

PETROLEUM INDUSTRY ORAL HISTORY PROJECT  
TRANSCRIPT

INTERVIEWEE: W. Don C. Mackenzie

INTERVIEWER: Betty Cooper

DATE: June 1982

BC: This is Betty Cooper and I am at the home of Mr. William Donald Cosser Mackenzie, at 728 Earl Grey Crescent in Calgary and the date is June 14<sup>th</sup>, 1982. Mr. Mackenzie I wonder if we could start by just getting a few of the statistics down, where you were born and when?

DM: Fort Macleod, Alberta, September 1913.

BC: You're a native Albertan.

DM: Yes, my mother and father immigrated from Scotland, my father in 1909, my mother joined him here in 1911. So our roots go back fairly well in the early days in the province of Alberta.

BC: Could you tell me what your father did in Fort Macleod?

DM: My father was a lawyer. We lived in Macleod for awhile, we lived in the Crowsnest Pass for awhile and moved to Calgary in about 1929.

BC: Was your father a lawyer in England and then came out here to practice law as an adventure or did he come to a company?

DM: No, he came out and went into private practice with 2 other lawyers in Fort Macleod. At that time Fort Macleod had still ambitions of being, if you will, the capital of southern Alberta. Because this was the headquarters of the Mounted Police and this was a central staging area for movement to the U.S. and to British Columbia. Unfortunately or fortunately, we'll never know which, it never turned out that way and Calgary became the capital if you will, of southern Alberta, a few years afterwards. But my father did come, I think, following the headquarters of the Mounted Police and the judiciary in Fort Macleod.

BC: What company was he with in Calgary or did he stay with his own company?

DM: He stayed in private practice and was in private practice throughout his life.

BC: Did you have any brothers or sisters?

DM: No, I was an only child.

BC: Now if we could just go through your education, were you still in Fort Macleod when you started grade school?

DM: Yes, grade school and a little high school in the Crowsnest Pass and then I went to a boys school on Vancouver Island called Brentwood College and from there went to University of Alberta. In the University of Alberta I took, in those days, mining and geological engineering I think was what it was. Anyway it was a Bachelor of Science degree.

BC: This would be where today you might take an engineering degree or a science degree, but there it was really a combined one was it?

DM: Yes. Bear in mind that in those early days there wasn't the subdivision of academic

disciplines that exist today and that's the way it was. If one wanted to really concentrate in a specific discipline beyond a bachelor's degree, you took post graduate work. In my case, and in that particular avenue, after graduating in 1935 in pretty well the depths of the Depression and scratching together some money in 1937, I went to the University of Chicago, where I took post graduate studies in geology from some very well known professors of geology. The University of Chicago at that time had a very considerable reputation in that respect. I got nicely started but ran out of money and this still being the Depression, never scratched together enough to continue, so I'm an individual who hasn't got a post graduate degree but has had a little. . .

#046 BC: Could we go back just a bit, before we get into the University of Chicago and to some of the work you did after finishing University of Alberta. Why did you decide that you would like to go into mining and engineering, an only son of a lawyer, it would seem quite often they follow in their father's footsteps?

DM: Well, in the latter comment I must tell you that my grandfather in Scotland, my father's father, considering the circumstances of those days had built quite an empire as an engineer in cast iron and had foundries and everything else. So there were some, if you will, applied science genes in me, despite the fact that my father. . in my father's case he was the youngest son of a huge family. Come the time he was going to university he faced the prospect of something like 5 brothers and 5 brother-in-laws who were ahead of him in this firm and he decided he would immigrate rather than. . And really wasn't inclined that way. So that's how it came that way. In respect to sort of my interest in geology, in the 30's all engineers had to take a basic course in geology and then had an election in their early undergraduate years and I became quite fascinated by it. In 1934 I had a great streak of luck, I got to know Dr. T. A. Link who was then the sort of western Canada, senior geologist for Imperial Oil and he was putting together at the last minute, a geological survey party in the foothills of Alberta. I got on as just a rod man and I worked all that summer.

BC: You still had another year to go in university?

DM: I had another year to go in university. And when I graduated, I then got a job, again through Dr. Link, as a helper in one of the very first seismic crews that ever came into Alberta. We worked around Lethbridge and Coutts and Manyberries and around there.

BC: Could we just, before we get into that, I don't want to miss that because I think it's most interesting of you in those early days as a geologist, being with a seismic crew because quite often they sort of were very separated, the geophysicists and the geologists. But I'd like to talk about this foothills, the survey in 1934 with Dr. Link. Can you recall much about that, other than as a rodman, what was your experience?

DM: I think the recollection is that it was an enormous experience working for Dr. Link in many ways. But he was a very brilliant geologist and you in effect, were measuring sections of rock and doing exactly what he told you and in the process he would tell you why and what significance certain rocks had and certain attitudes of rocks. So it was very stimulating.

BC: That was post graduate work before you had graduated.

DM: Yes.

BC: What part of the foothills?

DM: Just sort of west of here, all the way from northern edge of Turner Valley, up what is now the forestry road, up towards Sundre and Rocky Mountain House. So we worked all the front folds of the foothills.

#091 BC: Would this be by pack horse at that time?

DM: In part. In part by truck and the odd pack horse and I think I mentioned to you once, in a sort of humorous vein, I got paid over Dr. Link's expense account. And I'm quite sure in fact, several of us were paid that way, that we appeared on no Imperial Oil payroll but we got \$3 a day for being extra pack ponies.

BC: So your first job was really officially as a pack pony, that's a rather auspicious different beginning isn't it, to a very long and successful career. Who else was on that particular survey with you that you remember?

DM: Those exploration parties were pretty small, there would be many a day when there would only be 3. Dr. Link, myself and he had an instrument man, this is a fellow that runs the survey instrument. When you take measurements on rocks you also have to know the position of the rocks relative to one valley and another and so forth. And that was a chap who's still living called Ivan Burn. He's now retired out in Victoria.

BC: Did you work for Mr. Burn after that or was that your only experience?

DM: Well, you have to have the background. Mr. Burn was also the draftsman in the winter months and the bad weather. And when we didn't go out, when we weren't out because of bad weather and we were back in the office working, he was the draftsman, I was the office boy. Whatever you were told to do, you did and those conditions continued of course, almost to World War II and I'm getting ahead of myself a little bit I guess but to carry on in that theme, when I got full time employment in Turner Valley, shortly after the Brown discovery of crude oil down there I became the resident geologist. But in those days, it didn't matter what your title was, if there was trouble in a well you were out there and if they were short handed you put cement in when they were running casing, you know, you did whatever jobs there were to do, period. Again, that reflection on earlier days and if you will, some pretty tough economic conditions.

BC: So Mr. Burn, he was part of Imperial Oil, he was a permanent employee.

DM: Yes, he was an employee.

BC: Did he stay with Imperial throughout his career?

DM: Mostly, yes.

BC: At this time of course, you were not, you were just a summer student?

DM: That's right.

BC: And then you went back into school. Now, did you get any. . . you know how sometimes the students today, they work in the summer and then sometimes they can get so many hours a week working in the winter, perhaps working on some of the records that you'd made. Did you have anything to offset. . .?

DM: No. The university and everybody else had just barely enough funds to scratch by. Many of us would have loved to get a job. I would have dearly loved to have had a few more

dollars to get some post graduate degrees, instead of just being there. But the student grants as they're known today, were just non existent in those days.

- #139 BC: Did you work during the winter at the university at all, waiting tables or this sort of thing to get through?
- DM: No. I never did wait tables. I think it was the summer of '35 when the seismic crew had completed their work and I was out of a job and there really was no opportunities in Dr. Link's department then, winter was coming on and so forth. And so that winter I worked as an assayer for Consolidated Mining and Smelting in Trail, British Columbia.
- BC: But that wouldn't be in an office, not in the mines?
- DM: No, that was just in the laboratory you know, assaying slag and so forth. Never really liked it, some great people there, but it really wasn't my field of endeavour but it was a dollar and you had to earn it.
- BC: When you went back after your summer of '34, then you graduated in that following spring, did you then at that time, that was when you went to the seismic, that was a summer job again?
- DM: Yes, that was a summer job again, and then a winter job in Trail.
- BC: Could we talk about the seismic, because I think that's very interesting. You were down in the Pincher Creek area and who were you working for, who was the Party Chief?
- DM: The contractor was a company called Heiland Research, out of Denver Colorado. There were no Canadian seismic crews whatsoever, this was the first one in the country. And Dr. Heiland was the father of applied seismology in all of North America. He was a German scientist, an extremely good one, a rather difficult individual. But it was very early and very crude. I think we worked for a month before we got any results whatsoever. I tried hard to learn from some of the more learned geophysicists, who. . .
- BC: They were actually calling themselves geophysicists at that time?
- DM: Oh yes. And were too.
- BC: And were. But they were all foreign.
- DM: Yes, they were all foreign in as much as they were. . .
- BC: They were Americans. .
- DM: Either Americans or Europeans.
- BC: And where did you do this seismic survey, from where to where approximately.
- DM: Well, my memory is a little fuzzy.
- BC: It's going back a little bit.
- DM: I would say for the most part we were around the Lethbridge area. Bear in mind that outside of Turner Valley, the only small amount of production in Alberta was in two places, it was in the general Wainwright area, where there were very old wells and right on the U.S. - Canadian border, at Coutts, Sweetgrass. The old Sweetgrass oil field straddled the border. So I suppose in a way, Dr. Link was looking for some geophysical evidence to perhaps see a continuation of the old Sweetgrass Arch oil trend. It never materialized.

#183 BC: You really got this job through Dr. Link then?

- DM: Oh yes, they were working for Imperial.
- BC: I see. You obviously made quite an impression on Dr. Link then.
- DM: He and I were great friends, yes.
- BC: Who else was working on you on that seismic crew, was Stan Pearson on that particular crew?
- DM: No, the only person that's around here today is Norman Christie.
- BC: Yes, I've talked to Norman.
- DM: Yes. And Norman continued in seismic and had the distinction of being the President of the American Association of Geophysicists and spent one year going around the world lecturing to learned societies. He's one of the founders in today's world, of quite sophisticated geophysics.
- BC: Did you work with him that summer?
- DM: Oh yes.
- BC: What position were you. Now the last time you were out you were a rodman, and a pony. Or a horse, I'm sorry, not a pony, a horse.
- DM: Again, things don't change, you do whatever you're told. But I was the surveyor, you have to know where every shot point is. Then anything else you're told to do. For example in those days, the geophones pick ups, where you got the seismic signal out of the ground. They were enormous things, they had to be carried and they had to be put in certain positions with great care and it's been known for all these years as jug hustlers. So we hustled jugs to. .
- BC: But they would be pretty big jugs that you'd be hustling. How much would each one weigh do you think?
- DM: I don't know, they weighed a heck of a lot.
- BC: Like a potato sack almost. And did you work with Mr. Christie, what was he doing at that time, was he jug hustling too?
- DM: No. He was a very brilliant young man at the Colorado School of Mines. He was a Canadian but had gone down there as a pure geophysicist and was favourably thought of by Dr. Heiland and so was brought back here. He really, could be called today, I guess he'd be a junior interpreter. Despite the fact that we were quite often rooming together he was much higher in the scale of things than I was.
- BC: In talking to someone like Mr. Christie, did you learn quite a bit about that side of the business, geophysics, which would be quite a new thing to you?
- DM: Oh yes, it was fascinating to sort of appreciate what was attempted. I certainly learned a lot in those days. Mind you, the very best compared to today's technology, no science that's applied in oil and gas today has made greater strides and more dramatic strides than geophysics. The comparison of those days to today, it's black is white. We really were very amateurish compared to how it's done today.
- #233 BC: Do you feel that had you had more sophisticated equipment you might not have had to wait a month for your results. Or was there anything that later was found with more sophisticated equipment where you were?
- DM: No, it was a steady evolution over the years. Today's geophysics makes heavy use of

computers and electronics and so forth and those things were totally unknown in those days.

BC: But down where you were at that time, were there subsequent discoveries made that you could have made with . .

DM: Not really, no.

BC: It was just not a good place.

DM: Not really, no.

BC: Because there certainly was gas discovered, or was that further west than where you were working?

DM: Yes. But by and large, the Lethbridge area, today, the area between Lethbridge and Fort Macleod is pretty lean in so far as oil and gas is concerned. There's some but there's not very much.

BC: After that ended, then you went for a short time into assaying. And then what happened to that job?

DM: I could have stayed on but by that time I'd scratched together enough money and I went to University of Chicago.

BC: This would be about, how long did you stay as an assayer then, about a year?

DM: Thereabouts.

BC: Then you went down to the University of Chicago to concentrate . . .

DM: Oh, I beg your pardon, I'd forgotten a little bit here. I scratched together some money and then by gosh, I got a summer's job as a surface geologist. Again, working for Dr. Link.

BC: This was with Imperial again.

DM: Now I've graduated you see. And with another fellow called Hutchinson, who was a rancher from Cochrane who was a darn good geologist but he was also a pretty good cattle man too and he never did apply his geology. But anyway he and I did a surface geological study and we did a traverse across all of Alberta. We started west of Red Deer and went mostly down the Red Deer valley, measuring the attitudes of the rocks and so forth, right to the Saskatchewan border. At times we did it on the river, at time in trucks. And my most vivid recollection of that of course, this was 1936 and then the drought and the Depression is still there, coming out of it a little bit by then. But I can recall that Drumheller valley, about 105 in the shade, Fahrenheit and the sky, the sun just a red ball of fire, with the dust. And it was a most depressing sight to see those farm houses where they'd finally given up and they just packed their things and left. The desolation of it, it's very vivid in my memory.

BC: You'd have gone right through there and through the coal mining areas there, which would be quite depressed.

DM: Yes, and you were talking about, did you ever do anything when you were young. Hutchinson and I mapped what is today the Ma'chi'chi oil field outside Drumheller. We even tried to get Link to recommend drilling a well but they never did.

#294 BC: But this would be from your surface geology?

DM: Yes.

BC: Which is very, very interesting. And did Imperial. . .

- DM: Umpteen years ago, a young geologist, when I was Manager of Imperial came dashing up to management saying, Mr. Mackenzie, we've been through the geological archives here, we found your first and oldest report and by golly, we're going to take some acreage on it.
- BC: Isn't that interesting. How many years had gone by?
- DM: So then when that season was over, then I went to the University of Chicago.
- BC: This is where the people today, go down canoeing, down in here and look at it as a marvellous wonderful outdoor time but there it would be dry and desert. Now one of the things that I remember someone saying to me, who had gone down on a canoe trip there is that the Red Deer River takes a lot of different ways.
- DM: Oh it does. And that's very ideal as far as surface geology is concerned. You get to measure the rocks in various different positions, every time there's an oxbow made by the river this gives you much more opportunity to measure the attitudes on this side and that side and theorize in between sort of thing.
- BC: So this would have been quite an exciting summer then wouldn't it for you?
- DM: Then when that summer season was over, then I went to University of Chicago.
- BC: You didn't have a chance to do any work in the winter on that then, that was just it, you gave your report.
- DM: Yes. Then I left the University of Chicago to come back here and then Dr. Link gave me. . he pushed me into going to Chicago because he was a PhD from Chicago. And then . .
- BC: They had a very good geological department there.
- DM: Yes. And then R. A. Brown Sr. with partners had found oil in the west flank of Turner Valley, in 1936, '35 or '36, my memory slips me which it is. Anyway, shortly thereafter, Royalite, which was a 65% subsidiary of Imperial Oil, they immediately geared up and now there was a full time job as the oil field geologist if you will. Analysing all the samples of rock that various wells passed through with the bit. As the cuttings are brought to the surface they're sampled and examined by geologists and so forth. Turner Valley always was and still is today and many of the oil and gas fields that are in the same juxtaposition as Turner Valley, are very complicated structurally. In other words the mountain building forces that pushed up bent and curved and faulted and distorted the layers of rock that. . . .

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Tape 1 Side 2

- DM: The exposed structural geology and this was Dr. Link's speciality and this is what he took his PhD in. I took that job for about I guess about two years and then I was asked to sort of have a try at doing less geology and more engineering. There was a new profession just starting there called petroleum Engineering, which in those days was the study of the reservoir, the physics of the pressures and the temperatures and the ability to flow and all the rest of it, of the wells. And as I said a moment ago, the Turner Valley pool was intensely complicated because of all these mountain building forces that had put the rocks

in very different attitudes. So that a fellow with that background, was essential to this sort of new study of the reservoir. So then an old friend of mine, Vern Taylor and I, who had been a government geologist and he joined Royalite for the same purpose. And he and I then, were the first petroleum engineers in Turner Valley. That lasted through and now it's World War II. I had enlisted in the Royal Canadian Engineers but at the same time the U.S. government got this hot idea, when Japan came into the war in 1941, that they better see if they couldn't get another supply for oil that was on the continent or else the Japanese submarines would destroy the tankers that would attempt to take fuel up into Alaska. Where there was if you will, the possibility of interface because the Japanese had captured one of the Aleutian Islands.

BC: Yes, they were on Kiska at that point in time weren't they?

DM: That's right. And this was a U.S. Corps of Engineers job. They made an agreement with Imperial and the old Fort Norman pool. They were successful in expanding it and starting to build this pipeline across these 600 miles of Arctic mountain and waste and then it was . . . I guess it dawned on them that they needed petroleum engineers with cold weather experience. There was a couple of fellows in the Air Force and me and we one day found out that we were I guess, seconded is the correct military expression, to report to a Colonel in Norman Wells in the U.S. Army. I think I said to you once before, it was a fascinating life's experience but as a war time effort, Time magazine way back in those days were cruel enough and accurate enough to say it was the biggest bonehead play of World War II. When the smoke all cleared away, after spending somewhere in the range of \$200-300 million and those were 1941 dollars, so I guess they're billions now, they finally got the pool developed, got the pipeline built, moved the refinery up there to Whitehorse and they put a million barrels through that thing. So we roughly calculated that our efforts there were \$200 a barrel.

BC: Even at today's prices, that's pretty high.

DM: That's pretty high.

#049 BC: You were in the Army though, or did they take you out of the Army and make you a civilian again? Because it would be very difficult for you to a Canadian Army under an American Army, this could cause a few problems.

DM: Well, that nonetheless was big problems throughout. It was the worst hodge podge you ever saw. There was RCAF, ex-bush pilots, there was 2 or 3 like me, there was a battalion of Negro work troops brought from the Mississippi to help load and unload the river boats and that was a disaster because they practically died in the cold weather.

BC: The river boats weren't quite the same as the Mississippi river boats.

DM: If you want to read a little bit more of that, do you remember the Governor General of Canada, Lord Tweedsmuir, whose pen name was John Buckan, well, he wrote a book, he made a trip down there when he was Governor General and he wrote a book called, Down North. Much of what I've told you is all in there.

BC: How interesting. Can we go back, before we take you through the war and back into . .

DM: I'm trying to get up to date.

BC: I know, but I want to get back to Turner Valley because we just brushed over it very

lightly. You were at Turner Valley at a very special time in Turner Valley's development as you say, Home Oil had just begun and there you were with an awful lot of the forerunners really, of the second, what you might call, well, it was the second oil boom, the third one was the Leduc, but this was the second Turner Valley, there was the '14 and . . .

DM: A very well known character quite a few years ago called Max Ball, he was the first fellow to make a real attempt at the oil sands and he wrote a book, historical, somewhat like George De Mille's. He put it just as you did, he said, Turner Valley is the only oil field in the world that's created three stock market booms, the 1914, the 1928 and the 1936.

BC: So what about some of the people that were there when you were there. Did you for instance, now you were with Royalite, were you just one and only Royalite person there?

DM: Oh no, they had a big staff of supervisors and. . .

BC: Who was in charge at that time of Turner Valley.

DM: When I first went there the legendary Sam Coltis, who had started many years ago and he was the elder statesman if you will and when he retired he was succeeded by Mr. Trammel essentially an American who had worked in Peru for a long time. The other sort of name that's retained fame was a drilling superintendent called Charlie Visser. Marg Southern is his daughter. He taught me everything I'll ever know about wild wells and so forth, he was a marvellous drilling superintendent. There's a host of other fellows. As I was saying to you earlier, perhaps the striking thing about Turner Valley and I tried to emphasize it a little bit in that little bit that I wrote in that book. If you look back on a sort of philosophical basis, really their contribution over the years was more a growing of people than the actual production of oil. They spawned all the drilling people, all the drilling foremen, all the tool pushers, petroleum engineers, well completion people, they all learned it in Turner Valley and the final big boom if you will, that was spawned by Leduc, these were the guys that in effect, from a working standpoint they really built the Alberta oil industry. They were all spawned in Turner Valley. I hesitate, I said a few names because you seem to be interested in names but I do really want to emphasize to you that they few names are almost unimportant compared to this enormous contribution of many men experienced and that's what built the Alberta oil industry in the first instance. And in the final analysis, they have built much of the operating part of the oil industry. In many places in the world, and certainly second to the U.S. fellows, you'll find Canadian tool pushers in the North Sea, you'll find them in the South China Sea, you'll find them in Australia, you roam the world and you'll find them all and almost without exception they were either kids whose fathers were drillers or tool pushers or production men in Turner Valley. And that tradition is, in my humble opinion, of enormous significance.

#117 BC: So really, this was the post graduate school for Canadian petroleum people.

DM: That's right. I would emphasize operating people. Now today's modern complex oil business, we've got very competent financial guys and legal guys and pure scientists, geophysicists and many breeds of geologists and so forth. But the actual operating people,

who sort of built the oil fields, ran the oil fields and so forth, the Canadian version fundamentally were spawned by Turner Valley.

BC: That's very exciting isn't it, to think that one little space in Alberta would do all that. One of the things that of course, came along with this 1936, the third coming of Turner Valley was the fact that at that time we were, in Alberta, I know in the east they were saying the good times were coming but Alberta was still really suffering from the Depression. So some of the people, as I understand it in the research I've done, where you would, at one time have people working on the rigs who were casual more, a lot of the people that were working on the rigs at that time had been drillers and they were doing other kinds of work there so you had a very high level of knowledgeable people though. Did you find that sort of thing too?

DM: Yes. There was all ends of the scale there. There was many a fellow who worked on the rigs who had come from a farming family in eastern Alberta or western Saskatchewan and if he was good, a pretty good driller and so forth and it was authentic, he'd take his holidays and get some time off to go to the harvest and then come back to work. And many was the farm boy . . . and the mechanization of farming, don't forget, is happening there you see. So now, a young guy who's and boy I'll tell you, there's lots of mechanization in an oil field and he's handy with tools and so forth. And it worked both ways. Vern Hunter, whose name I'm sure you've perhaps run into, he was the tool pusher in the Leduc discovery and a good buddy of mine, he was a tool pusher in my early days in Turner Valley as well and he always used to say to me, Don, give me a Saskatchewan farm boy every time, I'll make a roughneck out of him. The rest of these college boys, with your exception, they're not as good as a good farm boy.

#156 BC: Because they were versatile and could really take a piece of wire and make it run.

DM: That's right.

BC: Bailing wire I think, was the most important part of a farm equipment wasn't it. You mentioned Vern Hunter, you started your careers and worked. . .

DM: Yes, he was a driller on well that was drilled around High River around '37, that's where I first saw him and then he drilled and became a tool pusher in Turner Valley and then he went to Norman Wells as a tool pusher and he and I bunked together for 3 years in the Arctic.

BC: Can you remember any incidents in Turner Valley in your early days there, where you were working together?

DM: None that I would repeat to you, he has the dirtiest mind. . . He's the strangest combination, he later became Imperial's General Manager, first of all Saskatchewan and then Alberta. He's an old oil field hand, been through all grades in high school, is a very articulate person, writes beautifully. His letters, you would think some top executive wrote them. As a matter of fact, he was a top executive before he retired but he is a strange mixture, as I say, of everything. And I think I've mentioned that he wrote a draft of our chapter of that Turner Valley book and if we'd been able to publish that draft, which the old ladies in the committee down in Turner Valley wouldn't let us, they wouldn't have needed any provincial subsidy, just put it in paper back, it would have sold

a million copies. Now all that was Hunter's extremely well written, articulate character coming out plus some rather raw horrible sort of experiences. It would be just as good as James Bond.

BC: What about some of them that you did finally get into the print form there into In the Light of the Flares, can you recall one of those that has been cleaned up a little. For Royalite too, any special things that happened there that were significant in their history and of course, in your history too.

DM: I'd have a hard time trying to find highlights now that all those years have gone by. You know, really special highlights.

BC: Did you bring in a well, did you have many successful wells down in Turner Valley, Royalite?

DM: Oh yes, Royalite did.

#199 BC: Can you recall your first, the first well that you saw come in that you'd worked on, or is that going back too far?

DM: Many is the night I've sat up all night on a well getting completed and so forth and they're just a great big blur in my mind.

BC: Just one and another and another. Royalite was successful in Turner Valley though were they?

DM: Yes. Let me see if I can give you a rough measurement. I would say that at their peak Royalite was certainly the biggest producer in volume of oil, barrels per day in Turner Valley. And I would guess that they probably produced between 30 and 40% of the totally of the pool. And they probably operated on behalf of financial partnerships, another 10 or 15%. That was a favourite trick in the old days, Vern Taylor and I and Vern Hunter worked on a number of wells that weren't just Royalite wells. A financial partnership would have some acreage, would drill a well, they would find oil, they would complete it and now they would have to acidize it and do a lot of what then was considered complicated things, like running special measuring devices into the well and adequately equipping it to measure the amount of oil and gas, the ratios and the significance of it and so forth. So Royalite would offer the services of Taylor, Hunter, Mackenzie, a few others, for a week to do all this and in return they would pay our salaries, or the proportion thereof and they would give Royalite and Imperial their first call to purchase crude in the Calgary refineries. Now BA, not to be outdone, British American who is now Gulf, they mounted the same campaign too. But that was all part of. . .

BC: But you were in first.

DM: Yes, we were in first and we had the bigger staff. I think probably we had a little more experience too.

BC: This would be quite something, to have that kind of a triumvirate that could move in and do that very quickly and as you say, it was complicated, for others to have that type of knowledgeable staff. How long did this group, the two Vern's and Don.

DM: It all bust up in 1941 when Hunter and I went to the Arctic. Then the government forced unitization of all of the Turner Valley pool, in order to maximize production for all the different war efforts that were emerging. See, now suddenly the country is short of crude

you see. So they forced the pooling of all interests and they had a central authority that ran the field. This happened soon after we all left. And they needed to do that because of course, a lot of the hands went to the armed forces and they were desperately short of experienced oil people.

- #257 BC: You were really in a category, I'm surprised they'd even let you go up to the recruiting office because you were very. . . there just weren't enough and oil was the biggest weapon in the war.
- DM: I think finally that the worst in economic sense, we finally were bringing in, Imperial was, bringing in to the Regina refinery, Wyoming crude at a laid down cost of about \$25 or \$30 a barrel. Again, 1941 dollars. That's how desperately we needed it.
- BC: How did you even get as far as being able to sign up to the engineers?
- DM: Well, I didn't get much.
- BC: You didn't get very far. You've mentioned Vern Taylor. Vern Hunter and you, your paths continued on together, what about Vern Taylor, where did Vern go after. . . ?
- DM: He then came into Calgary and became Assistant General Manager. Right after World War II, I then went to work for a little while for Imperial's principal shareholder. I worked in production research in New York. After about 4 or 5 months of that then I went to Toronto, to the head office of Imperial as a sort of executive office boy. . . maybe that's not. . . anyway, sort of a junior engineer geologist, working for. . . By this time Link's down there, he's the Chief Geologist for all of Imperial.
- BC: But he's down in Toronto.
- DM: He's down in Toronto. I think I eventually got the title of Chief Petroleum Engineer for Imperial.
- BC: You were still down in Toronto at that time?
- DM: I lived there for 3 years. Then I came back here as General Manager for Western Canada, no Assistant General Manager. Shortly thereafter I became General Manager.
- BC: Do you remember what year these were? I can look them up in your biography of course, but it's just kind of nice to put them down. We're at about 1951 by then I guess, are we?
- DM: We're in the late 40's or early 50's.
- BC: That was moving up very rapidly, you must have been one of the youngest executives.
- DM: Then I went back to Toronto in 1955 as a Director and General Manager for Production and Exploration for the entire company. Then a couple of years later, after that, I wangled a demotion and came back to take over my old job as General Manager here and Vern Taylor succeeded me in Toronto.
- BC: I don't want to jump so quickly up to there, I want to move back a bit if we could and I'm just going to stop this and put on a different tape.

## Tape 2 Side 1

- BC: Before we go into post-war career, your career and as it impacted the work today, on Royalite and indeed, on Imperial, I'd like to just talk a little bit about Turner Valley again, and your role there as the field geologist working at that time, in the late 30's, the

problems that you would encounter there that perhaps were greater because of the science being fairly new then.

DM: Well, yes, there were problems because of lack of knowledge. However I believe I mentioned not so long ago that one of the sort of outstanding things about the Turner Valley oil field and now in modern times, Waterton and Pincher Creek and many of the oil and gas fields that parallel the foothills of Alberta, they are all extremely complicated from a structural standpoint. In other words they are broken up by the mountain building forces into different blocks of rock underneath the surface and it's a geological science all in itself. Now this is in contrast for example, for some of the salt domes of the Gulf Coast of Texas and Louisiana, where salt has been astrogated from earlier rocks in the earth crust and it rises and it pushes up all the other rocks so it formed a beautiful perfect dome. Quite often if the conditions are right the rocks that are in this dome will have oil and gas in their pore spaces and so it becomes a relatively easy thing to sort of map out the oil field, to work out the best sequence of drilling, the best sequence of wells for the optimum production and so on. Not so Turner Valley and these foothills. Here in one well you find the oil at a certain depth and in another well you find it 1,000' lower. That's because the good Lord, in heating up those mountains, made that difference and it can happen in 1/4 of a mile of a mile and it's extremely complicated. The field geologist, we better say oil field geologist, in Turner Valley in those early days, his primary job was to try and keep always up to date on every well that was drilled, to get every sample possible, to see all the intricate details of these rock movements. So that you wouldn't drill a dry hole on the next one and that could be across the fence. So it was a concentrated early lesson in the importance of structural geology as far as I was concerned. And like all other natural sciences of today, with the help of geophysics, who now can unravel these intricate difficult things that we couldn't, lo, those 40 years ago. And we could only rely on the actual rock that was cut by the bit down in the bowels of the earth so to speak and circulated up. So 80-90% of that work I was involved in. And it had, in many instances, great commercial significance. For example, there was one part, the very south end of Turner Valley, Dr. Link, in some quite brilliant theoretical work decided that there was a complete change in the formation of the rock along a certain trend in the structure and he wanted to drop all the acreage and move off somewhere else. Just quite by accident one day, in pawing through the samples, where we had measured this important piece of evidence that Link was using, I began to get the funny feel that something was wrong. I, fortunately, went into the government offices and borrowed another sample and found, in all probability some roughneck had thrown the wrong piece of shale in the wrong bag. And this theorizing that Ted Link had gone through with was quite in error. So I completely rebuilt the thing and got a pretty good high mark from him. But that is just a tiny sort of example. It was at times labourious, disinteresting. . . it was like the detective you know, that picks and picks and picks away at detail until he finally finds something of significance.

#062 BC: But it is only boring to someone who isn't picking because the looking for the truth of it I think, would be very exciting. But there had to be that kind of detail

that you had to look at.

DM: And this goes on today.

BC: Right. The business of the roughneck just throwing the wrong thing in the sample bag, I would think that would have made both you and Dr. Link rather nervous after that. Did you ever sort of feel that you should sit at the well and as it comes out you would take the sample and you would put it in your own sack?

DM: Yes. Actually in those days, when the well got near what was suspected to be the production formation, quite often the geologist and an engineer sat on the well, they never left the derrick floor for just the reason you mentioned. To examine, at some point in time you stop and you run pipe and it's absolutely critical you do it at the right time. Now all that is done with much greater ease than in those days.

BC: Yes, I would think sitting there right on the derrick floor waiting, could be some pretty long nights and days you spent.

DM: Yes.

BC: All right. Now could we move into 1946. We're back out of the north and Canol. I might like to go back and just ask a few names of some of the people that worked with you there. For instance, I have a couple here, Harry Reedford and Lorne Falconer. I think they were involved up there were they not?

DM: Yes. Reedford I just knew slightly, Lorne Falconer, quite well. He was a geologist and he did surface geology in the general sort of Mackenzie River basin. If that sounds strange to you, the U.S. Army were apprehensive that perhaps the Norman Wells oil field would be not large enough for the needs of however long the war was going to last and the pipeline and all the rest of it. So they mounted and mainly it was by Imperial people, they mounted an effort to find, if you will, back-up reserves. Now they never did find any and we never really. . . 2 or 3 years is nothing in that sort of work. But Lorne Falconer worked hard at it and his studies, many years later were of considerable help to a lot of people.

BC: When indeed, they did move into the Mackenzie Delta.

DM: Yes.

BC: Now I heard that he and Mr. Reedford actually kind of walked the shore in the Arctic, did you ever hear that story, that they actually were . . . when they were working in there?

DM: I have no doubt that would be the case, yes. Shucks, I've looked at some outcrops myself on Banks Island, in the Arctic Sea.

BC: Is that right?

DM: I hooked a ride one day out of Norman Wells, I guess on more than one occasion, just delivered these fellows their mail and one thing and another and went with them when they were doing a few side trips, using the aeroplane.

BC: So you flew over the Mackenzie Delta and all up in there during that time? Did you find this helpful to you in later years. I mean the fact that they didn't end up needing the refinery etc., etc., but as far as the development of the north there, did you find that your experience up there, your knowledge was useful to you?

DM: In a broad general sense, when some guy's talking to me, even today, about sort of drilling or activity in the north, planning and so forth, I know darn well whether he's really got anything on the ball or not.

- #116 BC: It would be very helpful to you as the General Manager then, with people coming up with suggestions.
- DM: And Hunter is exactly the same way. In his semi-retirement he worked for an unnamed European company and he used to regale me with some of their attempts at strategic planning, all being done in Paris or somewhere, where nobody has ever been near the Arctic.
- BC: But he could keep them on tap. Now, following 1945 and around 1945, you were then back into Imperial, but were you still with Royalite or were you with Imperial?
- DM: No, I was with Imperial.
- BC: Yes, you had moved out of Royalite and into them. Was there quite a bit of the interchange in personnel?
- DM: Yes. There's one sort of key story you perhaps should have. Let's just move it up 2 years. In '47, after the discovery of Leduc, the then general manager, production and exploration, in Toronto, for Imperial, a fellow called Mike Hyder, great guy, I'd work for him anywhere, he reasoned that politically, financially and operationally, Imperial should either take over all of Royalite or sell it. But not have it sort of 2 shareholders, a lot of people in the general public and Imperial. And it made a lot of sense. We were pretty short handed in those days, working, managerial, executive, you name it we were short of it. So the final result was that Imperial's share position in Royalite was sold shortly after the Leduc discovery. Don't hold me down to how many months or years but I say shortly after. And the cleavage was complete. While I knew and had a few good friends in Royalite, really, from my standpoint, I would say also from Hunter and Vern Taylor and many others, we all rather quickly lost touch with the Turner Valley people and the progress or work in Turner Valley. We just had more, it was night and day, having discovered Leduc and then Redwater, all of us were working 7 days a week.
- #154 BC: 8 days a week. I understood that one of the reasons that Imperial made that decision to sell Royalite was because, they needed too, so much money for their exploration that they had to have those funds. How much truth is there in that?
- DM: There's quite a bit of truth. Not only Royalite, they sold Foothills, which was the heart of Bobby Brown's empire that he built Home, and there was a whole group of companies sold, not just Royalite and sold to different people. I'll tell you how close it was, and the real financial crunch came about 1949-1950. At one point we didn't have enough cash flow in Imperial to meet the payroll. We had a program of drilling 100 wells in Redwater and 70 in Leduc and every drilling contractor, we had them hired and we were just pouring money into the ground. If you said this to a modern oil and gas executive who's we'll say, in his middle 40's he would laugh, he would just roll over in his chair and laugh and he'd say, didn't you finance it. Of course, in those days, we didn't. Debt financing of industry, going to the bank and borrowing money to build a pipeline, to drill up an oil field, was absolutely unheard of. This was financial risk that the shareholder must never take. So it is quite true that those companies were sold and they were in very tough financial position. But I have to add that up to that point in time, Imperial had never done any debt financing. Now they too made the move. It's now 1950 or '51 and the famous

Trans Mountain Pipeline is built and Imperial is the biggest shareholder. And Trans Mountain Pipeline was built on 80% bank financing, 20% equity. This produced more sort of quivering grey hairs in Toronto. And we used to laugh and kid them about it but that's the real nuts of the statement that you made.

- #189 BC: Now there was another thing that Imperial was involved in prior to Leduc, because the discovery of Leduc, Imperial had drilled I don't know how many, I mean they were a big exploration company and indeed before. .
- DM: 106 I think is the. . .
- BC: And the 107<sup>th</sup> was Leduc. But on the other side of that, which you might not have been involved with but certainly would know about was the fact that they were looking for alternatives because there was no oil reserves and they were looking to being able to use. . . Could you talk at all about that, about the use of natural gas and. . .?
- DM: Yes. I was involved in the study committee that worked on that. The idea was to take natural gas, and there was a big surplus of it in the Viking-Kinsella gas field, which still to this day supplies an awful lot of Edmonton's needs. It's a big gas field, always has been. But the gas company had not leased it all and we went and leased some of it and drilled some wells and found some extensions to it. In central Texas there was a fairly big gas field had been discovered about the same time and some very able physical chemists and they had much the same sort of atmosphere in the U.S., they were short of liquid hydrocarbons and were long on gas. So there was a famous process called the Fisher-Tropes, it was 2 Germans who invented a method of synthesizing gases into liquids. They had taken the gaseous hydrocarbons, the gas that we burn and they had synthesized and made a kind of a motor gasoline. So they took this German discovery and did an awful lot of pioneering work in Texas on this thing. And they built a great big plant that took gas. .
- BC: What company was it was doing this, it wasn't your parent company?
- DM: No, no, it wasn't. I can remember that the company they created had something hydrocarbons, I can't remember the first name. Anyway, they started up and they spent millions on this thing and they started up this special refinery you might call it, and did make some gasoline. As time went on their production declined and they ran into more trouble and more trouble. The chemical catalysts that were used was changed and rechanged and so forth. Finally after 3 or 4 years it all went down the tube. It was just a commercial failure, it was a scientific success but a commercial failure.
- BC: And you were part of the group that was studying this.
- DM: We knew about his and we tried to get all our friends in Exxon to sort of scout this thing for us and they scouted it a bit too. We could never find out but towards the end of this study they said, boy, these guys are having trouble, you better not rush into this thing till they either get in onstream or not. As I say, we could never find out what the trouble was but we knew there was big trouble. So the end result of the study was that yes, there's lots of gas there and you can sure make lots of gasoline if you can get the right process but so far it hasn't been proved.
- #249 BC: So they had really abandoned that idea?

- DM: Well, they put it on the back burner. They were going to drill a bunch more wells and I think they just drilled a few more.
- BC: And they didn't develop that field any further, the gas field any further at that time?
- DM: No.
- BC: Now, with Leduc coming in, you mentioned that it was 106 dry holes and then the 107<sup>th</sup> was Leduc. You hear many stories about that day, which was a very important day in Canada. How involved were you with Leduc, where were you that day?
- DM: I was in Toronto.
- BC: You were in Toronto. Dear, dear. I bet you were wishing you could get the first plane out. Can you remember what happened, how you heard about. . .?
- DM: Vern Hunter who was a tool pusher on the well, he phoned in and said that they'd got oil stained core and that they were going to take a drill stem test and it looked pretty good.
- BC: You hear so many stories about, well, they were just going to go a little further down because they had a little bit of time left or things like this.
- DM: That was the old Turner Valley, Royalite 4 story. But yes, I'm sure. . . This is an Esso book. Doug Layer who has been Chief Geologist for Imperial, he got so upset over. . . there's got to be about 15 guys who all claim that they really discovered Leduc.
- BC: Yes, I know.
- DM: And he's gone over every bit of documents that there is and he's written a whole damn book about it and I'll tell you what the conclusion is.

#278 BC: Right. That would be wonderful.

- DM: The conclusion is that, in any sort of technical endeavour in modern days, it's almost impossible to say that one man stands alone. There was just a hell of a lot of guys, the geophysicist that said, yes, that was a darn good structure and showed it from his interpretive work, the geologist that correctly identified this core and saw the first signs of oil saturation on the well head, watching right there on the well. And the interpreter who did a magnificent job on the geophysical anomaly, the executive wrangling that said, should we drill this well because our program was not to drill that type of a structure. Then as we went down and got a little oil in the Cretaceous and kept on drilling, everybody said, that's wrong we should go back up where we got that first show and see if we can't drill some follow ups. The late Jack Webb said, no, the Devonian still looks pretty good, we should go on. So Jack Webb is quoted in here.
- BC: Because the Devonian wasn't where you were looking at all.
- DM: No, that's right. And all that's documented in here but I would agree with the conclusion that there's probably half a dozen guys that contributed quite a bit to it and it's a shame to say that one man did. But it sure wasn't me because I was down in Toronto.
- BC: You weren't even one of those, at that time, you weren't in the position of saying. . .
- DM: I didn't even get into the argument.

End of tape.

Tape 2 Side 2

BC: Dr. Link was down in Toronto. Today when you look at the exploration part of oil companies, the person that's calling the plays shall we say, would seem to be a little closer to where this is being done than in the executive suite in Toronto. Could you talk a little about that, the difference in the way Imperial was run at that time and probably many of the other companies.

DM: I think you're absolutely right. Time has made quite a difference. Back in the 1950's and maybe into the early 1960's there was quite detailed rigid budgeting done of a company's program for the year and if one wanted to deviate from it or transfer within it, one had to get approval from a very highly placed executive. So in a nutshell, the corporations of those days, that's not necessarily Imperial but perhaps all of the larger ones, they were quite highly centralized, if we compared them to today. So as a result, there was a lot of decision influenced by head office in Toronto that wouldn't be today. Now I carefully say. . . I don't want to leave the impression that the Vice-President in charge of production on the Board in Imperial made all the decisions, he obviously didn't. But in today's world, I would say he doesn't make a single operating decision and the same for all of the large companies. He concerns himself entirely with, are they spending too much money in the next 4 or 5 years in this particular avenue or are they not and should we ask them to recast their budget, should we look at their cash flow in relationship to how many wells they're drilling and can't we get them to look at that again and so on. Now that's today's world. 30 years ago, somebody phoned up and said, say listen, we think you'd better do such and such. So there was arbitrary decisions made some distance away. I don't think that was any prerogative of the oil and gas business, I think that was the whole world. That's the way the world of commerce worked in those days.

#031 BC: In the oil business, because of an immediacy, the decisions often have to be made, as indeed in Leduc, do we stop, we were only going to here but someone had to say no, no. But do you feel that distancing perhaps, not necessarily with Imperial, but perhaps with some of the other companies, perhaps impeded their exploration development in some way. Like land acquisitions or something.

DM: No question about that, it certainly did. And I think the proof of the pudding there is the fact that there were no companies in Canada but there would be about 5 or 6 companies in the U.S. that were not majors, that were solely production and exploration people. They didn't sell gasoline or have refineries or anything, they were a resource company, as we know them today. The most prominent of them would be Tenneco, . . . I'm showing my age now, I'll think of it in a minute.

BC: That's fine, we can come back to the name.

DM: Anyway there's about 4 or 5 companies who branched off into world activities, only in production and exploration. In my judgement of viewing the global theatre, those companies, in that period of the immediate post World War II, from '47 shall we say, to '61 or somewhere around there, the 15 year period, they showed more growth and more success percentage wise than any other companies in the world. That was because they all came from the oil patch, they all knew when they should make a decision and when somebody else should make it and there were no arbitrary decision taken but there were

some fast and very good decisions made. Those companies just rose exceptionally. Now to complete the story, in the late 1970's and 80's, those were also the companies in the takeover game, they've all but disappeared now, they've been gobbled up by other big companies.

BC: That had the refineries side of it that were looking for the exploration and they had the market people.

DM: Right. Amerata is the company I'm searching for. And in my judgement, just watching them and later when I went on a global basis and I saw various places in the world, the west coast of Africa and the North Sea and so forth, they're the best exploration company I ever say, oh they were good. And the top management anywhere, they all knew one another from the top, I think their head office was either in Tulsa or Houston and they were just superb.

BC: Do you think that is a detriment to this generation of oil exploration or. . . ?

DM: I'm just sorry that we don't see them anymore from the standpoint of world wide supply, golly they were great.

BC: Because they were just specializing in what they did, instead of trying to have the whole dinner, they just looked after the main course and let someone look after the dessert. With you going back, why did you go back to Toronto rather than stay out here, it was a promotion for you I presume was it or were you sort of Dr. Link's assistant? You seemed to be very close to him throughout your career, or throughout his time.

DM: Dr. Link, in the little tribute that I wrote to him after he died, I think I said something like this, a few years after the Leduc discovery, then operations got very big and rigid and there was budgeting and programs that must be adhered to and that was not Ted Link's style. So he resigned from Imperial and formed a consulting practice. Ted you know, did leave Imperial in the early 1950's and he headed a very successful consulting practice here. So my relationship with Ted Link, from a business and career standpoint terminated in the early 1950's.

#092 BC: But your early career was very closely linked too him.

DM: Yes, very closely.

BC: Would you say he had probably the most influence on your career choices?

DM: Oh, no question about it.

BC: When you were in Toronto in '47 were you working with Dr. Link or for Dr. Link at that time?

DM: Yes, for awhile, then I was oh, if you will, after the Leduc discovery I then became sort of a special assistant to the General Manager.

BC: What did those duties involve, that sounds very. . . ?

DM: Whatever he said is what I did.

BC: Such as?

DM: Well, you know, technical work, financial work.

BC: But you were still based in Toronto?

DM: Personnel, you name it, yes.

BC: And what brought you back out to . . .?

DM: He sent me out here.

BC: And what did he send you out to do, clean up the act?

DM: To become an Assistant General Manager here. I don't know whether I should say this or not, they had imported from the U.S. an experienced hand as the top man in western Canada. For a lot of complex reasons he didn't really like it here and his family didn't like it and it just didn't work and he resigned. That wasn't long after I was shoved back out here as his assistant so in a matter of a year or so I became General Manager.

BC: That would be quite a mantle to take on wouldn't it?

DM: It sure was.

BC: How big was Imperial by that time?

DM: It was a mighty big company then, yes. Producing 50,000 barrels a day I guess and maybe more.

BC: As the General Manager, you were managing both the refining and the marketing.

DM: No. Production and exploration and related. . . and operating.

BC: Where were you in your exploration plays at that time, when you took over, where were you exploring?

DM: About the time we had found Redwater and we had found our share of Wizard Lake, Bonnie Glen, which was a big Texaco discovery and of course, Leduc. And we then had the idea of the Cirrus??? Valley and we were starting to move into Saskatchewan. And we were very successful in the early days along the Cirrus Valley in Saskatchewan. And Vern Hunter was the Saskatchewan manager and we moved him down for that. Operatively that was one of our biggest, there were a lot of wells, admittedly they were shallow but at one point in time, Vern Hunter's staff was completing a well every day.

#136 BC: Sounds like Texas. That would be a record, would that have ever been met again?

DM: No.

BC: When would that be, what time about, would you think, is that the late 50's?

DM: Middle 50's.

BC: That must have been quite an exciting time for you.

DM: Yes, it sure was.

BC: Now what were some of the problems that you encountered, coming back as manager here or taking over as manager, although you were a western boy there's still this sort of a feeling of bringing in the manager from back east, did that ever cause any problems?

DM: Not to me, no. I might have caused some to somebody but I never felt it if I did. Mind you I'd have to make one other observation, that we wouldn't quite be at the threshold but today, in today's world, I suppose it's such a little world unto itself that I don't think you feel it anywhere now. Oh, I think the Brits felt a little bit miffed because there were so damn many Yanks and Canadians who came over to tell them what to do in the North Sea for a little while. And that was because BP, the big English company and Shell, the two big ones, they had their hands full everywhere you see. And they had a hard time bringing natives back, so there was quite an inundation of Yanks and Canucks. When I went to Australia on a special assignment, I was there for about 6 months I was on this subject, I

had been there about 3 days and I had 2 or 3 helpers and one was a young Aussie. He said to me, Mr. Mackenzie, with a kind of a dirty glint in his eye, are you high enough up the management ladder that you won't have to go down to the Bass Straits and work on a well completion. I looked at this kid, so I was having lunch with the President of Esso Australia about 3/4 of an hour later. We hardly sit down and I said, John, what the hell did this kid mean when he asked me if I'd be available to run pipe down in the Bass Straits. The Bass Straits incidentally, this was an offshore operation, just offshore Melbourne, in sort of the southeast part of Australia. And the President of Esso Australia laughed and he said, Don, there's a saying around here, the Aussies just love the sun and the sea and their weekends, and it doesn't matter if we'll pay them triple time or quadruple time, if there's a well going to be completed on the weekend they won't go out on the rigs, they're going to be at the beach. So there's a wisecrack around here that every production well that ever ran casing around here was run by a handful of Canucks and Yanks all over Australia. So he says, by the way, you did run pipe in '39, I said, yes, he said, by god, we might call on you.

#188 BC: Did they ever?

DM: No.

BC: That's interesting. Did you feel some of that, when you were here as the General Manager, that you were in the office at the top of whatever tower you were in and not able to get out into the field quite as much?

DM: I personally, my first taste of, shall we say, top management, I got impatient at difficult personnel problems and difficult administrative problems. When I say personnel problems I don't mean it in any other sense than pay and pay sequences and salary policies and all that sort of thing. For quite a while I considered this a task a little bit below me, there should be specialists, after all I was still in the oil and gas business. That was probably the only thing that ever bothered me.

BC: Yes, you're still the scientist and explorationist at heart and that's what you. . the other kinds of things, you liked to make sure you had a specialist in that area too. Now, you were here for how long before you went back to Toronto again.

DM: 9 years, give or take a year either side.

BC: And during that 9 years that you were here, were there any parts of that 9 years that you look back that you could kind of document of things that Imperial were doing out here in exploration that you were involved with?

DM: I can't really think very much about sort of Imperial per se but I think I mentioned to you the other day, I feel quite strongly that in that period I was sort of privileged to see the end of an era and the start of a new era in exploration and development of oil and gas. The old era that we saw the end of is best exemplified in Turner Valley and Sweetgrass and Del Bonita and those old pools where an oil company, almost down to the President, we just worshipped and worked hard to try and find a little wrinkle in the earth's surface and drill one or two wells hoping to find oil and gas. I would say that to use the explorationists terminology, we were prospect oriented, we were totally fascinated with the individual prospect. We never thought about, does oil come in trends and if so, why. Shortly after

World War II, a very famous geologist in the U.S. who worked for Jersey, or Exxon, called Louis Weakes, he got the concept that oil is found in trends for very good scientific reasons. That in the ancient seas there was just the right mixture of organic material and the right temperature to create oil and the right formations to trap it. And he documented all that in a very famous book called *The Habitat of Oil*, a terrible dull book, I would recommend not reading it. But nonetheless he started this concept that you should be looking for trends in broad areas, before you start worrying about the little details of each darn well. As simple as it sounds, it was an enormous threshold to be crossed and I lived through that. I think the perfect example, we touched on it just a few minutes ago, I told you about Leduc, which in effect was an individual prospect that at least some of us were fascinated. As opposed, I said to you that when we finally got rolling in the Cirrius??? Valley we were completing a well almost every day. Now mind you they weren't big but we must have found 10 oil fields, in a trend and we had them nailed down. Now that's why I say I've lived through the two eras. Now the new era of trends, why you pick up every technical journal and it's just kids stuff now. They've enlarged on it and given it much more science and rightfully so too. I even read an article the other day about this far, most eastern province of The People's Republic of China that butts up against the USSR. It looks like it could be another Middle East, the trend there is getting right up against the border and may account for a lot of the differences and changing philosophies between the USSR and The People's Republic of China. Because you will well recall it isn't but about 10 years ago that they were all buddy, buddies.

#283 BC: But now that there may oil in them thar hills. . . That really is something that not too many people would have identified perhaps, I think that perhaps at your level in the management area you could see some of this.

DM: I would prefer to think of it, as far as myself is concerned, I won't say I'm a student of history but I do like history and I do like certain types of scientific books where a conclusion and a reason, a resolution is made, sort of, of the events. Just for example here, I consider this as one of the greatest books for explorationists, Charles Darwin, *The Origin of the Species*. Few people realize he wrote a book on coral reefs in his famous voyage of the Beagle and these are Pacific reefs, modern, above the ground. All these islands that are coral islands and he describes how they're formed and to this day that is absolute requirement for every young petroleum geologist because the ancient reefs of the Devonian and the Silurian and so forth are a dead ringer for today's reefs. The way Darwin has classified these things and helps you to understand them, it's simply magnificent and he wrote it 150 years ago.

BC: Isn't that exciting. Is it on their list of books?

DM: Oh is it ever. And you know, shortly after the Leduc discovery, boy, Ted Link, he was making sure every junior geologist was reading that, he was sending them down to west Texas where they'd found the first oil in reefs down there and he was just on them. He said, Charles Darwin had the greatest scientific mind in the last 300 years and you'd better damn well get your nose into it.

BC: Because Leduc really changed a lot of people's thinking as to where you look, didn't it?

DM: That's right.

End of tape.

Tape 3 Side 1

BC: Mr. Mackenzie, I think it might be a good place to start here this evening, talking about Imperial Oil, which is the Canadian company and the mother company of Exxon or Esso. How much of the decision making was made in Canada and how much has been made in the United States or at head office.

DM: In my years with Imperial I would say that Exxon or Esso or Standard Oil of New Jersey, all these terms are mutually transferrable, the parent company owned 69% of Imperial's stock and therefore had absolute control. However in the 35 or 40 years I was involved, they undoubtedly exercised some influence in the financial planning and the annual budget objectives of Imperial but at no time in my service did I ever see an interference by the parent in operating decisions. Those were left entirely to Imperial. As a matter of fact I witnessed a very famous test of this. That was after the discovery of Leduc and Imperials's then desire to build a refinery at Winnipeg to process the newly found crude throughout the prairie provinces. Of course, already Edmonton and Regina and Calgary is supplied but now comes the building of a refinery in Winnipeg. I was in Toronto and I was attending as an individual making a presentation to the Jersey Board and here was a multi-million dollar new refinery proposed for Winnipeg and agreed to by the Imperial Board. Some of the New York economists in the parent company didn't want to do this, they stated and it was quite true, that it would be cheaper to expand Sarnia and move the products through the Great Lakes and into the Winnipeg area and just have the Winnipeg terminal as nothing more than a big storage facility. But Imperial thought otherwise, first of all it was important to maximize production of products in Canadian refineries. It had political pluses if you will and we decided that we would go that route. So a confrontation took place in this Jersey Board meeting and I was there. Several of the Jersey Directors said they were against it and Jack White, the then President of Imperial said to Mr. Gene Holman, he said, Gene, we've examined all these aspects, we think the wisest thing for Imperial is to build that refinery and we're going to build it. And Mr. Holman, who was the President and the Chief Executive Officer of Jersey, he looked at him and he said, Jack if you feel that strongly, by golly I'd build it. And we built it. Now, it's in little use because it's now obsolete today more or less but in it's early stages it was sound economically, it was profit producing and we were dead right, politically, economically and everything. But I witnessed that confrontation and I saw the fact that Imperial did face up to their own decisions sometimes in a little different atmosphere with the parent. Now you also have to appreciate that the head of Jersey, this Gene Holman, well, I had the good fortune soon thereafter of carrying his briefcase, or helping. We did a trip through Venezuela and through Cuba where there was a small oil field and this was before Castro and so I had the good fortune to work for this man for about 3 or 4 or 5

weeks and he was one of the greatest men I ever worked for.

#058 BC: What made him so great for you to work for?

DM: He had that marvellous ability to dissect a complicated problem into its simple fundamentals and not get emotionally involved but to look at it from all angles and make decisions and on top of that, he had a lot of faith in the people that he was associated with.

BC: You can see why he was the top of the heap.

DM: Oh yes, and he built Jersey to what it is. He was the guy that pushed them into Saudi Arabia and he was the guy that pushed for more participation in Venezuela and furthermore he was a geologist.

BC: So you had something in common.

DM: So I thought the world of him. But many who followed him were of the same stripe.

BC: With Imperial as far as, now they would control what they were going to do here, what about the income, when 69% is held by American interests. Would there be times when they'd say no, we're going to be doing something in Venezuela so we're not going to explore as much in Canada as you want us to. Was there any of that sort of thing, where they would take Imperial and use the profits there to open up a field in another part of the world. Is this common with them or other companies?

DM: I think that that technique is only practically applicable where the parent has got 100% of the stock in the other company. In this case they've only got 69% and there's 31%, largely Canadian shareholders, who want dividends declared on the basis of the best Canadian economics and has no relationship to anybody else's. And I think that's the way it worked, in fact I know that's the way it worked.

BC: You were manager of western Canada in exploration and production, and then much as you wanted to stay in the west, you went back to Toronto as Director of Imperial Oil, what date was that exactly and what were your duties with Imperial at that time?

DM: I'm never good at dates and my own history but it was approximately 1955 or '56. Imperial worked on the system that members of their Board, they were contact Directors for different departments and I was the Contact Director for production and exploration. So when a financial or other issue came to the Board that involved production and exploration then I was the contact Director and I presented it to the Board and said, now, in my judgement, we should do thus and so. And it remains that way to this day as far as I know.

#098 BC: Did this, although you were in charge, you were then in charge of exploration and production would be your area, but you were moving further up that tower away from the actual production and exploration, was this. . .?

DM: Regrettably, in that role the decision making was oh, on broad principles and financial aspects and very little operating decisions, in fact, virtually none.

BC: This would be very frustrating to a geologist like yourself.

DM: Well, I did find myself being quite lonely and not being able to do, what up to that point in time, had been my life's work.

BC: Was Dr. Link still with Imperial in Toronto at that time.

DM: No, he had left at that point in time.

BC: So you didn't even have that very close sort of buddy who understood, you both talked the same language.

DM: We had sort of a staff of senior technical people to help us understand what was being done in the west but it was a relatively small staff, 4 or 5 senior people, that's all.

BC: Now you also were, I have a note here that you're Imperial's nominated Director to the Board of Esso production and research, now what is that?

DM: Esso did a lot of very fundamental research in the various scientific fields that influenced production and exploration. They had a world wide company in which all the affiliates put in money and put in suggestions for research and all the affiliates from all over the world would meet annually on the technical level and then on the Board level, quarterly, to guide the research, and this is fundamental research that sort of would help in many of the technical aspects of the business. Now, Imperial and Humble in the U.S. and Creole in Venezuela, they all had big operations and all three companies had their own research facilities as well, where the real problems would be zeroed in for research. This larger international company, if you will, they were doing the back up fundamental research.

#133 BC: Research into what areas, into a different type of gasoline or actually, where are we going to drill?

DM: This was solely in the matter of oil and gas production. It was divided into the 2 or 3 fields. For example in production, what is the best and most efficient way to produce a reservoir. How do you maintain pressure, do you let the pressure decline rapidly or slowly. In geophysics why is it that when we explode dynamite in certain areas we get very poor reflection whereas ostensibly, in identical circumstances somewhere else we get good. And what is the fundamental reason for the reflection of the seismic wave and its refraction as well and so on. So this was sort of the field of fundamental research and then when you bring it down to each individual company, well, a good example would be in the general Edmonton area, near the little town of Joffre, where we had some crude production and the pressure was declining quickly, it seemed highly desirable to go to water flood. But there were problems, some of the pilot experiments in it, as I dimly recall, weren't all that exciting. Now what's the reason, and quite a few million are at stake as to whether you do this or not. And then that would be done, well, Imperial still have a big research office in south Calgary and they'd have all their best people working on this thing. But they would be bolstered and have the background or some of the very fundamental things done by the inter-company thing. So that's a long winded explanation of . . .

BC: No, very succinct I felt. What was the result in Edmonton, or do you remember what they decided?

DM: Well, we did do some of it and it remained a problem, to some extent unsolved. As a matter of fact, it's quite interesting, now, 30 years later I'm on the Board of a smaller oil company who has some holdings in there and we're seriously considering a new twist on an old dog here, in that same area. We're going to put carbon dioxide into the water to see

if we can't get a better surface, tension relationship. We may pour some millions into that.

BC: Has this been done before?

DM: Yes, it's well written up in the literature.

BC: But it hasn't been done quite right in that area before?

DM: That's right.

BC: Having this opportunity to see the broader scope, it would have certain challenges for you, although you wouldn't have your feet where your heart was, but the fact that you would have to be sitting in and being part of all the overall picture would be quite challenging for you I would think.

DM: Well, I certainly enjoyed that aspect of my career. Not perhaps in research but being on the fringes of it and the financial centre of it.

#185 BC: But not enough to stay there because you really made a request to come back.

DM: Yes, I did.

BC: And what year was that, that you came back to Calgary, can you remember?

DM: '57 I think.

BC: So you were down there 2 or 3 years?

DM: Yes.

BC: And we talked about this before we taped but we didn't actually put it onto tape and I think it would be just important to just record your feelings and why you would deliberately take yourself out of contention for an even higher position in Imperial Oil, because you certainly were on that line that the upward motion of management does take. And then you said no.

DM: I guess too much of a one track mind. I started in the production and exploration end of the game and I just had too great an affinity of it to put it in its corniest light. I got an enormous thrill way back as a student in 1934 standing on an outcrop in the foothills with Dr. Link explaining to me the principles of the accumulation of oil and gas in the foothill structures. 25 years later I still got the same yearning and interest in seeking for the stuff and trying to produce it. I felt I was substantially lacking in talent to contribute in so far as refining and marketing. So I thought I better stay where my heart was.

BC: How did the management of Imperial take this blow, when you said I want to go back home?

DM: Mind you they were all pretty good friends of mine and they suspected I'd do this I think. I survived it all. I imagine that a few of them weren't terribly happy with me.

BC: Because this would have, your being there certainly represents a great investment of them in you as well as your investment of yourself in the position. And to have to find someone else, how difficult was that.

DM: I guess that's the reason they didn't get upset too much. Succeeding me was my old Turner Valley buddy, Vern Taylor. And he was, and still living, now retired, a very talented guy with an excellent flexibility and mind and he and I just changed jobs. He was manager here. . .

BC: Had he succeeded you as manager when you went?

DM: Yes. So we just reversed it and everything just flowed along smoothly.

#228 BC: You were lucky that he understood you and he wanted to have a plunge.

DM: Yes. Well, in the very early days in Turner Valley I worked for him for awhile and then he worked for me and I worked for him and so we had the same ideas on an awful lot of things and it was a very easy thing to do.

BC: When you came back here, how long did you come back as the manager of the exploration and production then? Because you didn't retire from that position at all. I mean you went travelling again. Would it be about 9 years, 10 years.

DM: No, it was 6 or 7 years, give or take a year or so. I went on a special assignment and I don't really know whether it was Standard Oil Company of Jersey's request or whether it was Imperial's request. Anyway I went to work in a special position for Esso Australia and I think that was 1967. So as I say, that's 7 years thereabouts.

BC: Right. Now when you came back those years, the 7 years that you came back as manager of exploration and production, what area was Imperial involved with it by that time, in exploration, what new vistas were you opening up?

DM: Imperials primary thrust at that time was northern Alberta and northern British Columbia. The late Bob Brown and Home Oil discovered Swan Hills and Imperial was substantially represented in that area. The Home Oil discovery was a very significant key discovery, it unlocked a lot of ideas for a lot of people including Imperial. Imperial then found quite a big oil field called Judy Creek. Then they found a fair sized oil field on the Alberta, British Columbia border called Boundary Lake and that's quite near Pouce Coupe, Fort St. John. I was involved in that. And then we found some gas in northeast B.C.

BC: This was oil that you found here of course.

DM: Yes, these were two oil fields and then we found some gas fields in British Columbia north of Fort St. John and finally one up around the border of the Northwest Territories. So the work was the same, the geographic scene was just shifting that's all.

BC: How long before had you done seismic work in this area?

DM: Oh yes, enormous amounts of seismic. By this time there's innumerable competitors, all the majors in the world and all the strong independents and Canadian independents. This was an era of intense competition. By this time the rest of the industry has caught up to Imperial in knowledge and the competition, well, it bred excellence and it was substantial.

BC: Was there a lot of competition in trying to get leases, for example.

DM: Oh yes, very much so.

#297 BC: Can you remember any interesting stories about that, sometimes getting leases, there's always interesting stories it seems, connected with who got what?

DM: Well, there is and you've probably heard a few of them. This isn't sort of prominent in my mind and I think the reason was that, when you got into northern Alberta and northern British Columbia, there was virtually no privately owned mineral rights for lease. For that matter, they just didn't exist, it was all government owned acreage. So it's all administered by government enactments and regulations. And the acquisition is 90%

bidding in Crown sales, so it's just a straight case of what do you think the acreage is worth to you and what do you think the competitor is going to bid and how much higher should you dare to go.

BC: Did you have any formula. I know some companies have strange formulas because it was a certain bid and they might have had to end with a 7 or an odd number, did Imperial do that?

DM: Well, everybody did because the bidding involved the last dollar. In other words, if you bid \$1,001 an acre and your competitor bid \$1,000 you won it by \$1. And also there was a little security problem. Either by design or by accident, if somebody learned about what you were going to bid then they were going to outbid you so most companies, including Imperial, would use a technique whereby management would decide within \$1,000 or perhaps, anywhere from \$100 to \$1,000 what the bid would be. Then a responsible landman, at the last minute, as he submitted the cheque to the government official in charge of the bid, would fill in the last, whether it was \$77.21 and so forth, he'd fill that in. So only he knew what it was to be with only minutes left. And that's how it went in. So that's my recollection of the peculiarities of bidding.

End of tape.

### Tape 3 Side 2

BC: In looking at your acquisition of land, were there ever any parcels that you particularly wanted that someone bid higher than you, that you can think of?

DM: I'm sure there were many but I can't, sitting back, you know, 10 or 15 years have gone by, I couldn't earmark them. As a matter of fact, the bidding was so frequent in so many areas, and involving a large company, it's just a blur of numbers now left in your mind, that's all.

BC: It isn't like a smaller company who made 2 bids a year type of thing. You mentioned about Swan Hills and how that discovery opened up a whole new thing, in what way did it open up new ideas and new exploration energy?

DM: Well, the answer is almost in geology. There seemed to be an ideal sort of subsurface conditions for a reef like production. But at that point our seismic techniques just didn't produce it. They gave a sort of fuzzy concept that this might be the case but the finding of anomalies just wasn't within the then capabilities of seismic interpretation. Now Home's significant Swan Hills discovery showed that those reefs were present and so I guess, just about every company in the industry got their geophysicists in and said, now look these fellows have found the reef, don't bother me with the details, you find out the answer to that problem. Eventually everybody did.

BC: Did it mean relooking at all the squigglys in the . . .

DM: Yes, yes, just an awful lot of scientific and pseudo-scientific re-examination.

BC: Did it also lead to perhaps refinement of geophysical instruments at all, was there any of .

DM: Yes, there was some of that. But mind you, that's been an ongoing thing for decades. Even today it's just absolutely amazing what they can do with those same geophysical

measurements, things we didn't dream of back in those days. But the story I told you is another example of scientific advancement, reasonably well applied. And I can't help but observe that this is a terribly important pattern of human endeavour is to continue to gain more knowledge and apply it.

BC: Did you know Dr. Hans Sutter who was involved in Swan Hills?

DM: I knew him slightly, not very well.

#039 BC: Because he was a surface geologist who was one of the people who looked I think and he didn't do the drilling for it but I think he had some. . it was a reflection of what he saw in the Rockies.

DM: Yes, well, there's no doubt about it that there's a Pacific reef and you just visualize this getting all full of shale and all those little sort of spaces between all those little nodules. If there's dead animals and seaweed and one thing and another, and eventually the oil and gas will accumulate in there. So the observation of sort of those sort of things is vitally important. And there's nowhere better to do it, well there's only two really good places in this case and that's handy to Calgary, you can go up and climb up Rundle Mountain and you can see these things in some of the rock. If you observe it carefully you will appreciate what happened those hundreds of millions of years ago and it will help you immensely in searching for it underneath the ground. Or alternatively, and better you do both, you go out to the Pacific and you put your snorkel mask on and you look around these coral islands and you get Charles Darwin's book on coral reefs and you spend about a month learning what it's all about. But that's a long way around of saying that it's so important to visually examine these things, to forecast what they might be deep in the ground.

BC: I think it's a rather interesting point too, the fact that Swan Hills, although Leduc was considered a geophysical discovery, Swan Hills was not really a geophysical discovery, was it? From what you said there was a fuzziness there.

DM: No, Home Oil had some very good, capable people. I think they did think that they . . .

BC: From a geophysical or geological point of view.

DM: Yes, from their geophysical and their geological, I do think they correctly forecasted the reef. And a little ahead of the rest of the industry.

BC: So this would be a very good case perhaps then, of the geology and geophysical both working in this.

DM: That's right.

BC: The discoveries that were in northern B.C. that you mentioned that came after Swan Hills, you had a couple of rather important fields there, then after that what did Imperial do, where did they move from there? Did they stay within Alberta or were you moving into Saskatchewan at all?

DM: Well, the Saskatchewan play was still active but it was more in the development phase. The exploration phase had, I won't say been completed, it's never completed but it had waned somewhat. I think that it just progressed a little bit further north. There was a fair amount of work done right on the Northwest Territories, Alberta and B.C. border. Geological work, geophysical work and follow up drilling. There was quite a big gas field

found in British Columbia called Clark Lake, which was quite far north and it came from things like this, not as crystal clear. . it was a . .the geological term I think, is reworked reef. In other words, it had once been reefal material that had been destroyed by the sea and then had been consolidated. And to this day it's a big gas producing field.

#088 BC: Was there a point when you were exploration manager, where, I mean gas is nice to find but gas isn't so easy to get rid of, oil is what you're looking for, where you worried a little because there was more gas being found than oil?

DM: I think just about everybody in the business has had that worry for the last 8 or 9 years. In retrospect I would say that the whole western Canada basin tends to be a little bit more gas prone than oil prone and one constantly worries about that but there's not a heck of a lot you can do about it. And that's characteristic of many other places in the world, where certain areas are gas prone. For example in the North Sea, in the English waters and Dutch waters, there's nothing but excellent gas fields, there's no oil fields. And the big North Sea oil fields all start along the Scottish, Norwegian median line. So one area that is gas prone and the other area is oil prone. Don't ask me why.

BC: In Alberta, as you get nearer to the foothills is there more worry?

DM: Very definitely, the foothills are gas prone.

BC: So did Imperial stay away from the foothills at all for that reason?

DM: No. Because many of the foothills gas fields, as the saying goes, they're wet gas fields. In other words, there are some high gravity liquids come out with the gas. The first gas plant ever is the old one down in Turner Valley which to this day, is separating out the little liquids from the gas. And I don't think that almost any place I know of in the world, I don't know of a single oil company that would back away from an area that they thought was gas prone. You make a mistake kind of prejudging. You say to yourself, it's more likely that I'll find gas but I might find some liquids as well. And unless you take that attitude you're going to miss something. And in the long run, despite the surplus of gas here in western Canada, each year as you look over the statistics there's more and more revenue from the production of gas. It's still not equal to the revenue from the production of oil but believe you me, in another couple of decades I think the curves will catch up to one another. And this is common knowledge in the industry and I don't know of a single company who would stay away from an area because they were afraid of finding too much gas. Now they might modify their program a little bit but stay away, no.

#126 BC: In 1967 you went as Assistant to the President of Esso Australia. How did that come about?

DM: Australia was, at that time an important discovery had been made offshore in the southeast corner of Australia. Actually the beach not too far from the city of Melbourne. There's an offshore area between there and the island of Tasmania. Esso had made a very fine oil discovery and had found a couple of more. And boy, this was oil prone. And had found a couple more oils and now it looked like this area could provide sufficient energy from oil for all of Australia's needs. Whereas up to that point in time they had been importing it all at considerable expense and considerable trade deficit. So now suddenly it

was going to turn around. At the same time, the Middle East has begun to develop as a very important supplier and Australia is importing Middle East crude and it is buying it at a price half way between what would be paid for in Saudi Arabia and in Japan because it's sort of half way in between. So now comes a big Australian government decision. Do you let the free market take its place and its course, do you just throw the Australian crude into competition with the Middle East, do you compete as a buyer against the Japanese buyer. And all these inter-relationships and how will it affect how much money you want to put in to the development of the oil fields, of which you've only got one well and a couple. So now comes a big decision that isn't only yours, it's also a government decision and you better do some communicating with the government while you're struggling with them. Well, with the famous Montreal pipeline debate in Alberta and Alberta kind of going through the ringer in the same approximate scenario. Granted there were a lot of different details, they then sort of said, we'd better mount a hell of a study on this thing. So yours truly and a couple of others had lived through this thing so how would you like to go to Australia for 6 months.

BC: So this was your assignment. Who went with you?

DM: To be honest with you I was the only Canadian, there was a couple of guys from New York and we had a couple of Australian economists who were working for Esso Australia and we had this little sub-committee and I was Chairman of the sub-committee and we spent a lot of time with government people.

#176 BC: That was really a very particular honour for you to be asked to head such a committee, which had far reaching ramifications in what the company was going to do and indeed what the country was going to do.

DM: Thank you for the compliment saying that. However I have to add, in the final analysis, the Australian government didn't pay a damn bit of attention to what anybody told them.

BC: What did they do in the end?

DM: Ultimately they had problems. They fixed the price and fixed it kind of low and really, in the final analysis I think, set back some development that was needed. Perhaps it was our inability to communicate or persuade, I don't know.

BC: The Australians are pretty independent people I think, they've been living in that little continent for a long time. You were there for 6 months, then you came back here and did you come back into the job you'd had, were you just on leave from that or did you go directly to Senior Vice-President in Esso Europe?

DM: Mostly the latter. My wife claimed about all we did was get clean laundry and then I was told that they'd like me to go to Esso Europe.

BC: How did you feel about that?

DM: It was a new challenge. Mind you the North Sea had just started and it had some fascinating management challenges. I was quite looking forward, and so was my wife, of seeing something of the other part of the world. To be honest with you, the 3 years I spent there, I've got to say, from almost all aspects, from my work, my social life, everything else, it was a fascinating experience, I enjoyed every minute of it.

BC: When you were working there in the exploration, what major differences would there be

or were there between what you went through in Canada as far as your exploration and working in the European area, what different types of problems?

DM: It's kind of hard for me to respond specifically to the. .see if I can't talk my way around it. First of all, I think people in exploration and production, after a little while of seeing different productive areas and working in them, you tend to, and I think it's important that you do, to kind of forget geographic boundaries. For example, I've talked a lot about oil being found in ancient coral reefs. Now, ancient coral reefs production, prominent in Alberta, prominent in west Texas, some very heavy oil and very prominent offshore west Africa. The South China Sea has got some reef production. So you kind of forget, if you will, the individuality of countries and you say to yourself, this is one more of the important habitats of oil and I can see that we should concentrate our efforts in that particular area because the sediments and the reefs and so forth are right. And then you say to yourself, I better get on the backs of my technical people and make sure that these identifications of sedimentary rocks are correct and so on. So you're seeking for the right circumstances in which oil accumulates in the earth and after a little knocking around I guess you sort of half forget what country you're in.

#253 BC: So it didn't really matter to you what you were looking for. Were there different problems in the European exploration from Alberta, just physically with the crews or personnel etc., that would be different from recruiting the farm boys of Saskatchewan?

DM: Well, yes there is. But I like to think that we in Esso Europe, we were a huge holding company. I should back up and explain to you that Esso, in the late 60's decided that they would produce and explore in the world, using 5 large companies. Imperial in Canada, Creole in Venezuela, Humble in the United States and they wanted 2 more. They said, we'll put all the European affiliates together and don't forget at this point in time, they have already found some important oil in France, near the Spanish, French border in southern France. They have found some gas in a salt basin of Frankfurt in Germany and some independents have found some gas in the Po Valley in Italy and of course, Algeria has found some very important gas. So what they did was try and pull these widely varied productive and exploratory areas together and have them administered in the strategy and planning stage by these 5 big companies. But they always left the operational work on individual companies, just as they left Imperial in western Canada alone. So you go down to France and incidentally the head office there, that was a great plum, the head office there was Bordeaux, and I'd go to Bordeaux once a month for planning sessions. You go out in the field and all the crews are French and all the tool pushers are French and all the production superintendents are French and they're running the business. What you're there to do is to watch their broader objectives and make sure they don't chase something ad infinitum. If one area is washing out, forget about it and get on somewhere else. So my European experience was one almost devoid of direct operational aspects. Now there's the odd exception, you get a wild well in the North Sea, everybody is going to. . .

#317 BC: Did you get one of those?

DM: No.

BC: Weren't you lucky. But wherever you had special problems then you just right back to Turner Valley days, where you just did what had to be done.

DM: Strangely enough, one of the most interesting things by then, the most common sort of Canuck. . well, there were two, and to this day, two types of Canucks, there was geophysical interpreters, top notch interpreters almost everywhere I went. As a matter of fact, I went to a little exploration office that was looking after the northern part of the Mediterranean and it wasn't too far from Barcelona and the first day I drove up there I thought I was seeing double. In the parking lot was nothing but Alberta license plates. I got in the door and I said, what in the hell have you folks got your cars. Well they said, it's simple, it's cheaper to bring them over considering the subsidy you fellows pay and anyway our Alberta license plates are just as good, they're accepted here in Spain.

BC: For goodness sakes, isn't that funny.

End of tape.

#### Tape 4 Side 1

BC: Mr. Mackenzie, looking at the exploration and production in the North Sea and looking at what you experienced and worked with here in Alberta, could you talk a little about, there's a very hostile atmosphere, a little different than Alberta but there must have been some of the same kinds of problems that you would be having to face?

DM: Yes. I think it's almost a new era in the production, drilling development end of the business. Exploration has now gone into areas, as you mentioned a moment ago, where the environment is very hostile. Probably the North Sea in a large scale was the first place where this really got its first prominence. It wasn't unknown in the first place where there was offshore, which would be the Gulf of Mexico and every once in awhile you would have some hurricanes and all that sort of thing. But in the North Sea you can have weeks and months on end of very high waves and I might say that I've been on a production platform in the North Sea when there was a force 7 gale blowing and 25' waves and when they hit the legs of that, it's not a very comfortable feeling. But however, for those that work in these hostile environments there's risk and there's been some unfortunate loss of life, both in the North Sea and in the offshore of the east coast of Canada. The environment in the far north is not easy as well. But that challenge has been responded to by the industry and there are a considerable number of people now who are skilled at doing this very demanding work, in these very difficult circumstances. And I'm proud to say that there's quite a few Canucks involved as well as men of other nationalities, particularly the U.S. I think I'd have to say that from the technology and material standpoint, the U.S. is probably leading it but Canadians have been quite prominent in it. This in turn has spawned a lot of other things, it's spawned a search for new techniques, how will we ultimately do this, will we produce off the bottom of the sea with subsea

equipment. Or will we try to do it in the atmosphere above the sea. And how will we use remote controls, with electronics. So the hostile environment and this challenge of drilling under these difficult circumstances is certainly spawning a whole new breed of people and a whole new breed of instruments and technology. There's even the older drillers, some of whom I know, who today will go to an offshore rig in some remote corner of the world, only for the key production test or just before casing is run because they've had many years of experience and know exactly what danger signs to look for and will do nothing but sit in the drilling control room telling the drillers, you have too much weight or too little or too much pressure or too little. These men just have gun, will travel and move around the world doing this on a daily fee basis. It's as I say, the North Sea, not entirely but to a very considerable extent, they spawned this new era, just as I related quite a bit earlier that the Alberta oil fields and oil and gas production industry were key manned by the old Turner Valley hands. Now we've progressed several decades and we see a whole area spawning and providing key personnel for another phase and another advance of the industry.

#055 BC: So that originally Alberta had to depend on a lot of Americans coming in and teaching them how, now they are really going and teaching throughout the world. It's quite exciting to have been a part of that in really, a relatively short span, to see such changes. We're lucky to have you able to recall it so well. When you came back from Europe, well, when you went, did you just sort of go for a set period of time when you went to Esso Europe?

DM: I agreed to go for 2 years and got talked into 2 1/2 and kind of dug my heels in at 2 1/2, I'm sure I could have stayed longer. I did however, want to come back to Calgary. By this time I'm in my late 50's and a great friend of mine, the late Grant Sprat had told me that if I was ever going to try and walk the other side of the street and see what life was like as an independent oil man and operator I should do it in my late 50's and never wait until I was 65 because I wouldn't be flexible enough. Looking back on it I think he was dead right. So I finally said that I had to go at the end of 2 1/2 years and I did. Incidentally I hope I haven't sounded like I was egotistical in some of the things I've said, I'll perhaps border on it now. We read so much today about conflict of interest and so on, at the time I left Esso Europe I had seen most of the exploration prospects that Esso had looked at in the North Sea. So when I left the worldwide coordinator for Jersey, in exploration offshore, a fellow called Zeb Mayhew, a great friend of mine, he said to me, Don, when you start consulting, I don't want you to take any client to any prospect in the North Sea. I said, Zeb, I give you my word I won't and I didn't. And I lost a lot of jobs but I kept my integrity.

BC: Which is a very important thing in the oil business because so much of it runs on integrity doesn't it?

DM: Yes, it does.

BC: But when you came back and you went on your own, as a consultant, did you form an association with several or just yourself?

DM: I had one associate for awhile, an ex Imperial type, a good friend of mine but by and large

I had some fairly big clients, Dow Chemical would be one and a few others, who gave me some quite big assignments. For those assignments, I would try and put together a consortium of consultants and we'd go together and work together for 4 or 5 months. And then we would go our separate ways for other clients. And as a matter of fact, on a few occasions, I worked for other people who were doing the same thing.

#098 BC: What kind of consulting work were you involved with?

DM: Really it was production and exploration, evaluation and decision making. For example, Dow Chemical received a proposal from Dome Petroleum, lo, those many years ago before there was debt financing, to take a 20 or thereabouts, percent interest in all their acreage in Alberta. Dow would put up x millions of dollars of work in order to acquire this interest. So a group of us went together, geologists, geophysicists, economists and myself acting as the central coordinator. And we attempted to arrive at a conclusion telling Dow, yes, this is a sound proposal and it's worthy of your investment or no, it isn't or it's borderline grey.

BC: So you would have to send crews out?

DM: No, no.

BC: No, you would really do material interpret. . .

DM: We would work with given, in that instance I just mentioned, Dome gave us all their logs and all their geophysics and all the rest of it and we were at liberty to interpret or reinterpret. And much of the work I did was like that.

BC: Did you do any work consulting for Imperial after you left?

DM: No, I never did.

BC: Interesting.

DM: As a matter of fact, I was never in their office. To a limited extent this was deliberate on my part. I thought that had I done it, it might have been misinterpreted as if I was still affiliated with them or in one hand, or it might be misinterpreted that it might be a conflict of interest in another, so I just plain didn't. No animosity or anything, I've got lots of good friends there but I just didn't.

BC: Well, and you obviously had more work than you could handle or as much as you wanted to handle.

DM: Yes I did. And then the final part of my career, I got to the point about 4 years ago where I either had to take in some partners and expand into a fairly large organization or I'd better stop. That also coincided with the, if you will, in my humble opinion, the better tax and business regime of the Conservative or right wing Liberal era as opposed to the left wing Liberal era of today. And I was involved of the formation of a few partnerships, 10 fellows get together and decide to drill a well and so on. And then I became, from that I became an investor, I was in several partnerships. And one or two of them went bad and one or two of them went quite well and we did find some oil and gas for ourselves.

BC: Under your company of. . . ?

DM: No, these were different name partnerships. We would hire our management and everything else. We were just investors but as the primary investors we were calling the shots saying, yes we'll go into that area or no we won't.

BC: Did you form little oil companies for each of these?

DM: No.

BC: Just straight as an investment.

DM: Kept them as private partnerships, yes. Well, to this day I own in my own rights, some gas and oil production south of Edmonton, as a consequence of that. And I have 1/4 time job looking after those little things, so you see, I went from the largest in the world to the smallest.

#154 BC: You were also Director of a number of companies, how much involvement do you have with the Directorships that you have been with or have you relinquished those?

DM: No. I'm a Director of the Hudson Bay Company, the Gentleman Adventurers. And I'm a Director of one of their subsidiaries, Roxy. And I'm a Director of Dome Resources, which is the holding company after their acquisition of Hudson Bay Oil and Gas and I'm there as a Hudson Bay Oil and Gas shareholder nominee.

BC: You were a Director of Siebens, are you still?

DM: Siebens was completely taken over by Dome. But I was a Director of Siebens for quite a few years and I was a Director of Home Oil company somewhere before it's merger with Consumers and Hiram Walker.

BC: Being a Director of a company or Director of these several companies that you are, what would that involved, what kind of responsibilities other than going to the annual Directors meeting? Or is that what it involved?

DM: No. Unless you're on the executive committee, not much. No, that's being a little cruel. Well for example, it can get pretty exciting too. I was a Director of Home during the Consumer Gas takeover where they bid and independent shareholders, if you will, voiced an opinion that the offer was too low. As an independent Director I took their side and there was some very stormy Board meetings, which I'm sorry to say, are not public knowledge. And that was quite an experience.

BC: I'm sure it was. Any of the mergers and the takeovers, this has been the recent history, it wasn't the same in years past. But I think it's something to do with this deficit budgeting has allowed them to expand without drilling any holes. Do you think that's good for the industry?

DM: No, I don't. Mind you I don't know as it's had, in the physical sense, it's had much influence on the industry. I think as far as the country's concerned, the National Oil Policy, combined with the new tax regime, I guess I sound like most of the papers you read in Calgary but I sincerely believe that the end result of this policy, as in a recent magazine article, has resulted in \$8 billion leaving Canada and going to the U.S. And it's resulted in much less activity in the Arctic and on the east coast. And it's not promoted self-sufficiency, as a matter of fact, it's set back self-sufficiency and I'm bitterly disappointed in the circumstances of today.

#206 BC: I want to look at some of your other personal achievements, you were the first Canadian who was a distinguished lecturer for the Society of Petroleum

Engineers. What did that entail, when did this take place and what were you required to do?

DM: I think it was 1964. First of all your company had to give you an almost 6 month leave of absence. You got home every couple of weeks.

BC: Where were you lecturing?

DM: Wherever. I'll tell you the facetious side. The most amusing of all was, in an unnamed town in the Peace River area, where the membership consisted of about 10 and it was a highly informal thing but they demanded I bring my distinguished lecture there and I did. The only trouble was that the bar was run by two individuals who watched one another but on my visit only one was there and by the time the lecture got started the audience was pretty well in the sauce. And whether it was my lecture or the booze of both, when they turned the lights on they were all asleep. The other extreme was, the United Nations building had just been completed in New York and the first, it's common equipment nowadays but this was the first absolutely full fledged lecture hall. One of the subsidiary buildings alongside the United Nations was what was called, and still is, the Professional Society Building and all the learned societies, you name it, they are all housed in this enormous building you see. So are the Petroleum Engineers. And they shared common lecture halls and they had all this sophistication. Well, it was brand new and I drew another 2 of Spades, I was the first guy to try out this lecture hall. There was a whole sort of panel of buttons to push, if you wanted your slides to go backwards, if you wanted the lights off or on or dim, if you wanted your volume up or down, you could control the whole thing you see. So you got a coaching on how to do all this. The only thing is they hadn't had a dry run. And with this huge audience there, when I pushed lights on they all went out and when I pushed volume changes. . and it was just a disaster. So finally, at the suggestion of the President, I threw away all the notes and left the podium and did it sort of right from the stage.

#256 BC: How many people were in the audience?

DM: I haven't the faintest, there was quite a few.

BC: What types of lectures, what were some of the subjects that you would be lecturing on?

DM: I just lectured, my distinguished lecture was the same.

BC: What was it concerning?

DM: I have to sort of smile a little bit here. In 1964 the guts of the lecture was, The Long Term Look Ahead in Crude Oil Supply for the Western World and it was forecasting a possible shortage unless something happened in the Middle East by 1976.

BC: Very interesting isn't it?

DM: And of course, it came in '72.

BC: So you were prophetic. Do you have a copy of that?

DM: Yes, it's down in the office I think.

BC: I would really appreciate it if we could have a copy to keep with the records, I think that would be a very important part of the oral history.

DM: That also bought me one other job too. The federal government of Canada, it was their turn to make a presentation to the oil and gas committee of the OECD in Paris, that's the

Organization of European. . . anyway the essence of the alphabet soup is, the countries of the western world, if you will, in addition to having what we've just finished seeing, the Versailles conference and the economics, they had all sorts of ancillary examinations. And the way the oil and gas worked is, every 5 or 6 years, a country would make a presentation as to their policies and objectives and then subject themselves to cross examination from the international floor. And the late Ian McKinnon, first prominent Chairman of the Conservation Board and then later, Chairman of the Energy Board in Ottawa, he recruited me to go with him on his team to Paris in the middle of the lecture. We did a sort of watered down, or dummied up version of this lecture for the OECD proceedings.

BC: That would be very exciting wouldn't it?

DM: So we made a flying trip to Paris for that one.

#306 BC: Prior to this also, you were the President of the CPA.

DM: Yes. Not much fun.

BC: Why was it not much fun?

DM: First of all it's an extremely difficult task to get a consensus of membership to present to government. There's always sort of two completely diametric opinions, get the government to do this because it's necessary because of that. And two other guys say, that's absolute nonsense, we don't that at all and so on and so on. It's a thankless job.

BC: As the President, the major thrust of the CPA is to present lobbies to the government?

DM: Yes, it is. To give them credit, they're two pronged thrusts and I think they do it a lot more skilfully than in my day, is to present to the government industry's views of problems and to present to government criticism or encouragement on policies that influence oil and gas.

BC: During your period were you able to get any concessions from government or get their ear to any extent did you feel?

DM: It would be difficult to say we made much progress outside Alberta. Inside Alberta, this was the Ernest Manning era and his extremely capable resolving mind and his great influence on Alberta and Alberta activity, I think, in many instances Mr. Manning was ahead of some of the things we said. But he certainly. . he could be critical too but if you made a presentation to him that was solid, by gosh, you got support.

BC: Looking back in your experience in the oil patch, could you pinpoint your most enjoyable experience? I know that's putting you on the spot a bit.

End of tape.

Tape 4 Side 2

BC: Particularly as it affected Alberta.

DM: I think that probably in the course of our interview, I've mentioned a couple. To quickly restate, I think it was an important milestone in the oil and gas history of Alberta, Turner Valley spawned a substantial new group of skilled workers who went on to be central

figures in the rest of western Canada's oil and gas history, and indeed in many instances, went overseas and brought their skills to other countries. That to me, is of substantial significance. And as I also mentioned, I think I saw the end of an exploration era where we thrashed all over the country everywhere looking for an individual prospect, hoping and praying we'd find oil or gas in it, to quite sophisticated studies where we looked for the right circumstances in which several oil and gas fields that can be found and where trends can be identified and not just have everything ride on the fortunes of one or two wells on one or two prospects. I think that was a great milestone, at least in my career, to see us go from one era to another. I'll give you a tiny example, when I first started in Turner Valley as a subsurface geologist, after working down there for about 3 or 4 months, I knew where every well was and I had a pretty good idea of the depth of every well. There would probably be 20 or 25 wells drilling. Some 10 or so years later, I hadn't the faintest idea how many wells were drilling in Turner Valley, but I did know where every oil and gas field was in Alberta. Another 10 or 20 years go by and I don't have anything better than a 50% knowledge of where the oil and gas fields are in Alberta and what their names are. So this sort of expansion from . . . and another interesting half baked statistic, I would guess that when I first went to Turner Valley that there were certainly 2,000 people in that little community, all involved in the Royalite oil company, in the north end while they were running something like 8 rigs and drilling 8 wells at a time. As far back as 15 or 20 years ago, I was in the Judy Creek pool in the Swan Hills area, where Imperial were operating a whole doggone oil field with 6 men. It's those marvellous transitions and I think, improvement in man's ability to achieve things that stand uppermost in my mind. Those milestones, at times, go unnoticed but to me they're of tremendous importance and I think by and large, they over shadow individuals. There's been some famous individuals who've made some magnificent contributions but gee, it takes an awful lot of smart people now, and one should never, even on an international basis, assume that you know more than the next fellow because there's an awful lot of smart people achieving an awful lot of things. I think the progress of human achievement is just a great thing and too often it's masked by the unfortunate circumstances of some parts of the world and the actions of some people. We've been blighted by dictators and droughts and famines and so forth, but despite that, there's been a great amount of human achievement.

#058 BC: Right. Just to wind it up, there are some names here, I had some that Aubrey had put down. I don't know whether you know them or whether you can recall, I have one here and I've just got it in quotes here, Jonesy.

DM: Oh yes, George Jones.

BC: From Turner Valley. Can you tell us anything about him, is this a driller?

DM: No. George Jones was an immigrant from England, in the 1928-'29 drilling boom in Turner Valley and was a cook. In those days, you heard me talking about the number of people in oil fields, in those days, there was a cookhouse near every doggone rig and he cooked at the foothills camp in the north end of Turner Valley. When those sort of went by the board and the great Depression came along, Jonesy became a cook on some of

those early geological survey parties I was on. He also became sort of a handy man as well, he was an assistant rodman and like the rest of us, he did whatever had to be done. And he had a marvellous sense of humour and he was a tremendous story teller, most of them dirty stories but not all. He always had a fresh new story. I was talking a moment ago, one of his stories, when he and I once a week we would make a trip way down south of Turner Valley, into the Pakisko area, to a place right. .well, it was a well that was drilled on the fringe of the Prince of Wales Ranch. And it was called Banner #1. It was a cable tool well and it had the dubious distinction of being the deepest, longest drilling well in the world. I think it had sputted in about 1919 or 1920 something or other and here, he and I were going down visiting it in 1938 and it was still drilling. Mind you they had enormous troubles of crooked hole. One day we took Dr. Link, who as I told you was a practical joker, so everybody always wanted to get one back on him. So we took him down one day, he'd never been down there and he was just interested in that general area. So we all drove down, we were going to pick up what little drill cutting samples they would give us and Jonesy said to Link, by golly this well's been drilling for a long time. Doc Link says, long time, what the hell do you mean long time, and Jonesy looked at him and he said, I'll tell you Doc, when the well was sputted, the families were all living around here in tents and shacks and the day the well was sputted there was a boy born. Link said, what the hell's that got to do with the story and Jonesy said, because that boy's dressing tools on the well right now. He cooked on the seismic crew I worked on and as I think I told you in the first part of the interview, we worked around Lethbridge and it was a hot summer, the middle of the Depression, boy it was hot. So he used to be quite critical of Norman Christie and I, he called us college boys. So one day I came in after work and I said, Jonesy, why don't you use some imagination, why don't you give us some iced tea in our lunch bucket and you cooked a nice ham last night, why don't we get some of that nice ham near the bone. He said, you've got it. So I left my lunch bucket, when I opened it up to have lunch, he must have stayed up all night because he had cut every single piece of meat off that damn ham bone. A little note said, here's your damn ham bone and by the way, ice your damn tea yourself, and when I opened my thermos bottle, it was empty but there was one bag of tea in there and there was no water. I stopped griping to the cook after that.

#113 BC: I'm sure you did.

DM: To carry on on Jonesy and I'm sorry I got sidetracked on those stories.

BC: Oh no, that's very good.

DM: He became as things progressed, he became a scout. He went to competitor wells to learn what they were doing and his tremendous story telling reputation you know, he could talk his way onto any rig. He was the first oil field scout, this was a field of endeavour pioneered in the U.S. where it had greater importance because maybe you could buy some leases if the competitor well was doing pretty well and you were able to scout it and get some private information. As I told you, while there's some of that goes on in Alberta, it's less dominant because of the fact that so much land is bought in Crown sales as opposed to individual arrangements. But nonetheless there was a merit in scouting and

the companies here in Calgary and Jonesy finally became the first scout.

BC: So that would be quite something.

DM: Yes.

BC: Did he ever relate any of his scouting stories of finding out information by sitting up in trees or parachuting down.

DM: Yes, but you never knew what to believe and what not to. It's kind of disappointing in a way, Jonesy is alive, he lives in Victoria but I'm very disappointed, he's a tremendous story teller and when I did that chapter of *The Light of the Flares*, I took one of my earlier drafts and I sent it to Jonesy and I said, Jonesy, please dub some stuff in here, there's much I've forgotten and I'm sure you're much better able to tell some good stories than I. And I got quite a pathetic note back, Don, I'm not feeling so well, I can't do anything, I think what you did is fine.

BC: Too bad. So he's not too well.

DM: No.

BC: I have a couple of other names here, some you may have nothing to say on them but I'll just go through. I have Alex Hemstock.

DM: Yes. I know him quite well. An exceptionally fine engineer and a guy who really pioneered operations in the far north in the muskeg area. He's a man who today, his knowledge both scientific and practical, of muskeg and how to build roads over them and how to operate in muskeg conditions is just superb.

#150 BC: He was a pioneer then, in getting those vehicles over the muskeg.

DM: Yes. And he pioneered some of the muskeg vehicles that are built now and spawned the original research in Ottawa that's done on muskeg. Oh yes, he's. . .

BC: Is he in Calgary still?

DM: Yes, still in Calgary.

BC: And I have another name here, Ethel Coates.

DM: Yes. Became well know to Imperial people as one of the very few secretaries that actually got to Norman Wells and worked there in a sea of men and handled herself very well and just a swell gal.

BC: Did she live in Norman Wells?

DM: Yes.

BC: Is she still up in the north there?

DM: She was one of the few people that when the big war time project was all over, she volunteered to stay and stayed on for years. Now I think she's since come out.

BC: So she stayed as a secretary up there did she?

DM: Yes.

BC: How interesting. I have another name here, Des Boggs.

DM: Oh, Des Boggs, wonderful guy. One of the best geologists on subsurface work, on well cuttings and so forth, we ever had at Norman Wells. He was responsible for finding half of the Norman Wells oil field. The original oil field was only on one side of the river and there was an island way in the middle and he conceived the possibility that the oil field would go underneath this two miles or river and persuaded the U.S. army engineers to

drill a special well and lo and behold, it was right there where he said it was.

BC: Did you work with him after Norman Wells?

DM: No. He came from South America and went back there. His hobby was ethnology, you know, birds and nobody ever used to like to go to his sleeping quarters because he was always in the process of stuffing some owl.

BC: I have another name here, Fred McKinnon.

DM: Yes. Lives just half a block away from here. An ex-Imperial geologist, an ex-General Manager of BP for western Canada. Now retired. Worked in many of the wells in southern Alberta that I did.

#185 BC: Can you remember any stories of him, the two of you together?

DM: Not really.

BC: He's part of the big McKinnon family is he, from. . .

DM: Yes, down to the east here. Huge feedlot operators.

BC: Right. Real natives, really helped to build the country in many ways.

DM: Yes.

BC: Ray, I can't pronounce this very well, Sluizer.

DM: Yes, an ex-Imperial fellow. A man I didn't know very well though.

BC: He was not with Imperial obviously for long.

DM: Oh yes. He was a fairly long time but in a fairly big organization, your paths cross but sometimes not all that often

BC: You didn't work with him at all?

DM: No.

BC: And I have a Bill Hancock, did you work with him?

DM: Knew him quite well. He was a great buddy of Fred McKinnon's in their collective Imperial days. Then Bill left Imperial and went with an independent some 15-20 years ago and did very well and is a very quiet, very nice, charming guy and a very capable geologist.

BC: Did he work on any special things for Imperial while you were there?

DM: Can't put my finger on any one right now. But that isn't to say that he didn't contribute because I always had a high respect for him.

BC: The last name I have on here is D. E. Lewis, who was the Imperial lawyer.

DM: Yes. Lives here in Calgary, now the Chairman of the Board of Glenbow, is semi-retired. Probably one of the first lawyers specializing in oil and gas law and oil and gas statutes. Wrote a book on . . . a Canadian summary of all the oil and gas statutes across Canada, in some respects highlighting their advantages and their problems. A book, to this day, still sold all over the world.

BC: You had to work fairly closely with him then in your managerial. . ?

DM: Yes, I've seen quite a bit of Ed.

#222 BC: In his role as a lawyer for Imperial and being so knowledgeable in the oil laws, did he make the path smoother between your company and the various governments?

DM: I'd sooner rephrase that, he gave us tremendous help in communicating to government on

statutes and their problems. No human being could ever make it smoother. But he was one of the first lawyers in the province of Alberta. . well, he actually sort of pioneered the writing of statutes and the interpretation of them. You must remember that this is one of the many things that really got spawned in Alberta first. When we left Turner Valley and finally found Leduc and now there's multiple oil fields and so forth, now for the first time comes the need for oil and gas statutes. So the problems wasn't just trying to solve rough spots in statutes, the problem was writing them in the first instance. Because they were badly needed and the Attorney General's office were really of no assistance in those days. Now today, they're highly skilled at this, but in those very early days, and Ed was one of the first.

BC: So that would be tremendously important, not just to Imperial Oil but to the whole . . .

DM: Oh yes. Mind you, in no time at all, when people saw how Imperial did it they darn soon built their own legal staff, any company of any substance, and right today, the smallest itty-bitty oil company's got their own lawyers.

BC: And really need to. Just before we wind up our interview Mr. Mackenzie, is there anything about your time in the oil patch that you'd just like to or a comment that you'd like to make about Alberta and oil and your part in it?

DM: Forget my part in it. We've had a couple of long sessions. I would have to say that over the years, Alberta has played a very important role in Canadian economic history in their administration of oil, we just touched on this business of statutes. And mineral right administration and production statistical material and then the computerization of many of these things and the ugly problem of separated minerals, where the farmer owns the surface and the oil company owns the subsurface. That's been a very tough problem and despite all you read in the paper I think it's been, and all the unhappiness that's existed, despite all that, I think it's been well handled. Because it is really a tough problem. And you see, in the U.S. where there's all private minerals, in many instances the farmer has an interest in both sides, he owns the surface and he owns the subsurface and he dictates the terms under which the surface will be used for finding things in the subsurface. But Alberta had to break new ground on that, they weren't so fortunate. There was no U.S. experience that really helped them. And tough as the problem was, and still is, they did well. So I would say that was and still is, that's a great contribution that Alberta makes. Well, who does Ottawa go to to get the first Chairman of the National Energy Board, they get the head of the Conservation Board in Alberta and they persuade him to go down and do that job. I think Alberta really hasn't got the credit that they have coming to them for their administration for oil and gas, which has been copied. Many of the states in Australia copied Alberta, used Alberta as a model. The Conservation Board is considered by many of the U.S. states and many of the countries of Europe as being one of the best regulatory bodies in the world. So I would say that's the stand out as far as I'm concerned.

BC: I'd like to thank you very much for you patience and for sharing so much of you knowledge with us Mr. Mackenzie, it's been a great pleasure and a privilege listening to you and talking with you. Thank you.

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