to Imperial Oil and then finally I went early retirement from there and went over to Libya for 7 years and was their supervisor of their geological department in the Sirte Oil Company I was with there. This was another case where it was quite obvious we needed some very good regional geology put together. So we did another thing very much like this atlas of western Canada for the entire central Mediterranean area offshore Libya and over to Sicily and Tunisia and this whole big block of geology. Which is incredibly complex that nobody had understood up to that point. Well, we did it all for Sirte Oil Company, it was one of the subsidiaries of the Libyan National Oil company that took over the concessions when Esso left. So they took over and managed these ones at Marcel Bregha, which was where our office was, down at the bottom of the Gulf of Sirte there. They had a bunch of big fields and there was a lot of production coming out of the port there. But the main thing, they thought that the offhsore of Libya was going to be as productive as the Sirte basin. We were able to show with this study, I was able eventually to convince them they were wasting their damn money in the offshore area there, it was a bust. But the geology was very complicated because of the plate rotation and the great huge trends, current fault zone along North Africa there that swung this whole plate went around into Europe. And it made a very complicated structural picture out in the offshore, with some very interesting sedimentation. That's another whole game. But it was kind of fun too.

DF: So what have you done in your retirement?

BM: It's kind of boring. I do gardening and fishing and stuff.

DF: You say you have a boat?

BM: Yes, it's down at the dock down in front there. I haven't been down to see it after the wind storm, at least it was there. So I guess you don't want a coffee then.

DF: So yes, we can end. On behalf of the Canadian Society of Petroleum Geologists and the Petroleum Industry Oral History Project, I'd like to thank you for allowing us to interview you. This has been very good, thank you very much.