

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: E. F Mahaffy

INTERVIEWER: David Finch

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DF: Today is September 12th in the year 2000 and we are with Mr. Earle Mahaffy who resides at #39, 901 Kentwood Lane in Victoria, British Columbia. But luckily today we're in Kelowna where he and his wife are attending the Seismic Seniors golf Tournament. My name is David Finch. Thanks for your hospitality Mr. Mahaffy, could you start by telling us when and where you were born?

EM: I was born June 18th, 1929 in Calgary. My family, my parents lived in a little town in Saskatchewan called Sceptre, where my father was a farmer. For some reason they chose to go to Calgary for my arrival and we soon went back there and I grew up in Sceptre, Saskatchewan, first 11 years on a farm, going to a country school with only 10 or 12 other kids. Then when I was about 11 we moved into Sceptre and had a more normal education there, with fair sized classes. I thought Sceptre was a great place when I was a kid. We played a lot of baseball and hockey and tennis and pool.

DF: How big?

EM: It was about 300 people. And a very active baseball team, we had a good baseball team. In the summer we travelled all over the province playing baseball and that was a lot of fun. I thought Sceptre was a great place to grow up.

DF: So how did you come to leave there?

EM: Well, I never felt like I wanted to be a farmer so I'd always enjoyed maths and sciences, went off to UBC, got a Bachelors degree in math and physics. Really didn't know what I was going to do when I graduated but I had the opportunity for an interview with a gentleman by the name of Brockway, from Canadian Gulf Oil. He was looking to hire young scientists to train them to be geophysicists. I didn't have a very long interview with him but it intrigued me because he talked about echo-sounding and setting off charges and looking for oil and maybe going on foreign service and this really tickled me. So I made an application and they accepted me. I travelled from Vancouver to Peace River to join a crew, found the crews office and walked in the door and said, I'm Mahaffy. They all looked at me blankly, I thought, gee, have I made a serious mistake here. I told them that I had been hired at the University of British Columbia to come and work here, oh well, that's fine, they would just call Calgary and confirm that, which they did. Spent a nice summer working on a seismic crew in Peace River, doing some surveying, some work in the office, learning how to operate the instruments. I think by the time we left

there in the fall, I was operating the instruments and did so for 5 or 6 months, at a couple of different locations further south, near Red Deer. Then they sent all their trainees to the Gulf lab in Pittsburgh, Pennsylvania for additional training.

#031 DF: What year was this?

EM: That would be 1951 that I went there along with several other people you may have talked to, Harry Carlyle was one of them, Archie Armstrong, and a lot of young American trainees. This was Gulf's world wide lab. I was there for about 8 months, about ready to come back to Canada possibly when I thought, gee, I'd really like to get some of this foreign service if I could. So I went and asked Dr. O'Donnell??? who was second in command if there were any foreign jobs coming open and he said, yes, we need somebody in Venezuela. I didn't really have any experience in how to look for oil in Venezuela but they gave me a quick tour of how you do it and away I went to Venezuela for a couple of years. So I had an enjoyable couple of years there.

DF: Where were you in Venezuela?

EM: In eastern Venezuela I was at a little city named El Tigri??? but we lived in a company camp. There was a big operation for Gulf there, they had drilling rigs, they had pipelines, they had facilities to maintain their trucks and vehicles and rigs. It was a more or less self-sustained operation, except that the Venezuelans were the rig hands, the hands on the seismic crews. They did the jobs requiring a lesser level of training and they were pretty good at it, they were great people to work with. This town was. . . there was a little movie theatre and a swimming pool, a very comfortable place to live, many of the people were married, they had nice homes, there was a school. The small children became proficient in Spanish as well as English because there was a maid likely, at home. I spent my weekends in this main town and then in the week we went out to our seismic camp, which was an hour or two drive away, worked away the week, came back the next weekend, to play a little golf on a sand green course around there. It was a good experience, I learned a lot about the oil business and about different things that I wouldn't have learned about in Canada. It was a domain, or a province where faulting was responsible for most of the trapping of oil and I learned about it while I was there but I hadn't known much about it before hand. So after my 2 years I asked for a transfer back to Canada and they sent me back. Spent a little time in the Calgary office and then I was made a Party Chief and I went out on the field again, travelling around on a crew. Different locations, I think we started in Saskatchewan, ended up in Red Deer, up to Athabasca, back to Innisfail, for about a year I guess. In the meantime I had met the lady who was to become my wife, I guess in the summer of . . .met her shortly after I got back from Venezuela and we were courting for the next year or so. We were married in the summer of '55 and I had been moved into the Calgary office at about that same time. We spent a little time there, we were building a house and about the time it was ready to move into we were transferred to Regina. The oil companies all had branch plants in Regina and Edmonton and Red Deer and what not so we did the route. Two years in Regina, seven years in Edmonton, then back to Calgary again in 1965 I guess. By this time we had two kids and I guess we were glad to get back to Calgary, we had enjoyed these other sites. I guess after about a year in Calgary I was promoted to Manager of Geophysics and about three years later I had a serious itch to be more independent and I resigned and opened a consulting practice. I spent 18 years with the Gulf companies and

then another 18 years in the consulting business. I enjoyed them both but I guess I would have to say I enjoyed the last 18 years a little more because there was more independence doing different kinds of things with different people. One nice thing about the consulting business is you don't ever work very long for anybody who you don't like or who doesn't like you. That sometimes happens in a big company that you're very close to some people that you just can't stand. That's not the way it is in the consulting game.

- #077 DF: That's good. Can we come back to that in a minute, I like that fact that you had a split career because that could be very useful. When you say. . . and before we went on tape I told you about the fellow who told me that he used to build oilmen shacks and that was something I really needed him to talk about some more. When you say that you became a crew chief, can you just unpack what that means for us a bit because for you and people of your generation you know what's involved in that. But I think it's a bit more complicated than most people would assume, it wasn't just running the crew in the field, it was. . . tell us what was all involved?
- EM: There were two aspects to a Party Chief's job, the first was the interpretation of the data that was gathered. He was the quality control man for the data that was gathered. He had to see that the records that were recorded were as good as you could get with the equipment that we had. You had to determine how deep the holes had to be to get the optimum records and how much powder to shoot and this sort of thing and then interpret the results. We had dual interpretations, there was one done in the field. The data were also sent in to the central office and it was worked up there as well. But the Party Chief was also. . . we had an Assistant Party Manager who was usually an ex-driller, an ex-surveyor, maybe an ex-operator who was very familiar with crew operation and between the two of us, we managed the crew in such a way as to get the optimum output out of them, to see that they went out to work in time in the mornings and put in a good days work, got along with one another, cooperated. You had the survey crew that went along first and flagged the locations to be drilled, the drill crews came along and drilled the holes, sometimes pre-loaded them with dynamite, and the recording crew came along, laid out the instruments, fired the shot and recorded it. So there was a certain amount of coordination required to keep things moving along at a nice pace and smoothly and it was the Party Chief's job, overall job, to see that the thing went along fairly smoothly.
- DF: How about the physical side, the accommodation, the people and the politics on that side?
- EM: Let's see. At the time that I was doing most of my work we were still in fairly settled areas where there were towns. You moved into a town, a single guy would go and find room and board someplace, married people would look for a little furnished apartment or senior married people on the crew would have a company trailer. So these would be hauled from town to town, I suppose probably on most of the crew there would be 7 or 8 trailers, which the company provided to married staff.
- DF: And then all the logistics that went with that, the getting everything out to the field, all your suppliers and everything.
- EM: Yes, there were the people who sold dynamite and drilling bits and what not, they would

be pounding on our door regularly to make sure we had an adequate supply of everything. The geophysical community was quite closely knit in those days, it wasn't too large. Most people knew a lot of other people in their own company and in other companies as well, it was a pleasant environment.

#112 DF: And you were doing interpretation in the field as well as the same time that it was going on in home office. Why the overlap there?

EM: The interpretation was subjective to some degree. Usually the Party Chief in the field could come up with an answer more quickly than Calgary office, simply because of the lag in sending the data in. So if there was something very significant that you observed in the interpretation you might program some extra lines across something of considerable interest. This was one advantage but the other one was just to have two separate looks at it. In those days, the interpretation was. . . you had to work with a lot cruder data than we did 30-40 years later and you were picking a record that came out of a truck and line it up with one out of the next one. You really didn't get a very good visual sense of the sub-surface geology. Later on when you could stuff all this information into the computer and print out a nice record section, where everything was properly corrected and aligned, then you'd get a beautiful display of what you had done. But doing it record by record by record was a lot more subjective.

DF: A lot more time consuming too I bet.

EM: Yes, yes.

DF: So did you run into any particularly interesting finds in the field?

EM: In my work in Canada, I can't recall that I was connected, during the time when I was on the crew, with anything very major. Gulf had some very large land spreads that they had explored quite well before the time that I got into them. And we were mainly going to certain little areas where there was something of interest and picking up additional data on it. I certainly didn't discover any Leduc or Redwaters during my time in western Canada as a Party Chief. I did do some pretty useful work in Venezuela in finding some new fault reservoirs and that gave me a good deal of confidence that I knew what I was doing to some degree in how to find oil.

DF: Good, good. How did you see the technology change? When you were in the field at the beginning, it was all analogue and paper wasn't it?

EM: It was analogue and paper, then by the time I got to be a Party Chief, we had a special Gulf system called auxiliary recording from which we had a paper record and then we had another record in variable density form that they took to Calgary and they could make record sections out of it. This was the beginning of a more sophisticated display and many other companies and contractors were also going to a tape system, where they had recorded on analogue tape, FM or AM and that provided them the means of being able to manipulate the data and produce much more understandable record sections.

#147 DF: So do you remember what you were doing in the early 1960's, there was a bit of a downturn in the oil patch then, '61 through '64 or so. How did that affect you in the exploration business?

- EM: During that time I was in Edmonton, the Zone Geophysicist I guess in the Edmonton office. I guess the only recollection that I would have is that we were probably drilling fewer wells and hence spending less money on geophysics. But it certainly was not having any great influence on the number of people that were employed or what we were doing. We were still pretty busy.
- DF: Working on the big picture.
- EM: Right.
- DF: You wouldn't have been so vulnerable as contractors and so on.
- EM: That's right.
- DF: So take us back to Calgary then, and what were your duties when you became . . . you rose up to what position in Gulf then?
- EM: Manager of Geophysics.
- DF: Okay, and what did that entail.
- EM: That entailed being responsible for providing geophysical services to the exploration branches in the company. We had about 4 or 5 of our own seismograph crews, we engaged seismic contractors from outside companies when we needed more crews, we had a playback centre in Calgary that took all this tape data from the fields and produced record sections. We had quite a large interpretation section, 3 different sections actually with 4 or 5 geophysicists in each one that took this data and prepared maps, integrated it with earlier data that we might have had from last year or 2 years earlier or 5 years earlier and keep our maps updated and present the very best pictures that we could producing maps and sections that were sent to the district offices. So they could use these maps to plan their exploration plays, to decide where they were going to drill, to decide where they were going to buy land, to decide where they were going to do more geophysics possibly. So it was a service bureau in many ways.
- DF: Any challenges in that position?
- EM: There certainly were. I guess the biggest challenge in many ways was to get our people doing the very best work they could, not only at providing geophysical mapping but at having a concept was there available to back up the geophysics and fitting it together to some degree. Talking to the geologists, getting ideas of what they thought we were looking for and helping to explain the things maybe, that we saw. This was a challenge. I guess the other challenge was that we were moving farther afield. We were moving away from the settled areas, into places where the crews were working out of camps. Where you had to decide whether it was a good idea to run this program in winter, when you had easy access over the frost, through a muskeg area to work or whether you needed it done quickly and you had to do it in the summer with track vehicles and travel over the muskeg terrain as best you could. I found it a very challenging job.
- DF: Choppers?
- EM: We didn't use choppers much in those days. For crews in very remote areas we normally had aircraft support, float planes on a lake or else build a strip for them near the camp, for Beaver aircraft to bring in supplies and take out the data. Sometimes to bring the whole crew in at the beginning of their work. By this time these crews would be working on 3 weeks on, 10 days off, if you were in a remote campsite. So frequently they would be

flown in and then flown out at the end of the period.

#194 DF: Did you then work further north as you. . . again the 50's you were talking about being in more settled areas, the industry went north in the 60's didn't it, so were you going. . . ?

EM: Yes, in the late 50's, it started moving north. When I was working in Edmonton in about '63 or so we had our first geophysical operation in the Mackenzie Delta. It was a helicopter gravity operation. We followed that up with some seismic work and drilled the first well in the Mackenzie Delta. I don't remember exactly when but it was mid 60's and of course we had been working our way up there with different projects, through northern Alberta and through the Territories.

DF: Did you do work in the Liard River area, where Chevron has done so well recently?

EM: No, I don't recall that we did.

DF: I know somebody was in there in the 50's and 60's, quite near the Nahanni, in that area. Anything else from the time you were with Gulf that you'd like to comment on? What did they teach you, obviously, you said you preferred being on your own but what were some of the good things you learned being with a major?

EM: I certainly got a good technical background in geophysics. I had never studied geology formally but through my association with many geologists I learned to appreciate some of the niceties of geology. That was I guess. . . . possibly one of the reason that I left Gulf to go consulting was that I was more interested in interpretation and in exploration than I was in running crews and having an interpretation office, supervising other people. I really enjoyed interpretation and I think I was pretty good at it.

DF: More than the acquisition of it.

EM: That's right.

DF: So tell us about the change then, to consulting, how did that come about?

EM: I guess over the period of a summer I got to thinking, gee, I'd like to be independent, I'd like to come to work, go home when I felt like it. I finally decided I've been thinking about this so long, I'm going to do it. So one day in July I went up to my bosses office and said, Dr. Erdman, I've enjoyed my time here at Gulf but I think I'm going to go hang out a shingle and do some consulting. About three weeks later I did so.

DF: And that was what year?

EM: That was 1968.

DF: How did you go about getting clients.

EM: I called some people that I knew that I had worked with, people who had been with Gulf possibly and had moved on to some other field. I ran some ads in the newspaper, I called probably most of the Chief Geophysicists and Chief Geologists around town. A gentleman by the name of Eugene Cook, Gene Cook was the Chief Geophysicist at Home Oil. I hadn't had a lot of contact with Gene but he called me up and told me he wanted me to do a large interpretation project for them in Alaska. I had no experience there but they seemed to do the job for them. And I did a lot of work in Alaska for them over the next couple of years. Later on Home Oil formed a consortium to work in the North Sea and I did a lot of work for them there. So in the first 5 or 6 years of my consulting business

Home Oil was my principle client and really got me going. I've got very fond memories of Gene Cook, he was a great gentleman, still alive.

#244 DF: So what did you find when you went to Alaska, is it different there than. . . ?

EM: Well, I never actually went. . .

DF: No, no, but the. . . What geology were you working with?

EM: It was not too dissimilar from western Canada. The large field, Prudhoe Bay which was discovered was a big eroded anticline and it wasn't too difficult to figure out. The only thing was that the people who had all the best land had pretty much taken it all up before other people came along. I don't know that Home's efforts were ever too successful financially. But they had taken a large farm out from Atlantic Richfield, who had high graded a lot of land, decided that they knew what they wanted to keep and farmed out the rest to Home. I think Atlantic Richfield had pretty well picked out all the plums out of it before they farmed it out.

DF: So Home never did anything much up there?

EM: No. Well, I shouldn't say that because frequently I didn't get the follow-up on everything that people did. They would get involved in deals that I might not even be aware of a few years later.

DF: So in a situation like that when Home took a farm out but Atlantic Richfield had already taken all, as you say, the plums, were you still doing a big survey or interpreting the data over the whole field or were you just doing it on the pieces that they had access to?

EM: Well, in this case it was a pretty large block of land that Home had. I think we acquired a lot of data from Atlantic Richfield and then Home I believe, acquired some more of their own data. So it was a question of working up the first set and then picking spots to do detailing and so on, following up with shooting of their own.

DF: And where did you work next?

EM: Well, I guess I had 6 or 7 different clients working fairly conventional plays in Alberta, occasionally Saskatchewan, northeastern B. C. Gene Cook referred me to some friends of his in a little company called Chieftain Development in Edmonton and over the last . . . I don't know 12 years or so of my consulting career, I did quite a bit of work for Chieftain. Some of it in the States, probably most of it in western Canada. It was a company that I got along quite well with, they had good people and we seemed to work well together and we had some fairly good successes. It was a very good relationship, one that I'll always remember. A fellow by the name of Ellis Walker was their Chief Geologist and Gerry Youell, their Exploration Manager. We did some pretty good things together.

DF: Were you working with geologists on these projects as well?

EM: Quite often, with smaller companies, they didn't have a geophysicist of their own and that was why they were engaging someone like me. That was the way with Chieftain, through most of the years I was with them they didn't have a geophysicist. I think they had me do most of their work, they probably had certain areas you might think some geophysicist has got a lot of experience in, so you get him for those areas, other plays you have someone else. Probably 2/3 of my work, I was working with a geologist from the client company and the other third, I was working for a geophysicist in a larger client company.

#298 DF: What were some of the things you learned while you were consulting, once you hung out your shingle it sounds like the work got out so the work started coming?

EM: Well, I learned that it wasn't nearly as simple as I thought it was going to be. Because you had no control over how many people were going to call you in a certain month and really ask you. . . they really needed you to do something or it might be a case of they wanted you to follow up on something you had done 6 months earlier. And there was no way you could say, sorry I can't help you, I'm too busy. So I spent a lot of time working evenings, working weekends to keep maybe 6 or 7 different clients happy at a particular time. I guess I enjoyed this, it was maybe a little hard on our family life. But I didn't spend much time out of town, it was a matter of coming home after supper and going back after supper and putting in 3 or 4 hours. But I enjoyed it because there was a great variety of geological plays thrown at me. A lot of people with clever ideas about a place where nobody had looked before for oil and you would take the geophysics and figure out the best way to use the seismograph to find it. That was challenging and it was fun. Fun is the best work I can put on it, I enjoyed it. Being presented with these problems and trying to solve them for people.

DF: Did you ever do any work up in the foothills?

EM: Yes. While I was. . . Gulf had always considered themselves foothills experts and they were because they found Pincher Creek, which was one of the first big gas plays in the foothills. So we had quite a bit of exposure to the foothills work and I think because of the fact that I came out of Gulf, there were a number of different clients who engaged me to look at projects in the foothills because they thought I should have some expertise in it.

DF: Anything particular come? There weren't a lot of Pincher Creeks were there?

EM: No, there weren't and most of them had been discovered. Gulf came back to me, I guess it was in the late 60's or early 70's and I did a couple of little foothills projects for them and I know they had a nice gas discovery on one of them.

DF: Was that rare for a company that you had worked for but then had left, to come and seek your services?

EM: No, I don't think it was rare. I had a pretty good relationship with Gulf and for the most part they had a large staff, they didn't need any help. But I did some work for them in the foothills and I also did some work for them in parts of the Mackenzie Delta, where they just had more data gathered than they could handle themselves. I enjoyed that too.

#337 DF: As your consulting career continued then, how did things change?

EM: I guess what . . . it became more and more of really integrating the geology and the geophysics, right from the word go. As our data was becoming clearer, you could see more geology in the data and able to refine it to a larger degree and find reservoirs that were not as easy to find, maybe smaller. Maybe ones that you found only through some indirect means, not like looking for a big anticline where everybody could see it on the record section but where there's subtle stratigraphic changes that could hold significant reservoirs of oil or gas. And there might be some little clue in the geophysics to help you find it. So the geologist would give you the picture, you look at the velocity logs to see what kind of velocity changes go along with this stratigraphic change in the tracking

mechanism and find something that might be fairly. . . not look too strong in the data but would give you a clue that here's what they're looking for.

DF: So interpretation by this point was using computers much more but not to the extent that they use them now?

EM: Certainly we used computers all the time to produce the record sections. Then you could take the velocity logs and make models of things that you were looking for and compare these to your data and find these subtle things. I've been out of the business for 14 years and I just barely had an exposure to 3 dimensional seismic work, well I think most seismic work now is 3 dimensional work and of course, involves a lot more computer analysis, different kinds of displays. I think I'd be as out of date as a dray horse if I were to try and go back to work.

DF: Were you able to find things that you'd missed before, even during your later years, you say applying these different techniques, were you. . . . I guess the question I'm getting at is all the big fields had been discovered, like Leduc and Redwater and so on, by the time you sort of got into the middle of your career. Then the challenge to seismic and to geology as well, is to go back and find the smaller things, is that what you were talking about?

EM: Yes. There were the small reefs in the Zama area, I guess that would be in the 60's. And then later on, the small reefs west of Edmonton, I can't remember what they called them, the Niscue play the Chevron initiated. Then there were a number of fairly thick sandstone reservoir plays that we learned how to find with geophysics. This was quite gratifying.

DF: Was there anything that you particularly feel proud about, things that you put together that other people weren't doing or. . what got you excited about going to work in the morning?

EM: I guess it was just the challenge of finding an answer. It was like being presented with 5 or 6 different puzzles, if I were working for 5 or 6 different clients on 5 or 6 different plays, which I usually was most of the time. Of either buying or acquiring new data, trying to high grade the data to the point where you could find what the client was looking for and give him the answer in time to drill the well that winter or participate in the land sale or whatever it was. It was a problem solving atmosphere that you had to keep going all the time, there was just no way you could stop and say, I just won't do much of anything for a couple of months. You had to keep yourself motivated and I didn't have any trouble doing that because I enjoyed the interpretation work so much.

#400 DF: How did you keep 5 or 6 different projects separate in your mind?

EM: I had a practice in the office that I tried to work at least a half a day on a particular job. Jumping back and forth from a bunch of things at half hour intervals didn't accomplish anything. So I would try to do that and it wasn't too difficult, because most things. . they didn't all start the same day and have to end the same day. They came in, started up with different start dates and sometimes it was a matter of buying data that other people were willing to sell or maybe the client had data of his own or maybe you had to engage a crew and go out and get it. So there was usually a stream of things at different stages, going through my office.

DF: And how big of an office did you run?

EM: Never anymore than 4 people. I started 3 other younger geophysicist in the consulting business, two of them went off on their own later on and had good careers. One of them stayed with me for quite a number of years and we usually had one or two helpers in the office to plot data and work on the maps and type reports and so on. So four people was about the maximum.

DF: How did you ride out the booms and busts during the 18 years you were on your own?

EM: At the time of the NEP, in the early 80's, there was a serious downturn in all of western Canada. It was worrisome, you wondered, is the industry ever going to get cranked up again. We had a slow period for a year or two I guess, where maybe instead of having 6 projects to work on you only had a couple, but it gradually built up again. I recall being quite worried about it at the time because we had office rent to pay and grocery bills to pay but it never got serious enough to. . . I never went for 3 months without work or anything like that. I was fairly busy all the time.

DF: So you still had things to do?

EM: Yes.

DF: Any other effects of this. . . well, okay, so when you weren't busy, you still had work to do but when you were really busy, how busy did it get, was it 7 days a week?

EM: Oh yes.

DF: How many hours a day?

EM: Well, I usually got up and 5:30-6:00 in the morning, to be downtown before the rush started, so I'd be in my office at 7:00. I also liked to get something done before the phone started to ring. I'd probably leave at 5:00, go home for dinner, if I was very busy I'd be back down there at 7:30 or 8:00 and work through til midnight. And quite often, on the weekend if I was falling behind. You hated to turn down a job because the guy might never come back. I had that experience early in the game, I thought I'm just going to regulate my time, I don't want to work all the time. I found that didn't work worth a darn, you turn someone down, he might never come back. Especially if it was somebody you worked for before and he was wanting you to work again on the same project, you just couldn't tell him no, you had to find time, keep him happy.

#460 DF: So even during those busy years did you get holidays, or were there sometimes when you went a long time?

EM: No, I usually managed to find in the winter, a 2 or 3 week period where my clients were too busy running their own crews to need me and we'd go to . . .there were trips to Hawaii, San Diego, Phoenix, we usually managed to get away at least once a year for that kind of a trip and some other long weekends the rest of the year. And quite often . . . we never missed the Doodlebug Golf Tournament, which was just after Labour Day in Banff. Three days of golf, and 178 geophysicists and a lot of nice dinners and parties, that was the highlight of the year for us. The wives all came of course and it was a great time. The other thing I meant to mention was the conventions. The SEG always had an annual convention, several of them were in Calgary. Calgary did a great job of putting them on. But during my consulting career, we tried to go to them, they were often in Texas or San

Francisco or Denver or wherever. That was a nice opportunity to get exposed to new technology, see some old friends, have a bit of a break.

DF: Was your consulting company owned just by you or did you have shareholders?

EM: Just the two of us.

DF: What year was it you retired?

EM: 1986.

DF: And how did you make the decision to do that?

EM: We felt we had the financial resources, not for a high level of retirement but adequate for retirement and my wife had a difficult time living in Calgary. She was very sensitive to atmospheric changes, headaches, dizzy spells, this sort of thing whenever the weather changed in Calgary. So it was pretty miserable for her. She visited frequently an elderly aunt and uncle in Victoria, who didn't have any kids of their own and they needed some help every once in awhile. She came up with the idea that we should retire in Victoria at some point. I had some warm feelings for the coast because I had gone to university in UBC. So I guess it was about 1980 that we decided that we were going to make our home in Victoria on retirement and we started working towards that. We bought a condominium in a ???, it was a rental project that had some tax gimmicks with it. I put in an application for a golf club out there that I liked very well and over a 5 or 6 year period we just planned it out that '86 was about the time. We were able to shut down the company and move out there.

DF: You say shut down, did you shut it down or sell it?

EM: There was nothing to sell. We were the only assets. . .

End of tape.

Side 2

DF: So how was it you came to be involved. . . you were involved in the industry more than 30 years, how did you come to be involved with the CSEG, how did you first hear about it?

EM: I think within Gulf, young geophysicist were always encouraged, early in their career to join the CSEG and when we were in Pittsburgh, we were encouraged to join the SEG and get their journals, they published about 6 a year. I'm sure when I came back to Canada from Venezuela, Harry Carlyle got me to join the CSEG. Shortly thereafter we went to Regina and they didn't have a geophysical society and I was active with maybe half a dozen other geophysicists in forming one there. When we went to Edmonton a couple of years later and again, I worked with 5 or 6 other people to get one going. Get a charter and an executive and start the ball rolling. So I had a bit of exposure and when we came back to Calgary I was asked to run for the post of Secretary. I was Secretary, a few years later I was Vice-President, I ran for President a number of years later and Jack Pullen was the other candidate and he won the election. A couple of years later I was asked to run again as President and was elected that time. So I had a lot of exposure to the CSEG and I enjoyed the work I did there. The society always seemed to have useful things on their plate and interesting people on the executive, good technical meetings, a few good social functions and it was a fun thing to participate in.

DF: Explain how in a competitive industry like the oil industry, the geophysicist could get together and work together on this. It seems a contradiction almost in some ways.

EM: I guess everyone held back to some degree those things that they had on their plate that they felt were so new that other people weren't aware of. So a lot of the technical exchange came through contractors, who came up with new ideas or who may have learned from a company some new idea. They were quite willing to talk about it because they liked to sell their services and then there were consultants who liked to describe the new ideas they came up with. I shouldn't say that the companies were selfish. Once a project had reached the stage that it was fairly well known and producing oil, they were not bashful about letting their people give technical papers on it, either the geologists or geophysicists or both.

DF: But some companies were known to be tighter with that information than others.

EM: I guess that's true.

DF: We don't need to mention names. I like asking that question because it is sort of a contradiction, very competitive firms, their people then getting together in this technical society and sharing information at one level anyhow. You were President of the organization in what year?

EM: 1978.

#035 DF: What were some of the highlights of that year, what do you remember?

EM: I remember that the University of Calgary had been established not too much longer

before that and they had a bit of a program in geophysics and they asked the society to give them a sort of picture of what the geophysical industry involved in Calgary. I wrote a, maybe 6 page report for them outlining how many geophysicists were employed, what sort of work they do, how many playback centres there were. At that time Calgary was one of the major geophysical computer centres in the world. I think the university was quite tickled to learn of this, that there were all these clever people in Calgary doing geophysical work in computers. I think the end result was they did become interested in developing a pretty good program. Not simply because of what I had done, but they came to appreciate that this is a very . . . this is a field that's quite important here in the city and we should support it. I think that same year, Jack Gallagher of Dome came up with the notion that there should be a Chair in geophysics at the University in Calgary. And the industry got right behind that, the CSEG didn't carry the ball, it was some other people that picked that up, but they developed the funding for a Chair in Geophysics at the U. of C.

DF: Can you explain what a Chair is, how that's different from just having a few courses at a university, why that's important?

EM: You know, I'm not too sure that I know what a Chair is, except I think the principal feature of a Chair is that you gather funding outside of the university to make it possible to engage a highly qualified individual to become a member of the staff and they call this a Chair. That's my understanding of it. Maybe it's not entirely true.

DF: Okay. I think it also means that it just gives a bit higher profile to that department or to that sub portion of the department. Okay, good. What were some of these other projects that you mention here in your Presidential report?

EM: I had a personal hand in this one, in preparing a brochure on career opportunities. I rounded up a bunch of interesting looking photos of different aspects of geophysical work, and made a 4 or 5 page write up of what a geophysicist does, how he should be trained, how he spends his time. . . I got the mining geophysics society in Toronto to contribute some information. We made this nice little brochure, 6 or 8 pages and I think . . . we distributed it as widely as we could at our conventions and to the universities and anyone who asked us for information and I think it helped to make the young student public aware of geophysics as a potential career.

#069 DF: The student public in Calgary right now certainly knows about the potential for geophysics but I think last year they said there were only 3 or 4 that came out of geophysics, because several years ago there was a real downturn in the industry so then there were no jobs. What has the society tried to do to deal with that ebb and flow in the demand for your services, especially for the people coming out of school?

EM: I don't think the society was able to have too much bearing in any way on the levels of employment in the industry. I know sometimes when the big companies weren't hiring I'd have young graduates coming to me for a job and of course, there was no way I could hire them, they weren't qualified enough to do the kind of work I was doing and I didn't have the time to train them. So I would usually sit down and talk to them for about an

hour, try to give them some idea of things that they might do that would help get them a job. It was kind of . . . it is a sad aspect of the exploration business that it was so cyclical. And quite often students would rush into the geophysics courses because there was a boom and by the time they graduated there was a bust and there weren't that many jobs. I guess there aren't too many professions that are that cyclical in such a bad way but I don't think it's going to change. I remember one of my friends coming to me and saying, you know, I just got the receipt for my dues, which I sent in 6 months ago. The truth was that we had a very under staffed clerical staff for the society, in fact we were relying on a couple of volunteers. So we decided at that point we had to do something and we worked out a deal with APEGGA, the professional engineers, geologists and geophysicists, they were a little over staffed and they were able to take over a lot of the clerical and secretarial work for the society for a reasonable fee.

DF: Any other highlights, any stories from the Doodlebug that year, as the President were you expected to do something special at the Doodlebug.

EM: I don't think so. Being President of the CSEG didn't carry much weight at the Doodlebug. The Doodlebug sort of ran on its own theme. I was Chairman of the Doodlebug a few years before this, I guess it was quite a few years before this, it was about 1970.

DF: What did that entail?

EM: That entailed looking after the . . . leading a committee of about 12 people in planning the next tournament and putting it on, which pretty much started when one tournament finished. It wasn't very long til we started working on the next one. There was a good deal of funding to be raised from the industry and get the applications in. Usually we were over subscribed, we had to find some equitable way of dealing with the excess. Sometimes it was easy, there were a lot of prominent geophysicists from the States who might have liked to have come but we felt when we've got boys of our own in the business who would like to play, they're going to get first chance at it. And another bit of a conflict between the technical side and the bullwork side, the dozer operators, the shot hole drillers, there were a lot of contractors in those fields who were hit up for donations to the tournament and some of them said, that sounds like a lot of fun, I think I'm going to take up this game. So it got to be a little bit of head knocking there as to whether a young geophysicist got in or a prominent guy who had 15 bulldozers, that had sent in a nice contribution.

DF: Did you ever turn down Don Seaman for any reason?

EM: I don't think so. Don would always be well qualified to appear.

DF: So you remember that it was always over subscribed, was that pretty standard?

EM: I think it was, maybe not by more than ten or a dozen and there would always be cancellations for one reason or another, a few people had to drop out but there were usually a few disappointed people.

DF: But mostly it was a pretty interesting year planning that, eh?

EM: Yes it was, it was a lot of fun.

#122 DF: You didn't have to go up and do any test rounds of the golf course?

EM: Oh, you had to do that yes. You couldn't simply rely on the fact that the golf course was going to be there in September when you wanted it. We would usually go up there at least every two months to check it out, see that the greens keepers were doing their work, talk to the pro, keep him happy.

DF: Reflecting on your career, what did you enjoy most about it?

EM: I think what I enjoyed most about it was the problem solving aspect of being presented with a problem, in the way of, we've got this big piece of land we want to explore the most efficient way we can to find out if there's any oil or gas there, down to the smaller problem of, we've got some indications from this well we drilled that there may be a very productive oil sands nearby but we can't quite figure out where, so we want you to gather some information and try to know should we go this way or that way or should we quit. So there was always a . . . you were always looking for answers. You didn't always get the right answers but you tried to do the best you could. It was just using the data and your experience and your relationships with the geologists, try to come up with the best solution you can to an exploration problem, that's what I really enjoyed.

DF: Did you get better at it over the years?

EM: Oh, I think so, you would hope so. You've heard of people who've had 30 years experience, doing the same thing over and over again, I was that guy to some degree. The work that I started doing. . I guess the first really independent interpretation work that I did was in Venezuela, on the crews, there was no one to look over my shoulder, I was all on my own. And I developed a real love and interest for it there and that never left me. To the last project I worked on, I always just couldn't wait to start gathering the data and try to find out, what do we need to know, what can we contribute to this exploration play. I never got tired of that.

DF: So you weren't exactly doing the same thing every time though, because technology changed, the level of the quality of information and so on.

EM: The data that we had to work with got better and better and the things that we were able to do, we were able to do more things more accurately and more precisely, quicker. The technology changed terrifically over the 36 years that I was in the business, just the stuff that we were dealing with in the early 50's was very crude compared to what we had in the 1980's.

DF: Any regrets?

EM: Really not. We had a pretty good family life. My work interfered with it to some degree but I didn't have to spend months away from home on jobs, I spent most of my time in Calgary. No, I have no regrets.

DF: Did you ever wish you could have gone overseas more, you just spent those two years in Venezuela, but once you were settled in Canada, did that wander lust ever come back.

EM: Not really, because not long after I got back from Venezuela I met Donna, we were married a year or so later and we had two small children within about 3 years, so at that point going overseas for any length of time really didn't interest me, there was lots of interesting things going on at home. I had quite a bit of exposure to foreign projects, not necessarily actually going there, but working on them. I mentioned Alaska, there was quite a bit in the United States, quite a bit in the North Sea, an occasional project for

Australia. So it wasn't quite the same as going there but it did give you a little feeling that you were getting out of your own backyard if someone's got you working on a project offshore Australia.

DF: Yes, the project came to you, whereas if you were a pipeline engineer or something you would have to be there. Well thank you so much. On behalf of the Canadian Society of Exploration Geophysicists and the Petroleum Industry Oral History Project, I'd like to thank you so much for breaking into your valuable golf time today and letting us spend a few minutes talking to you and to hear your story told your way. Thank you so very much, we'll end the interview at this time.

EM: It was a pleasure to do it David.

DF: Thanks.