

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: Peter Fitzgerald Moore

INTERVIEWER: David Finch

DATE: November 2003

DF: Today is November 12, 2003 and we are with Mr. Peter Fitzgerald Moore and Marlene at 2335 - 22nd St. N.W. in Calgary. my name is David Finch. Thank you so much for allowing me to come to your home today Mr. Fitzgerald Moore. Why don't you start by telling us where you were born and something about your family?

PFM: I was born in London. That doesn't really make me an Englishman though, my father was an Irish-Australian, my mother was English. I moved soon after the First World War, I was born in 1919, so I was conceived during the First World War, but my father and mother had a falling-out and separated and divorced and went their own ways for 12 years. My mother and her mother moved to Switzerland with a small staff and lived with the international community there, Montreux, where I was brought up in French, in fact. Of course, I didn't see much of my mother, I had a governess to look after me who was French.

DF: The name of that town?

PFM: Montreux and Territeir, it's around what the French call Lac Le Monde. So I lived there until I was 8 years old. Incidentally we had a nursery maid to look after me and the nurse, and she's still alive. We had the pleasure of visiting her a few years ago and we correspond regularly. She's of course, in her late 90's. She would be a teenager at the time and she's always remained very loyal to the family. She told me more about myself than I knew, a great deal. She produced, in fact, letters and poems and things which I'd recited in 1924 at a concert, that sort of thing. When I was 8 years old, 1927, we came back to England and my mother and her mother established a house there. Then I of course, had to go to boarding school at the age of 8. I went to South Lodge, near London. But when I was 12 my father sent a message from Africa, to which he had correctly gone, that's what you did when marital problems intervened. He thought he was dying of blackwater or some tropical fever and wanted to see my mother. So he came home very sick, my mother met him, they resumed their old relationship, they were inseparable for the next 50 years, until they both died in their mid 80's. They remarried. I didn't know much about this, it was all a mystery to me. People didn't discuss that with teenage kids. So I discovered my father. I'd known that my father was in Africa and I'd fancifully described him as with the cannibals and a lot of nonsense. But he took me out there in 1933 so I was able to experience African life in Nigeria before, really, the impact of western civilization. Which was very fascinating.

DF: So tell us more about that.

PFM: They had never seen a juvenile white person. Because it was a feverish place, it was very unhealthy, malaria in particular. And so people didn't take their children out there, there

were no provision for children. As a matter of fact I discovered that a few missionaries had had children out there but certainly, the villagers whom I met were astonished at me being small. So I was subjected to a great deal of prodding and pinching, they were frankly interested, what is this interesting object that looks like a white man but it was small. And my father found suitable African playmates for me and we used to wander around and trap monkeys. I've got a picture of myself somewhere building a cage for a monkey. I had a nice time.

#051 DF: Did you attend school there?

PFM: No. It was just a summer, a long summer visit. I got time off from school, not only for the holidays but a little extension at each end. And of course, it took about 3 weeks to get there on the steamer. I went out on the Apan and back on the Apapa I remember. These were Elder-Dempster lines, steamships, which carried cargoes of cocoa mainly, and a partial cargo on the way back were some mysterious bags, very light in weight, which I discovered contained seeds of a very prolifically seed bearing tropical plant that looked rather like a raspberry bush. They were being used by English jam manufacturers to adulterate a turnip jam with synthetic flavours and to make them look like raspberry jam. At that time I just made the one visit. My next visit to Africa, to the same area, was actually in 1961 when I was there as a geologist for Shell. I was close to it during the war, we circumnavigated Africa on our way to Suez, the Mediterranean being closed to Allied shipping at that time.

DF: Right. So you're jumping ahead quite quickly. Why don't we go back to your education?

PFM: Yes. Well, after my prep school I went to Marlborough College, which is one of the great so-called public schools in England. I would think in the pecking order it probably comes about 9th or 10th, it depends on how you count. I mean, Eton is always counted as the top one and Harrow lately, and Winchester is always considered a very top one for instance. Rugby. Marlborough was founded in the middle 19th century, on the model of Rugby, which had been made famous by Thomas Arnold. Tom Brown's Schooldays is set in Rugby really. But Marlborough was exactly the same and when I saw the movie it was quite amusing, discussing this movie about, I think it's called If, anyway it was a very life-like depiction of 19th century boarding school life which hasn't changed at all when I went there. The beatings and so forth. I said to a friend, interesting they chose Marlborough to ???, he said, that wasn't Marlborough, that was Rugby. And I said, no, no it wasn't. And another one thought it was Wellington, because they were all the same. They had a pattern.

DF: What do you mean by ???

PFM: I mean to say they set the scene in a real modern public school, I mean, not modern but still existing public school.

DF: Yes, it could have been any one of them.

PFM: It could have been any one. They were like cookie cutters and they produced a standard product, a sort of upper middle class officer and gentleman type, who could, on the other hand, be a clergyman in the Church of England. For instance, at my school, the Chief of Staff and the Archbishop of Canterbury were both products. And a number of politicians

as well. I mean a famous old boy would be someone quite different, William Morris, one of the co-founders of the Arts and Crafts movement, a great medievalist, a great artist propagating the ideas of the pre-Raphaelites. And a wonderful designer who started to design studios which later moved into Liberties, started the Kelmscott??? Press. So he was a not untypical Marlboroughian in that sense, that we had these two streams, the artistic literary stream and the military, ecclesiastical hierarchy stream. But it was a very serious school with usually very serious product. So that occupied me until I was nearly 18.

#105 DF: Which stream were you in?

PFM: Well, I didn't excel at any of them in fact. I rebelled somewhat against the military stream, partly because my cousin Beverly Nichols, who was a writer, had written a book called Cry Havoc, it was just called Cry Havoc, so he didn't complete the Shakespearean quotation of . . . Let Loose the Hounds of War, but it was a pacifist book. And it was received at the school with some outrage. But I persuaded the authorities that I did not want to join the officers training corp. What I did instead was to take equitation lessons, to try to become a better horseman. Because my father was a cavalry officer.

DF: Really, in the First War?

PFM: Yes, with the Scottish Horse. But I never became as good a horseman as my father.

DF: Your father and mother's names if you wouldn't mind.

PFM: Desmond and Olive. He was a good horseman. He'd grown up on an Australian ranch, what they called a station, and had been thrown onto a horse bareback at the age of about 4 and had never got off you might say. Even later in life he had polo ponies and played polo in Lagos, Nigeria, for instance. For my 14th birthday he gave me a polo saddle. You know, I couldn't afford to play polo. I don't think he realized that, it's an expensive man's game, you have to have several ponies, and you've really got to have a full time groom. And I couldn't afford any of the above. But Marlborough was a wonderful experience in many ways. From the intellectual point of view, wonderful teachers. I was lucky enough to come under the care of a Dr. Lowndes, who was a scientist, an independent researcher. He had his PhD from Oxford, but he also had an ScD from Cambridge, I think. He did experimental work in the school laboratories and he roped in any interested boys to help him and I helped him by mixing stuff up and carrying stuff. So I was able to see first class experimental work at first-hand.

DF: What is an ScD?

PFM: Doctor of Science. It's given for . . . at Oxford or Cambridge, it usually requires the presentation of 10 years work of publication, so it's really a senior scientific degree. It's not one for which you write a dissertation, you base it on continuous publication. And it's rather remarkable that he achieved this outside the university stream, he did it at Marlborough College as their Science Master. So he was remarkable in that. He was also, as I realize in hindsight, slightly sexually perverted. He didn't molest me, thank goodness, but he did spank me. He'd give me tests and if I failed them he'd say, pull down your trousers and he'd hit me with a hairbrush. I was used to being beaten and I thought being beaten with a hairbrush was actually a great advantage over being beaten with a cane, which I normally was. But I was in my innocence, I had no idea that this was what

slightly odd bachelor gentlemen got up to. I have no evidence that he ever molested any boy but he obviously got his kicks in a slightly peculiar way. He was a very kind man, I have a wonderful letter from him I came across the other day which he wrote to me while I was at Cambridge, asking about my work and telling me about his work and so on. That was nice for a boy of 17, to be entrusted with the confidence of really, a great scientist. So I turned to the path of science very firmly.

#156 DF: When did you finish at Marlborough?

PFM: 1937 I think it was. And then I won a scholarship to Cambridge, a minor scholarship. My father was delighted. He immediately put the money I think, into an extra game keeper. He was a very keen shot, we had a little shooting estate for killing animals on and I did a lot of that in my teens. What we'd call hunting here but of course, it was all preserved game on private land. But those were very wonderful days and some of the days that I remember most vividly, of being out with my father, particularly after the big event sort of shootings, where we had 11 guests lined up and each one with a loader behind him and we had 20 beaters out in the woods banging the trees to make the pheasants get up. They were all overfed on grain and they had to be induced to fly. Those were sort of, I think the French call them ???, mass slaughters. But at the weekends we'd go to the rougher parts of the estate and just walk, my father and I would walk over the marsh and pick up snipe, extremely difficult to shoot, they'd fly in a zig-zag at great speed. Or woodcock, or an injudicious hare that crossed our paths, something like that, stuff for the larder. My father was not very keen on big kills, he was very keen on just being in the countryside.

DF: And where was this estate?

PFM: In Dorset. And we had friends with whom we exchanged shoots, so to say, next Tuesday we'd have a party on our estate then the animals would be given a rest possibly on the following Thursday we might go to the Thomas estate. These were all friends of my father, I didn't know much about them, I only remember one of them in particular because he was a man of about 50 who was still addressed as Master John by the gamekeeper. It turned out that this gamekeeper had been his father's gamekeeper and had brought him along as a little boy so he was obviously known as Master John, just as I was known as Master Peter. But when do you stop calling your boss Master. He never did, and old Kenny I think his name was, was probably in his 80's, the head gamekeeper and still referred to Master John. They had a very nice relationship.

#193 DF: Wonderful. So tell us about Trinity.

PFM: Trinity Hall. Well, I went to Trinity Hall, it's a very small college, very old college at Cambridge.

DF: Now when you say a minor scholarship, how much would that amount to?

PFM: Oh, in actual terms it probably paid for about a third of my tuition fees or perhaps half my tuition fees. But ??? was very reasonable, you didn't need to be that rich to go to Cambridge. You had a fairly tough entrance exam and you had interviews.

DF: Tell me about both of those. What was the entrance exam?

PFM: It was mainly in biology for me, I mean I concentrated on that.

DF: So a long written exam?

PFM: Yes.

DF: How many hours?

PFM: It lasted a couple of days as far as I remember. And I remember one of the examiners coming to see me in my rooms, he said I want to congratulate you on your zoology exam, he said, I don't know how you've done on the others but I guarantee, I'm going to get you something. And that was nice. We also had to have a fairly extensive written exam in Latin, Latin translation and composition.

DF: And where did you take the exam, did you go to Cambridge?

PFM: Yes. And then we had interviews. So I went up there in '37 and came down in 1940, that's the sum total of my university education because of course, the war broke out. I would have gone on for my doctorate but that was for me, out of the question.

#213 DF: So tell us, what did you do at Cambridge then, what were your studies?

PFM: It was in geology. I had gone up with the idea of possibly doing veterinary medicine. My father was a physician but I didn't really like to treat sick human beings, the idea didn't appeal to me. But I rather liked the idea of treating sick animals. The trouble was, I mean England is a snobbery driven place, or was in those days, I'm sure it isn't today and veterinary doctors came in the back door. Human doctors came in the front door. And my father couldn't, he really couldn't allow his son to come in the back door by any profession and he felt geology was possibly a gentleman's profession. His own father had been a geologist and he didn't see any fundamental objections. The trouble with the upper middle classes is that they're always very insecure. They're not certain whether they're going to slip back into trade again in one generation. Of course, they've all climbed up to where they are in two or three generations, though his mother's was a very aristocratic family. But they do have, I think, a fundamental feeling of insecurity and my father was not exempt from that. Nor was I at the time I suppose. To me, it's a very interesting sociological phenomenon today and a bit of a joke but there you are. Anyway, so I chose geology because this Dr. Lowndes at Marlborough had been an amateur geologist and had taken us all on zoological expeditions, for instance to the Island of Cumbre, off of Glasgow where there was a marine biological station. And for our summer holidays we worked there. But he also took us on little field trips, showed us all the different rocks, showed us how to make thin sections of rocks by grinding them on glass plates with Carborundum powder then looking at them under the microscope. And making these preparations, my first word about Canada was Canada Balsam, the natural product of the spruce I suppose, or the balsam fir, which produced a very fine adhesive for this purpose with just the right melting point that you could handle it in the lab without special equipment. So anyway, I got a very quick introduction to geology, enough to pique my interest so while I was still at Marlborough I started to study fossils. I started the weekends, I was never very keen on compulsory team sports, and whenever I could I got out of them and I went off on my bicycle and collected fossils. And I collected fossils carefully with records of where I'd picked them up and so on and I sufficiently impressed Mr. Lowndes, he said, I think you've got enough material here, if you organize it and I'll

help you, we can publish it. Which in fact we did. So my first paper on palaeontology was published I think, on the Genus *Myclastia*???, in the Marlborough district. I think it's probably 1936 or something. I've never even listed it but I have it even somewhere probably. So that was my first palaeontological publication. So that's how I got into geology. I didn't think about oil geology, just geology. And I was interested in palaeontology. And in fact, I spent a lot of my extra time in the Sedgwick Museum looking at fossils. There again, I was lucky enough to see something which puzzled me and which I didn't think agreed with the textbooks. In fact, I was asked in the exam, we have an exam only once a year at Cambridge, no tests in between, and everything depends on it, and I answered "incorrectly" on the structure of the Euripturids. So I protested and I said, but I have seen this, I'm not going on what it says in the textbook I have seen it. All right, said Mr. Brighton, who was the curator, he got his keys and said come with me and show me the specimen which you're talking about. Which I did, he said, by jove, you've got something there Moore, I said, well, that's what I saw. He said, I'll help you write it up, we'll publish it and that was my second paper.

#288 DF: So how did you get into the war?

PFM: At Marlborough I had refused to join the Officers Training Corps but at Cambridge, I discovered that if you joined the Officers Training Corps you could get training in surveying. I thought if I'm going to be a geologist I should be able to fix my position anywhere in the world by astronomical observation and so forth and I'd like to learn how to do that. So I joined the artillery section which had a survey subdivision and there was a wonderful sergeant seconded from the regular army, Bill Offley, who taught us, he was known as Astro Bill because he loved astronomical observations, you know, for position fixing.

DF: Now that's quite complicated isn't it?

PFM: Oh yes. It involves spherical geometry and so forth. But it was very educational and that was actually my reason for getting into the Officers Training Corps but the result was, by the time the war broke out, I was on the emergency reserve of officers. Anyway, certainly I was in two minds when the war broke out, I wasn't at all keen. I went home, this was before war, but things were cooking up you know, I could see something was happening and I discussed it, I said you know, cousin Beverly is right I think. It was my mother's first cousin, my first cousin once removed, his mother was my grandmother's sister, anyway, he was quite close to the family. He wrote a lot of books. I was not encouraged to see him, I discovered why, because he was actually a notorious queer. Friend of Cecil Beaton and everything, friend of the Queen Mum too. He used to go and play the piano to her. But anyway, I was rather taken by his pacifist views, but I remember discussing this, particularly with my mother. She just burst into tears, she said, you can't stay behind if it happens, so I said, okay. So the next day I reported for duty, there was some sort of mobilization going on and I went and signed on. But they sent me back, they said, you're a reserved occupation as a geologist, you have to go back to Cambridge, we'll give you some work to do in addition. So I, with a couple of other guys, we did a geological survey of the gravel pits in the Norfolk area with the idea of producing large quantities of

material for landing strips. And we did that on bicycles and we got an allowance of one or two shillings a day to buy a pub sandwich. That was in addition of course, to our work. Then we had to go on guard duty in the evenings and we took turns to stand guard on various buildings in our uniform. This played havoc with my studies and I only got an upper second. Mind you, nobody got a first, that would be an A, nobody got an A in my year. I came out top of the list but there's no question that all my teachers and even I, thought I should have got a first and under normal circumstances there's no question at all that I would have done.

#364 DF: So what do you mean normal circumstances?

PFM: Well, if I hadn't had to spend my evenings playing soldier instead of spotting. And I only missed it by a mark apparently but they were very strict, no extenuating circumstances. It wasn't a big deal but a bit of a disappointment because I'd always been sort of a first type of person you might say. So then I just had to go on there until they let me out. Then I went for officers training, although I was on the reserve of officers, they weren't going to let me loose on 60 unfortunate men to lead into battle with no training at all so I went and I had training. I then went for my final training at the 121 OCTU, Officer Cadet Training Unit at Alton Towers in Staffordshire. From there, I went to an undisclosed location in Norfolk, I didn't know quite where I was, preparatory for embarking for the Middle East. By that time I was a 2nd Lieutenant. It took us 8 weeks to Suez I think, we went out into the middle Atlantic, we went south into the Antarctic almost, we got . . .

End of tape.

Tape 1 Side 2

DF: So maybe you could start again, you were going southbound down towards Antarctic.

PFM: Yes. Then we turned east and went off South Africa. But we had to go in to Durban to refuel or to do something and there we were caught by the German U-boats. No casualties but I remember everyone sitting with a stiff upper lip in the dining room of the troop ship while everything was hurled to the floor by the force of these depth charges being dropped all around us by the Royal Navy. But we escaped from that because we were in convoy with battleships and god knows what. Then we went up the east coast of Africa and then to Suez.

DF: And what were you doing there?

PFM: Then we were preparing to join the north African battles but we were in reserve. We were at a place called Tel el Kebir and we never actually got into combat, you know, hand to hand. We organized ourselves and we tried to learn how to be soldiers. At this time none of us had actually killed anybody, or none of us, for that matter, had been killed. The regiment I was with, the 52nd Field Regiment, was then assigned to the 8th Indian Division.

DF: So were you artillery?

PFM: Yes. By this time I was promoted to Lieutenant I think. And then our regiment moved with the 8th Indian Division up to the northern part of Iraq because the Germans were

threatening to come down through the Caucasuses and they weren't sure whether the Russians could hold them. So we arrived up there, in Kurdish country in fact, and spent a winter amongst the Kurds, with our tropical uniforms and it was bloody cold. We really had a terrible time I thought. But the Russians of course, held the line. And so we were released and we went back. We were a part of an outfit called the PAI Force, which stood for the Persia and Iraq Force. It was mainly, that I could see around me, were Indian troops plus a British regiment, the Royal West Kents. And a Nepalese regiment, the ??? Gurkhas. Then we moved back towards North Africa, we were heading for Alexandria, we went along the pipeline. It took us a long time to move an army, several weeks. And we went through Bagdad. I was lucky enough in Bagdad to get a bath from the Chief Justice. I'd known his daughter in England, his name was Sir Edwin Drower. When the regiment arrived in Bagdad I sent a message to give my compliments and say I was a friend of his daughters so he sent a dispatch back and said, come to dinner at my residence, he was a very, very important figure, the Chief Justice, he was British appointed, managed Iraq and it was, of course, managed very well. I remember sitting at this big table with a lot of notables around and at one stage Sir Edwin leant over and he said, oh, Captain Moore, is there anything I can do for you while you're here. Well, I thought, hell with it, I said, yes Sir Edwin, as a matter of fact, I'd love a bath. I hadn't had one for months you know. He roared with laughter, he summoned an Arab servant and a wonderful bath was drawn for me somewhere, I was led to it, I had a good soak and wash and had to put on unfortunately, my dirty uniform again but it felt so good, I've never forgotten it.

#049 DF: Wonderful.

PFM: Yes. So that was just a day I had there, then we had to move on and we went to Palestine as it was called. There was no Israel in those days obviously. And we camped there for awhile then we went to Alexandria where we got ready to embark for Italy. And that's what we did and we landed at Taranto. Meanwhile the main invasion had taken place, as you may remember, in Sicily. But we came in on the east coast at Taranto. We landed more or less without incident, I don't say entirely because in fact, one of my supply ships was sunk. It was unfortunate because my Sergeant Major, who was a bit of an ass I think in way, I mean, he was a stickler for discipline and so on, he had taken the stop watches away from the sergeants in charge of the guns because he said, well, they were telling the time with them sir. I said, well, I know, there's no harm done by telling the time with them but he just felt stop watches are meant for timing barrages not for seeing whether it's teatime or not sir. So he'd taken them into safe custody and the whole bloody lot went to the bottom of the Mediterranean in Taranto harbour. So when we got ashore and were ordered to fire our first barrage nobody had a watch. I actually had my wristwatch and I had to control the guns from my wristwatch. It wasn't really very efficient. We got some new ones later but I remember that rather silly, typical, military incident I thought, and his pathetic excuse that they were telling the time with them. So we fought our way foot by foot up the east coast of Italy. It was a terrible war there you know, rain and mud. Sometimes in order to get ammunition up to the guns which were completely in a sea of

mud, we'd have to get mules carrying packs of shells at 25 lb. each, Cypriot Muleteers, and they'd have to slog up with these loads of shells. So we couldn't fire a decent barrage because you'd use a whole train of mules in about 5 minutes. That was really a great handicap to our advance I thought. I didn't know much about it because a junior officer of the line, he sees the front, he's given objectives, he doesn't know what's going on around him, he has no idea of what the big war picture is. So I didn't, and I still don't know what I knew then and what I've learned afterwards. There's a sort of a mixture. It's like trying to reconstruct a childhood partly from a photograph album.

DF: Yes. What size gun were you on?

PFM: 25 pounders. I occasionally borrowed a troop or battery of 1-5 Howitzers because I remember on one occasion I spotted a German 88 mm. in a rather exposed position. I thought, I'm going to get that fellow but I just couldn't reach him with my guns so I asked if I could control a bunch of Howitzers and lobbed them at him, put him out of action. But generally, 25 pounders, they were the standard field piece.

#089 DF: What was your general impression of the war?

PFM: Discomfort. No heroism really. Duty, I think, because everyone felt a sense of duty. They didn't enjoy it. I had one lieutenant who seemed to find it quite exciting. He was always comparing it to some stupid exercises we'd been on before the war and thinking which was the better experience, the Norfolk exercise or the real battle. I thought that was a bit bizarre. I was promoted to Captain by then so I had my own troop and we bonded you know. I had a wonderful bunch of fellows. My sergeants were all older than I was of course, a lot of the men were, I think all of the sergeants and the Sergeant Major especially.

DF: Where were you at the end of the war?

PFM: I got up as far as the Apennines, I got north of Florence and there I ran into some trouble with a nebelwerfer, which literally means, smoke thrower. The Germans had converted these smoke making machines, which had huge canisters, they fired six in a row and they weren't very accurate but they were very deadly when, instead of smoke, they filled them with high explosive. We'd hear these bloody things coming because they were slightly out of control and as they rotated they weren't rifled, so they rotated in the air and made a terrible noise and they were known as Moaning Minnies. We received direct hits from a Moaning Minny and it blew my command post out into the air and down again. I was lucky that I actually landed outside it. One of my signallers landed in it, in the pile of rubble. But I knew he was there and I yelled to the others and with our bare hands we found him and dug him out and he suffered a broken collarbone. That was the only casualty we had. But I suffered, I don't know what it was, whether it was pure trauma or whether I had internal injuries but from that moment I was useless. I was vomiting, I was shitting, I just couldn't operate so I was taken back to the field dressing station and actually ??? home to England.

DF: Really. So this was like a large grenade then?

PFM: Yes. It was about half a metre in length and probably 25 cm. in diameter.

DF: So this thing was lobbed through the air. . . ?

PFM: Yes. One after the other.

#126 DF: Then when they got over you they exploded?

PFM: I think they hit on impact. They weren't designed for that at all but someone thought it was a good. . . in a way it was a sort of terror weapon because they made these awful noises, we hated them. Anyway, I think that's what really finished me off. I went on fighting for a few days but I got weaker and weaker as I couldn't contain any food, I was always vomiting. But I think it was a sort of shell shock, which they have now some fancy name for, traumatic. . . post-traumatic. . .

DF: Post-traumatic stress disorder.

PFM: Yes. So that's what I suffered from. I mean, it was rather shameful in way because it wasn't like a nice bleeding wound which you have a photograph of.

DF: Yes, something to show.

PFM: Exactly, yes. So anyway that was the end of the war for me. So I went back to England. I was in hospital for quite awhile.

DF: What year?

PFM: 1943, late '43 or '44, '44 probably. So then I was rehabilitated enough to go to an officer cadet training unit as an instructor. So I instructed in gunnery for the last months of the war in the safety of northern England. I had before the war, I mentioned I had won the Shell fellowship, well, they kept me on the books and they'd partly paid for my university education. But they'd kept me on the books and so they wrote to me and said, they'd like me to join Shell if I'd be interested and would get me out of the army. That's as soon as the war ended, I wouldn't obviously, have left while the war was going on. But as soon as certain European hostilities ceased, I may have even got in touch with them, I'm not sure, but anyway we got in touch with each other and within about three weeks I was out of the army. Whereas it took up to two years to demobilize some people. So then I went to Teddington, a suburb of London where Shell had a training establishment and I tried to learn something about petroleum exploration. Frankly, I knew nothing about it. So after two or three months of that, I think it was three months, I was put on a ship called the Alexia, which was a small aircraft carrier converted from a merchant ship. Then I had a wife and child and off we went to Trinidad. When I got there they wanted to resume exploration in the tropical jungles of southern Trinidad. I had one day's introduction to that, drove out in a Land Rover and the chief and in fact only geologist I think, Mr. Waite pointed ??? to this jungle. He gave me some reports which had been interrupted by the war and said, go on mapping there. I hadn't a clue what to do but I was extremely lucky again, I ran across, in the village there, an old African Caribbean man. His name was Glasford Ventour. A very poor man, he'd not made any money out of this at all, he was only living on the edge, but a man of great dignity. He had been the foreman for the pre-war Swiss geologist who had worked there. I hired him and got him to engage a labour force and he proved to be not only my foreman but my mentor. And he had such ??? at tact you see, because he realized I didn't know what to do so he said, would you like me to lay out the lines as Dr. Rawe used to lay them out. I said, yes, that sounds like a good idea. They used to cut these lines through the jungle with compass and then they'd be tied in with a field light???. So I quickly learned how to do this tropical exploration, reading

the old reports. Of course, deep weathering, you don't see any rock. Some streams and rivers had exposed rock but mainly you had to dig for it. So we dug these pits, up to 14' deep and the men would be paid by piece work. They'd sweat away there in the jungle, digging these pits and then you had to go down and examine the sides of the pit and gradually you'd get through the tropical weathering and you'd see the old traces of the rock and right at the bottom you might even have solid rock. But it was all tertiary sediments, soft sediments. And from literally hundreds of these pits you would be able to piece together the structure of the area.

#200 DF: So you were mapping?

PFM: Yes. I was mapping for 4½ years in the jungle and I lived in a hut built of poles cut on the spot, thatched in palm leaves and then, with a very large mosquito net hung at the four corners, including the ceiling and down the sides. Inside that I had a camp chair and a cot and that's what I lived in for years. Basically, for two weeks at a time and then I was allowed out every second week to go and collect the men's wage packets and to visit my wife and child. It didn't last very long because my wife said, hell with this, she said, you won't find me here next time. I never saw her again.

DF: Really?

PFM: Yes. She took my child and they went off and I was stuck there.

DF: What was her name?

PFM: Helen.

DF: And your child?

PFM: Linda. Now Linda is very, very close to me. We're in nearly daily touch. After her mother died, or even before she got in touch with me and we've become very close. She's been a great help to me, especially in my illness. Anyway, I worked there and I successfully mapped out a number of structures which proved to be productive on drilling. They were not actually drilled until I reached Europe in 1949, late '49, I was posted back to the Netherlands, to the headquarters. And I left recommendations for drilling which were carried out and which resulted in successful discovery of two or three oilfields. I wasn't the only. . . I was perhaps the only continuous geologist there but I had the help of palaeontologists, who studied my samples for foraminifera, micro-organisms which show a rather nice evolutionary pattern so that you can date strata from them. We had one or two palaeontologists working in the lab, processing the samples that I collected from these test pits, and also from auger drilling which I carried out. The auger drilling we actually extended I remember, on one occasion, to 103 or was it 108', it was probably a record. Diameter of 3/4 of an inch. They were welded to a gas pipe and the gas pipe was then added to with chain tongs until it went down bit by bit. Sometimes of course, you lost it but we had these homemade little drilling rigs, no mechanization, they were rotated by manpower at the top.

#246 DF: Really?

PFM: Yes. And lifted up with a chain gear. Drilled hundreds of these holes and they didn't provide you with much information on structure but they did on stratigraphy. I learned to

use the local flora as an indication of outcropping sediments because there would be different palm trees in belts following a clay outcropping and a quite different ones with a sand outcropping, even though the sand had long since disintegrated into a lateritic soil. The chemistry was sufficient to dominate the flora. We were just at that time starting to learn how to use air photographs and I was lucky enough to study that in particular. I went to Venezuela to study under a German called Fichter, a real eccentric. Dr. Fichter had developed techniques of aerial photographic interpretation which were far in advance of those anywhere else that I knew of. So I learned that technology. Funnily enough I tried to apply it when I came here but they wouldn't listen. They couldn't believe that anything new should come out of anywhere except the United States. So then I got back to Europe and I was then given a desk job, sort of a holding job, I was Regional Geologist, South America and I had to just handle the paperwork that came in from countries like Argentina where we had YPF Co., Shell was a partner with the government in that. So I just had to handle daily reports but it gave me a chance to attend the management meetings and to see how things were done and to study the reports which were detailed and careful. This was a lesson which proved of interest to me when I came to North America where I discovered that the culture forbade one to make careful and detailed reports in case your, as they say, ass failed to be covered. A completely different culture. So then I was told, Canada needs field geologists so we're sending you out there. In December 1950 I was sent out here to Calgary. Came out by steamer and by train and told to be a field geologist but when I got here of course, there wasn't anything, there was no field geology. That isn't the way they were looking for oil. I mean, it wouldn't have done them any good anyway. Later we did field work to establish the sequence, what rocks looked like when they came up above the ground so it would give us a much better picture of what was under the ground. But you know, people would find me in the foothills with a horse and a hammer and say, are you looking for oil. It's rather difficult to explain, well, I'm an oil geologist and I'm doing geology adjacent to the Western Canada Basin but I'm not actually looking for oil, I'm trying to learn about the rocks. That puzzled people, including management, who eventually gave up on it altogether. Though in fact, it proved very useful to the development of the geologist, and really, almost essential I'd say. Otherwise you're carrying out geological reconstructions entirely in your mind or with signs given to you by seismic and so on. You don't know what rocks really look like. A lot of that still goes on I do believe but I was lucky enough to be able to spend a lot of time in the mountains. 1952 I spent the entire summer in the mountains with Ray Best. Dr. Best was an older man than I, he'd been an air force pilot during the war but he was officially hired as my assistant. He really became my mentor because he'd done all this before with the Geological Survey of Canada. So I learned from him how to do it. I introduced ideas of my own obviously but he gave me my start just as Mr. Ventour had in Trinidad had given me my start in how to go about tropical surveys. So we had a fabulous summer in 1952. Very, very hard work, getting up early, climbing to the top of a mountain, no helicopters, with our empty sacks and our hammers and then working our way down, chipping the rock and taking samples every 10'. Then the next day we'd climb up again to where we'd left off and go on until we had measured and sampled complete

sections. There were dozens of them, day after day.

#337 DF: Where was this?

PFM: This was in the foothills west of here, in the front ranges of the Rocky Mountains, between Banff and the Clearwater River. That's the area which I got to know very well. I published stuff about it quite a bit since then. But that gave me a thoroughly good start. I didn't get much chance to do a lot of prolonged field work like that. Actually the next opportunity I got was in 1960, when I worked in the Northwest Territories for a summer. By that time we had helicopters. My assistant then was Dr. D. W. R Wilson, who is still, I'm happy to say, an active geologist in Edmonton. He's a very good palaeontologist. So between us we did the geology and palaeontology of the area just west of the Yukon-Northwest Territories border. We mapped extensively in there, learning about the rocks more than anything else, not looking for oil in the sense of being able to come up with a location afterwards. But seeing what sort of rocks are here and when they go underground what are they going to do, are they going to produce a good reservoir or are they not. My general conclusion was that they probably wouldn't. I'm still very sceptical about that part of the Northwest Territories but I'm probably old-fashioned and outdated and so on. but I didn't get a great impression of it as an oil ????. I was of course, very favourably impressed by the Delta. Although I didn't work in the Delta. If I can jump to that I had quite an influence on it, in the sense that, in 1964, I was working for the Vice-President of Exploration in New York. I was his sort of chief geologist but we didn't have the title at the time, I was called special assistant to the vice-president. We used to visit different companies and we visited Canada. I noticed when I went through the books that they'd charged \$100,000 for my services and I didn't notice any of that trickling my way. Anyway, I remember a very interesting meeting in which Shell Canada announced that they were going to get rid of their Delta holdings because they couldn't see a profit flowing from that in a reasonable time. I'm not sold completely on that type of economic analysis. I believe if you've got large reserves of hydrocarbons somehow you should hang onto them and I persuaded the . . .

End of tape.

Tape 2 Side 1

DF: So you were saying when we ran out of tape on the other side that you believed that Shell should have hung on to those Delta holdings?

PFM: Yes, in fact, I persuaded Mr. McAdams, my boss to talk to them and say look, you should keep these, our advice is that you keep these. And they did. That's of course, the core of some of their most important gas holdings today. They would have chucked them all away. Of course, they were great short term thinkers, most of them. The great advantage of a large organization like Shell International is, it can think long term, it has the resources, it can take a few lean years. But I found, back to the 50's when I was working here as a sort of, senior geologist, that a lot of short term thinking. And I found the whole corporate culture so different.

DF: Why?

PFM: Well, I'd only had a short experience at the Royal Dutch Shell but the meetings were, it seemed to me, to be devoted to trying to find the truth as far as we knew it, the best possible scientific evidence being produced and questioned. But when I got here I found myself in a used car lot essentially. The geologists were the used car salesman. The manager played the role of a customer from Missouri and they were encouraged to make pitches for their projects. That can't produce really, honest geology. But that's the way it operated, this . . .

DF: So why this corporate culture here at that time?

PFM: It was American culture, we had American managers, they'd been sent up. They were in the American tradition of go-getting and salesmanship.

DF: But you were also in the post-Leduc period where everybody thought that there was a lot of oil to be found and you just had to find the right spot, isn't that part of it?

PFM: Well, yes, and that was true up to a point. But they had funny ideas. The local manager, Robinson, couldn't conceive of paying more than \$30 an acre. It was fairly obvious to anyone who had a straight edge that you could start to join these Leduc chain discoverers along a more or less gently arcuate line. And it didn't require a genius to project them and therefore the local geologists were constantly recommending acquisition of acreage which of course, got more and more expensive and Robinson said, can't spend that sort of money on raw acreage. He went off to find his own Leduc. The man was frankly an idiot. I know I'm being recorded for posterity but he was an idiot. I think the company realized that and moved him away as soon as they could. On one occasion he got a plane and he went up and he found what he thought was a structure and he told the geologists to write a recommendation to drill it. It actually was something like a drumlin, it was some glacial feature. At any rate it had nothing to do with. . . in fact, the whole office was conducted as if it was a play in somewhere central USA. So the geologists spent hours making structural maps of various horizons. Every morning they'd be posting these and drawing contours. They actually had no bearing at all on the presence or absence of accumulations of oil. That isn't the way it's done, they were mainly stratigraphic traps you see. They didn't understand that at all. I soon got out of that, of being a petroleum geologist really, because I thought that they were doing the wrong thing. And I didn't like the atmosphere of the sales pitch. Henri de Montherlant the French writer once said, 'in every business transaction a gentleman ensures that he gets the worst of the bargain'. And it was still somewhat my view, that it was rather demeaning to try to sell a geological prospect. You could demonstrate it with good science, do your homework well and expect a manager to exercise seasoned judgement on it. But to be sort of, show me, I couldn't do it. I never was. . . they made me a district geologist for a time as an experiment but I couldn't take it seriously and I made jokes in the morning meetings. I was hastily pulled away from that job and went back to science, which is really what I did all my life, tried to do good geology and tried to do honest geology. And when I got to a position where I was sufficiently senior to be listened to occasionally I'd say, remember, we have to do honest geology, we cannot fudge things for the sake of persuading people to spend money on it, it's not right. So it was a clash of cultures there, it was never fully resolved.

#058 DF: What kind of trouble did this get you into?

PFM: Well, quite a bit. I was certainly not a popular member of the staff. They tried to get rid of me. Like you, I have a beard so I got a message once from this clown Robinson, it was just he said, the beard must go. This was passed down to me through the hierarchy of sycophants. So I said, tell Mr. Robinson that the beard is attached to a person, they stay or go together. I had been sent there from the Hague with good reports, I was well considered and my discoveries in Trinidad I think, had personal congratulations of the members of the Shell board, they actually called me into the room to shake my hand and so on, so I think he was a little scared to fire me. Since I had said that the beard was attached to me the beard stayed. So I played games with him, I must say, in a rather . . . he was such a pathetic character I thought. He obviously disliked me intensely. On one occasion we got stuck in the elevator together and he turned red and glowered, so I raised my hat to him very politely, we all had these little hats in those days, and I said, good morning Sir Robinson, how very nice to see you. He didn't know what to do, he just made strangulated noises. Then I had a bicycle and I left the bicycle outside the Shell building, we didn't have to lock them in those days. So he sent a message, this lowers the tone of the building and I was not to do that. So I said, that's fine, so I rode it into the building and propped it against my desk. I had an opportunity to speak to one of the Directors and I didn't name names or say anything but I said, you know, I think it would be a very good idea if you made a personal visit here, it doesn't smell good to me. He and another Director came out and they spent three days and at the end of it Mr. Robinson left for the United States. So I don't know what transpired, he never spoke to me about it. It obviously would have been quite improper. And I don't even know whether there was a connection between his arrival and what I had said but anyway, I did drop a hint that something was rotten in the state of Denmark. And I thought when a man can hire an aeroplane and go off and look at glacial structures, and simply tell his geologists the right recommendations to drill there, and for them to do it. I wouldn't do it. But they were very inexperienced young men, you know, they were not men of the world. They'd never been outside an Alberta farm, most of them. So they were not capable of dealing with that type of situation. And I was a foreign body amongst them I suppose. So I embraced Canada at a very early stage, I really became and have become and am a super patriot. I took out my citizenship on the very first day I was allowed to.

#095 DF: When was that?

PFM: Early in the 50's. As soon as I learned that I could apply for citizenship I applied for it.

DF: Your CV says it was 1956, would you like to say that for the record?

PFM: Yes, it's probably correct, 1956. So I was always proud to be a Canadian.

DF: So what enamoured you of Canada?

PFM: I think it was, in spite of the fact we are a plutocracy, but it's a different type of class society. On the whole people can achieve, though we're seeing a reversion to plutocracy now, when we see people like the Martin's forming a ruling class. But there was a very democratic time in the 50's and 60's when this was perhaps the most democratic place in

the world to live, I felt. I lived in Bowness and I got to know, as they say, all sorts and conditions of men and formed friends across all kinds of economic boundaries, which didn't count. Nobody ever asked me, who was your father. Sooner or later that question always comes up in England, or used to come up. Or what school did you go to. Or the opportunity would be given to you to drop the vitally important information that I went to Marlborough or I went to Eton. I remember a friend of mine being asked that and it rather embarrassed him, he said, well Eton actually. All that nonsense, I was really delighted to be rid of it and I think that was the chief thing.

DF: What about the science of geology excited you here in Canada?

PFM: Of course, wonderful opportunities in the mountains to see rocks within an hour or two drive of one's house. Didn't have to go out to the Scottish highlands or anywhere. Excellent opportunities for field work. And of stuff that had not been studied for a century either, it was being studied, especially by the Geological Survey of Canada, who were doing, in those days, a wonderful job. They were much hamstrung later. And also the idea of subsurface geology, which was relative new science and how to integrate the results of down-hole geophysical surveys with those of rock studies, cores and cuttings. I spent a lot of time looking at cores and cuttings, I spent days in the Alberta Core Sheds. This was, in particular, a world leader in preservation of drill core. There is nowhere else in the world, I think, where you can study rocks underground in such variety and quantity. So legislation of the Social Credit government at that time, was a model for the whole world. And their core warehouses were beautifully organized and were there as a service to the industry. This made a huge difference and as I say, I spent a lot of time there. Of course, it's tedious work and people who are very keen to get up the corporate ladder, they don't really have time for that. You can't spend 3 or 4 days of working week looking at a piece of core. So you have to learn how to talk about it but you don't really have to know about it. But a number of us were always keeping our noses down to the rock and I tried to do that up to the day I left. So that was a great attraction. I introduced many of the ideas I learned here to the Royal Dutch Shell group, especially the ideas I'd learned from well site geologists who came up from the United States, on how to look at well cuttings. There was a famous man, Rex McGehee, who was quite a genius at teasing out the sequence of rocks from the cuttings, which come up of course, in a mess and mixed up and so on. You have to be alert to the fact, hey, in the last 10' bag of cuttings I never saw that rock, we must have just entered that. Maybe we only see 2 or 3 little chips of it. So I learned a great deal. Later geophysics became the queen of the exploration sciences and people began not to bother with the rocks so much, people couldn't afford to spend the time looking at the cuttings. I noticed that was one of the major technological changes that took place during my time, and I saw the gradual denigration of geology. You noticed that by the first exploration managers coming from geophysics, not coming from geology where they'd always done in the past.

#156 DF: When was that transition?

PFM: I think that was in the 60's. And there's no doubt of course, that the geophysical tool is absolutely essential. I mean, a career path I could well have chosen would have been to

embrace that and to wed it to geology as a few did. I was too fascinated by problems in stratigraphy, which were so many unsolved problems, particularly in correlation of tying beds in one bore-hole to those in another and to those in the outcrop. And the problem of what we meant by equivalent and what we meant by correlate. These brought one back to problems in geological epistemology really. And that began to be a little airy-fairy for some of my colleagues, but I think you see, we were seeing a paradigm shift in the way we were actually seeing the rocks. And our nomenclature was not up to it. The great thing about the 60's in particular, I think, was the beginning of understanding of sediments in terms of ecological systems. Not just as rocks but as part of integrated systems. Wonderful work was being done at the research labs of Esso and Shell in particular, Mobil, Chevron and others. A lot of this was published and a lot of it was exchanged at congresses and there was a huge blossoming. I don't think that today's geologists who take that for granted has any idea of our ignorance in the 50's, as to what bodies of sandstone lying on top of each other, how they were organized. I remember being very proud of a picture that I published in one of my reports of an unconformity. It wasn't an unconformity at all, it was a simple down-cutting phenomenon in a fluvial sequence. We didn't have the words to describe that even. So this was a revolution in understanding. First of all it was in understanding deltaic sequences, which were where rivers debouch into the ocean, where you could find modern models to study and you could go out there and get in the water and get on sandbanks and drill holes and study how they actually looked in 3-dimensions. All new sort of work. and later, we were able to add seismic work to study them in deeper water deposits, that was not understood to being with. Though the Swiss had done very interesting things, and the Russians, in these deeper water deposits, without really understanding them. I spent a lot of time studying Russian work on that and they had extraordinarily detailed observations and absolutely correct, the whole thing, and yet missing the point. They didn't see, nobody did, I'm not blaming them. Because actually their observations were ahead of anybody's. And the Swiss were very good at unravelling it. And they gave names to different environments but they didn't. . . they called it, one say, Molasse and another Flysch, but they didn't really realize that the Flysch was the deepwater equivalent of the shallow water Molasse and so on. So all this was understood in a rush in the 60's and made the geologists into completely different kind of bird. Unfortunately at that time his knowledge sort of outstripped his power to communicate to some extent, and so you had a sort of baffled management dealing with a highly intelligent geological staff. And of course, to make the connection, the leap, from this understanding to finding payable fields, this was still a big leap. And that of course, required more work and that's no doubt been accomplished since but in those days, it really, it was still a bit of a problem.

#209 DF: What was the main method of communication between the science and the field?

PFM: That was again, one of the problems of the North American culture, which was hierarchically organized, on the basis of military divisions. It started in fact, with Sloane, at General Motors, I think, and that's why the organizations of the motor industry in those days were referred to as divisions and so forth. They were actually based on military

divisions. There was a hierarchy of command and so information was passed up from level to level. The presentations, whereas in the Hague, I as a fairly junior geologist was right in the Board room with the Directors of Royal Dutch Shell giving them some ideas I had on South American prospects, this was completely unthinkable in North American sequence. I'd have to present that to my immediate supervisor who would then present it to his and so on and this would try and gradually, up the hierarchy, being coloured and changed as it went, to suit various political objectives of these people en route. A highly inefficient system really. So that was a big corporate difference. I've no doubt, gradually the American model has crept in everywhere I think, and probably if I was in the Hague today I would be thinking I was back in the United States.

DF: I notice that you published widely during this period though.

PFM: Yes.

DF: So was that not an alternate way of communicating that information?

PFM: Yes, to my colleagues but not to management, who I'm sure didn't read any of my publications.

DF: So the Canadian Society. . . ?

PFM: Yes. It was a wonderful means of, the Canadian Society of Petroleum Geologists, they had excellent interchange of information through that. And I've no doubt, in well organized companies, that affected the exploration philosophy but it didn't really in Shell Canada.

#234 DF: Tell us about your Award of Merit from the Canadian Petroleum Association in 1975?

PFM; That was actually due to my work as Chairman of the Metric Commission for the petroleum industry. I had got interested in measurement, in numerical values and I thought one of the ways to get geology improved was to make sure that we measured stuff that could be measured and recorded the numbers and didn't just wave our hands. Once you start into a measurement you think, some of these units are kind of crazy, why should I measure this in acre-feet and so on. I looked back at the idea of metricating. Then I got interested in the subsurface movement of fluids, what they call in our industry, hydro-dynamics, and I was able to meet King Hubbert, who was a leading researcher, a brilliant Texan scientist who worked for Shell as a sort of scientific consultant. I visited his home and we talked and I got very interested in hydro-dynamics. At that time it was thought that some accumulations were entirely the product of hydro-dynamic conditions. That was also felt to be the case in the Soviet Union and I was able to visit colleagues there, Eremenko and others, and discuss these things. But in all these communications, especially talking to the Soviets, I had to be talking in metric units so I got interested, I said, we really should rationalize it. I had friends in the survey business who sort of asked me to push this because they really wanted to be measuring in metres. So one thing led to another and a sort of propaganda campaign got going in favour of metrication. Then of course, the government of Canada came out in favour of metrication because they wanted to be less dependent on North American trade and open themselves to Europe. This was one of Trudeau's ideas, was if we could metricate we could really enter the European

Common Market much more readily. The whole thing turned out to be based on slight misjudgement because people in trade will adopt any system, they will measure it in Chinese if there's a profit at the end of the line, however inconvenient it is. It didn't turn out to be so important to the Europeans not to use American units. Quite a lot of them do simply have both going. So perhaps the whole venture was misdirected but I was very keen on it. And so I was asked, I forget who asked me to do this, Canadian Petroleum Association I think, to be their representative in talks with the government on metrication. We formed something called a sector committee which was representative of every aspect of the industry upstream from the refinery. So the upstream end of the industry, it was called Sector Committee 4.2. On it were experts in drilling, production, exploration, seismic, surveying, everything needed to find oil and bring it to a refinery entrance. This was a wonderful experience, through it I met people from other companies, top notch technical people from other companies, with whom I found I had a great deal in common. We worked together under my Chairmanship for a number of years in a very fruitful way I think. Quite apart from producing a plan for the metrication of the industry, we had a lot of mutual education and I was able to write a textbook for Shell on hydro-dynamic exploration based entirely on metric, for instance, which made I think, reasonably simple and easy, a subject which had been very messy and complicated. Because in a nutshell, if you have a gravity based system as the English system is, you have to leave G, the symbol for gravity, out of all equations which involve gravity. Because it's there, built into the units. But you have to insert it in all equations which don't involve gravity, so as to make sure that the units are not expressing???. It actually is sort of back to front and therefore it is not an intuitively simple system to understand. Whereas I could teach a class in a day to handle fluid pressure gradients and things of that type in a purely intuitive fashion, because the formula expressed what anyone could see was happening. Gravity was pulling down on this mass and occupying this volume. So anyway, that proved a useful little offshoot I think. It also convinced me that many of these accumulations were not primarily hydro-dynamic and that it was not a very important exploration tool. I faced a moral dilemma at one stage, in which a very prominent consultant in town had written a book on it. I discovered that his fundamental formula was completely wrong, completely wrong. It was giving actually, directions in the opposite direction. But I formed a conclusion at the same time, two things, that the poor guy owed his living to this and secondly, it didn't really make much difference, so I never did blow the gap on him. I privately circulated a little correction and showed how, if people used his formula, which was the basis for his book, they'd get a beautiful map and so, they'd never find any oil except by chance anyway. I don't know if that was ever exposed. It's quite simple once, and it's very important, the use of the metric units is what discloses it to people because they're logical. So as a result, by 1979 I think it was, we sort of officially declared ourselves metricated and started to report in metric units and so forth. And the Petroleum Association thanked me by giving me this award from the association. It was quite a hilarious event because a lot of the senior executives who formed the Board and were there giving it to me didn't like metric and I knew they didn't like metric and they knew that I knew. So we had a sort of series of smiles across the Boardroom table as they

handed me this award and I thought, thanks guys, you did really good, I know you didn't like this exercise. And the reason they don't like it is because a lot of executive decisions have to be made on the basis of past experience in which certain magic numbers are stored in the mind. If you're going to make an impression at a meeting you have to know lots and lots of what I call, magic numbers which you've no time to think out again. At one stage in your career you knew that a sandstone that produced so many barrels per acre-foot or per foot penetrated was good and another one was bad and so on and you memorized those numbers. So when somebody presented and said, this one will produce so many barrels, you said, yes, that comes in my mental good list and I'm happy with it. But well, you'd have to learn a complete new set of mental good lists or you'd have to really do some intellectual work and go back and see, what do these numbers actually mean. Mostly there isn't time to do that. It's the same with engineers, they come, for instance, they're going to design a beam for you, they can work out the length of the beam from the principles, knowing various parameters about the steel or wood or whatever is being used. But they know, this is a 4' span and I've got a 10 x 2, let's see, I'd need two of those, they know that. But supposing I say, I've got a 1.8 metre span and I've got a 10 centimetre board, how many do I need. Jesus, I have to work this out from scratch. So you can see that for the practicing engineer or the practicing manager it's very, very difficult to change systems of measurement. But I think that it's actually a very creative exercise to do so because it makes you rethink, why, why do I say that I need three beams, maybe if I work it out from first principles again I'd find I only need two.

#351 DF: Good point.

PFM: So anyway, the outcome was, for the next year or two when I saw reports going out I'd send them a letter and say, I noticed that you have not reported this in metric units and so on. They'd say, oh, okay, yes, I think we'll do that. Then the government, who was the recipient of the reports, they realized that from an electoral point of view the metric system was a disaster. Nobody wants to change their system, except for a few engineers, scientist, surveyors and so forth, and what do they count for, how many votes do they have. So they started to downplay it and they started not to enforce the regulations that they'd made. You'll notice that you can buy toothpaste now, 233 ml. of toothpaste, so you don't know how much you're paying anyway and that suits the salespeople fine. They don't want to have a standard volume of toothpaste that you could compare prices. So under pressure from the Chamber of Commerce the government withdrew its support for the metrication. Lougheed was one of the principal naughty guys in that respect. There was a carpet manufacturer, a salesperson in Wetaskiwin, who was selling carpet by the yard. The government wanted to prosecute him for not marking the price in metres and Lougheed leapt to his defence. Peter Lougheed is a very influential man, that made a big difference. He usually uses his influence in a very good way I think, and on that occasion I would really disagree with him. Anyway, so after I left the industry things gradually collapsed, so now we have an absurd system.

DF: A combination, yes.

PFM: Yes, that's right. We measure horizontally, we measure distances in metres, and volumes

in something quite different and so on. So nobody can do their calculations quickly at all. So that was the reason for the Petroleum Association's award. And of course, I got the Metric Service Award from the Metric Commission for successfully leading my team to a completed report.

#386 DF: What other projects did you work on during your career that you're proud of?

PFM: I have to admit that I spent a lot of time apart from geology, in various civic activities. I was elected mayor of my little town of Bowness in 1958. I didn't do a great deal of campaigning because I was actually sort of carried to victory by the Canadian Legion. You have to remember that 1958 wasn't that long after the war, Bowness had a strong veteran settlement. I happened to be the only ex-officer there and they rather wanted to do something with the Council which was absolutely, abjectly pathetic. So they approached me, would I like to join them and I said, sure, I'll pitch in and help. They said, by the way, we want you to be mayor and we'll serve on the Council. I said, who in hell is going to elect an immigrant as mayor, you're mad. They said, we'll get you elected all right, and they did. We had a very successful term of office in which we really revolutionized Bowness. We put in water and sewer, put in the first sidewalks, built the first public library, built a recreation centre, tennis courts, you name it. It was a whirlwind of activity. Some people said, since this Peter arrived we've never had a moments peace, the roads have been dug up. And some people thought, enough already but on the whole I would think that I received tremendous support, I'd say, like 60% or 70% support and could easily have stood again for office without any competition. But at that moment Shell decided that I'd be better employed in Europe. The Royal Dutch group asked for me to come over and to become the manager of their exploration services global.

DF: What year was that?

PFM: 1960, the end of 1960.

DF: Now Bowness was its own municipality at that point?

PFM: Yes.

DF: How long were you at the Hague then?

PFM: I was first of all there for a 2 year assignment, that was what I was transferred for. Then at the end of that time they said, would you like to rejoin the International Group. That was in many ways quite attractive because they retired at 55 on a pretty nice pension and the working conditions were very good. But you know, by then I missed Canada. I missed the mountains and foothills and walking in the virgin country. I had become too much of a darned Canadian to go back to Europe. Everyone was astonished, especially since I'd never learned to speak Canadian. My late wife, she said, for god's sake, can't you pronounce an honest R. I said, I tried, I can speak German, I can speak French, I can speak Dutch but I can't speak Canadian, it's too close to my native tongue. Anyway, I said, no, I'll stay as long as they needed me but not as a career. So then they asked me to train a substitute, someone to take over, a Swiss guy and I was happy to do that. That was for a year. At that end of that they said, he's not quite ready, another six months. So I spent I think, 3 1/2 years in the Hague. Then they transferred me to the United States, first of all to Houston, Texas to do administrative work at the research lab. After quite a short

while the vice-president in New York asked for me to come up to New York to be his special assistant, which I did. That was okay, a very interesting job and so forth but I wasn't very happy there. I don't like the United States. To me, I've visited many, many countries in the world, it's the most foreign I've even been in. Because everything you expect to be one way is another. Whereas if you go to Iraq you don't expect it any way, you accept it as it is. So you get these cultural shocks. I was always getting cultural shocks in the US of A, though I had lots of good American friends and still have obviously.

#456 DF: How long were you there?

PFM: Not that long. I came back here in 1967 I think it was, '66, so I was probably there a couple of years in New York. One day my boss . . . well, we had just been down to Mississippi where we'd had management meetings. Half of these management meetings involved in playing golf, a game I loathe. I said I'd go for a walk, he said, you can't go for a walk by yourself here, we'll lend you a car. I said, I don't want a car, I want to walk. It was just a little incident and he said, you're not happy here are you, I said, no, I really aren't. He said, well, I'll send you back to Canada then. He said, the trouble is I have to find somewhere for you to go. The local people here weren't very keen to see me back, obviously to come in over their heads. But the chief geologist here, a very good man I thought, and I thought he'd make an excellent director of our research lab. I said, why not move so and so down to manage the research lab and then I'll go take the job of chief geologist and he said, perfect, so he did.

DF: Is that when you came to acquire the house in Mount Royal?

PFM: Yes.

DF: How did that come about?

PFM: I had by then three teenage children but my elder daughter remained in England. My other two children, who were Canadian born, came here and we heard that Western Canada was a good school. We were in Rideau Towers where we had an apartment so we told the real estate person we wanted a decent house within a kilometre of Western Canada High School. He showed us various places, we looked at a lot of Mount Royal homes, Elbow Park also, but one day I saw this ad, a sort of distress sale, a rather fascinating looking house with a tower and so on. So I responded to the ad and my wife and I fell in love with the house with especially beautiful panelling, a lovely dining room. My wife had been brought up in just such a home, slightly larger, in Hamilton so she was used to big houses. In fact, you know, she was not used to anything as small as I'd ever put her into. When we got married she'd never been in a kitchen and I had to show her how to boil an egg.

DF: What was her name?

PFM: Her maiden name was Holton, Jane Holton.

#503 DF: How did you meet?

PFM: We met on the ship coming out here funnily enough. Then she came out for Stampede in 1951 and stayed for the next 30 years or so.

DF: And when did she pass away?

PFM: In 1981.

DF: So then you got this house in Mount Royal?

PFM: Yes and we had a lot of fun there. We did a lot of entertaining, it's a great house for entertaining. Tiny kitchen but it didn't stop her producing meals for 50 people. We got to know a lot of people, practically none of whom were in the oil patch, mainly in the arts and academic community. So that led to my next career in a sense. After I'd retired from Shell I did the usual thing, opened a consulting office. Got contracts from the federal government and actually produced, I would say, probably my best technical work at that time.

DF: What year did you retire?

PFM: I think '84.

DF: And what were these. . . ?

PFM: The technical work?

DF: Yes.

PFM: I sort of distilled into one volume, all the work I'd done on the Devonian formations from the Arctic to Montana essentially.

DF: So there must have been quite some field work involved?

PFM: I used past field work you know.

DF: But did you do field work in the north yourself?

PFM: Yes I did.

DF: Could you tell us about some of that?

PFM: That was on the Snake River and tributaries and also on tributaries to the Mackenzie River. This was mainly done in 1960, helicopter supported. I did a lot. . . of course, I had a lot to go on because we'd had field parties there before and I had felt from studying the fossils that they'd basically got it wrong. They got out of step in correlating these big limestone-shale sequences and the Swiss geologist who'd written the report, I was convinced that he had jumped from one sequence to another, so had got the whole thing wrong. Which is easy to do if you don't really understand the use of fossils. The Swiss are not great on fossils. They're very great on structural geology and they're very great at doing it at a distance so that, as you probably know, a good pair of binoculars is known as a Swiss hammer.

#548 DF: I see.

PFM: So I said I'd go up with Derrick Wilson and we would remap this area, we'd collect carefully and establish the sequence of fossils and see if we could test my hypothesis against his. It didn't take us long in fact, to discover that he was wrong. But that was fine, it was very easily corrected and because his basic mapping was sound, it just meant shifting it by a notch and getting the names right. And so we had time also to look at other important localities in the Northwest Territories. So I visited most of the important type localities of Devonian rocks in the Northwest Territories. Having the helicopter and aircraft support I was able to do that. And I'd also made separate field trips other years

but not prolonged mapping. This 1960 was a full season. And people like Lee Slind for instance, had been there doing steady work for a long time, knew more than I did about the details. And I probably knew more than anybody about the sequence of fossils. No, that's not true, even there was Gordon Basset better than I did. However, he left and went to the States, so it was left to me to put together this big picture. From Winnipeg right to the Rocky Mountains inclusive and from the Arctic to Montana and to try to get it all tied together on a time framework which was soundly based on palaeontology. That's what I think I did. Now it would be of mild interest to me to go back and see the subsequent publications of others tearing my work to pieces and I've no doubt a lot of people will be trying. I don't think they'll get very far, it all worked very well in my opinion and I produced a report of which I am very proud. It's probably the best thing I've ever done. Then that was condensed slightly and became Chapter 4-A in the Geology of North America, which was jointly published by the Geological Survey of Canada and the Geological Society of America. That's a sort of now, standard textbook. I don't know if it will ever be superseded because a certain amount of work, it requires such a vast amount of experience for anybody to do it, I don't know. But somebody in the Survey could. So when I got the contract to write this chapter for the Survey, I had the enormous advantage of being able to talk to all the field men in the Survey who had hands on experience. They gave me an office in the Survey for 2 years and they were very open with me, funnily enough, much more open with me than they were with each other. There was good deal of keeping it close to the vest there which I found rather despicable. It must have been something to do with their corporate culture, of how they were rewarded for their work. But as far as I was concerned they couldn't have been more frank, open and helpful. I got wonderful collaboration. So my writing was of course, the culmination of a lot of people's work. My own original work in it is quite small though I was able to produce various ideas on some sediments as to how they came into being, one or two of them had been a bit of a mystery. There was a mysterious green silt which was found infiltrating down into reefs here and there. I decided that was actually a wind blown deposit caused at a time when the seas receded at certain intervals in the Devonian cyclic development. That seems quite consistent with what I still know and understand about these strange green silts. They would be called aeoleanites, wind deposits. I don't know if anyone took that seriously or not but I thought it was an original idea of some interest because of course, they represent major storms and perhaps could be carried over long distance as correlating markers. Just like a volcanic eruption. And we discovered the importance of one of those too, incidentally, at the beginning of the Devonian. In 1952 I discovered a deposit of volcanic clay, right in the Devonian, above Panther River, on a place now known as Otuskwan Peak. But at that time, as far as I know, nobody had found this. It was actually quite difficult to get to. And I found volcanic sandstone in it, quite unexpected for most people in the Devonian. Since then, that bed has been traced at about 20 localities by officers of the Survey and it's still being looked at because it has interesting minerals in it. My friend Cleve, who is working at the moment in the back, he's a prospector and he's tried to get there. The trouble is most of the year it's covered in ice and you've just got to get the right conditions that you can get there and get down to

the outcrop. Marlene and I have climbed it together since then, and collected several kilograms of material which the Survey have. So that was another correlatable marker. But you know, by the time I wrote my compendious report it was generally known, it was not something new. But I think the report would be valuable to anybody who wanted to start from scratch with the Devonian and get a sound basis for it. Whether anyone uses it for that, I don't know.

End of tape.

Tape 2 Side 2

DF: So in addition to this writing on the Devonian, what else has captured your imagination in your retirement?

PFM: Something I haven't recorded in my CV is my work on family history. I had a cousin in England, Brian Fitzgerald Moore, who lived in London, in fact he was Lord-Mayor of Westminster and he became interested in genealogy, largely through his mother's family which was an aristocratic Irish family. He often used to write to me and ask me questions and say, fill in this form, you've had another child, you didn't tell me and so on. And I'd be rather perfunctory. I gradually got a little interested in it and then when he died his widow said, you know, I think Brian would like you to have the family papers so I inherited boxes and boxes of papers. They were arranged on huge stuck together sheets of foolscap and so on, largely provided by various people he'd worked for like the War Office and ICI Chemicals and so on. He'd started off with a chart, then he'd added a little piece that would squiggle up here then he'd added another little piece squiggle down there. He never entered the age of the computer. I'd always been interested in computers; I started off writing my first simple programs in 1960. I learned Fortran in 1964. I produced, with a colleague in the accounting department, what may have been the first computerized geological map, I don't know. Anyway, on the accounting machine we printed out patterns of letters and things to represent different geological formations. Completely useless as it was, but trying to give an indication of the potential of this new tool. But I'll leave that aside for a moment but I think it's an important point. So then I discovered these computerized genealogical programs, one I first got was from the Latter Day Saints called the personal ancestry file. So I undertook to enter Brian's data into the personal ancestry file and I spent a number of years doing that before I could do any extension. Eventually I did it all so we have a large archive of the family. Then I got in touch with other branches of the family, for instance, in South Africa, my sort of 4 great-grandfather had a daughter who married a man and they went to South Africa, he is a bishop. Bishop Merriman. And I managed to find his descendants and I have about 400 living relatives in South Africa as far as I can tell. Then of course, when my grandfather went to Australia. . . incidentally, he married my grandmother in Madras I think it was, I can't remember if it was Madras or Calcutta, but he was manager of the Mysore Gold Mines. My great-grandfather had 4 daughters and the eldest one was rather plain and she had to get married before the others got married obviously. So he took her on a world tour and showed her off in the capitals of Europe, he was a wealthy Lancashire landowner. He

produced her in Indian society, my grandfather, who I suspect was still married, spotted this heiress or potential heiress and paid court to her and with his Irish blarney, persuaded my great-grandfather that he was a wealthy mining engineer, holdings all over the world and so on. It was not true at the time. Later, he got my great-grandfather to

#048 finance some of his ventures and he did actually, extremely well in Australia. But anyway, they got married in India and then went to Australia, where they had a number of sons, 2 of whom were war casualties, 2 of my uncles and the twins, my father and his twin brother survived. They were both fighting in the First World War. But anyway, as a result other members of my grandmother's family, the Greenways, came out to visit and decided to buy into this new land. They bought sheep stations. Luckily none of them got into the mining business but they got into the sheep business. And had families there and raised families, so I now have a number of Australian kin also, all Greenways, which was my grandmother's maiden name and a lot of my family have Greenway as a middle name. So I have them to deal with in my genealogy too, my descendants of. . .and it turns out that the original James Greenway was illegitimate. He was born in 1736 and his mother's name was Elizabeth Greenway, his father is unknown. His father was obviously well to do because he place him very well, gave him adequate funds to go up to Lancashire from Oxfordshire and to purchase a property and to start a mill. And he in fact, built a number of mills. They were calico printing mills. In those days you didn't have wallpaper, you hung printed calico from the walls or stuck it to the walls. So the company evolved into a wallpaper company by about 1800 and then they introduced printing machinery that would print on paper. At that time my family sold out and simply became country gentlemen, or attempted to become and succeeded after a couple of generations. They sent their children to Winchester and Eton. That's a typical middle-class rise and in fact, in this case, fall, because the last 2 heirs died very young. One of them left the entire estate entailed, he left it to his mother's second husband, who was not a member of the family at all. She was a Churchill and she was a Spencer, Rose Spencer, cousin of Princess Di's. So the estate's passed out of the family. It probably would have done in any case but it just happened that there were a couple of sudden deaths. He died in St. Petersburg of scarlet fever where he was acting as unpaid third secretary, something to do. These explain the scattered families, all come from this Greenway chap. Then of course, I got interested in Fitzgerald-Moore. He gave details of where he came from which proved to be fictitious. When I visited the place he said he was born, yes there had been Moore's there, they'd moved up to a County Antrim, it's in Ireland and they'd moved there, or County Fermanagh and I never did track that particular bunch down because I don't know what the connection was. But I've done quite a bit of research on the Moore's of County Cavem and I am still not certain which one he is because it's a very common name. But he did have a family portrait of a John Moore, which I have in that room there, on which he has signed his name and date and I think I know who he is and I think he is my great-great-grandfather. He would have been probably a solicitor of modest means. My grandfather always said that his grandfather, my great-grandfather, Benjamin was in fact a solicitor and perhaps he

#100 was. But Irish records are terrible because everything was destroyed in the troubles and

the Irish record office, which by then had been concentrated in the post office in Dublin went up in flames when it was attached by the revolutionaries. So we will probably never get fully to the bottom of that. But I have another Irish great-great grandmother, that's Holmes, married to Greenways, I followed that family. Some of them came out to Canada, they settled in the Winnipeg area and so on. I've been in contact with all of those. So I've spent a lot of happy times contacting all these relatives. Then when my first wife died, the one I had in Trinidad for a short while, I said to her daughter, you might like to look into your mom's background because she came from a well-to-do family, I've often wondered where they got their money and so on. My daughter took this up with a will, by that time of course, I was able to get her started very quickly with a program and so on and she's taken up the cause of genealogy in a big way. She has her mother's. . . in fact, she's met 7th cousins and she's having a good time with it. She's also taking over my material. So I've got all my files, the paper files are well organized, the computer files are well organized, my daughter has copies of the computer files and the paper files are waiting for her in the cellar. So that will continue. I've had to inform the South African branch, I can't keep up with them, they're having children like rabbits and they'll have to look after their own from then down but I've got them so far. Then funnily enough I received a letter out of the blue from a historian in England who is trying to find out the antecedents of James Greenway because James Greenway founded this calico printing industry in Lancashire which has become a very important, did become a very important part of their economy. So in writing the local history of the Blackburn Darwin area in Lancashire, they came upon this character and they wanted to know more about him, did he have any descendants. Yes, he's got well over 1,000. But they didn't know and they put an advertisement in a Lancashire historical magazine which my daughter saw in of course, her research on her mother. And she replied, my father has information on James Greenway. They had put together bits they could from press cuttings and so on, of course, I had the whole thing with no gaps at all. So we got together. In the meantime they had pursued, there were 2 of them actually, 2 friends, they had pursued their researches, one of them is a fantastic genealogist. He is like a terrier, he follows lead after lead. I'm so impressed. He gets a lead on a name, then I'll check all of the Oxfordshire Will's to see if there's someone of that name, could it be the same and so on. Then he looks at the court records, any of them ever in court. He has just made out a whole network of very interesting connections around this James Greenway and all arrows now point to the local squire in the next village as being his father. A fellow called James in fact. So that's been one of my harmless pursuits. I've also been interested in politics. So I've been involved with the Council of Canadians. I don't believe that the way to cure, say, poverty, is to dig into your pocket and put a twonie into the cup of an obvious alcoholic. I think we have to try to get to the bottom of why people are dysfunctional in society. So that's another interest of

#148 mine, to try to find some organization that would rise above the political parties which have become more and more despicable in my view. I was a Trudeau Liberal and we had sincere efforts I think, at the local level, to develop policies which to pass up to Ottawa and so on. With some feeling at the time, that someone would listen. We were

completely I think, disillusioned, nobody listened and nobody cared. That's why I ??? by Axworthy for instance. It's interesting because he's the guy who would have listened, but he's not the type, he's not the street fighter, he's more of an intellectual. I think he'd be quite a wonderful Prime Minister in a way but I don't know, he probably couldn't stand up to the rough and tumble.

DF: Tell us about this?

PFM: Yes, after I had been in consulting for a couple of years I was asked, and by that time I had been lucky enough to find Marlene and got remarried. . .

DF: What year was that?

PFM: 1982, well, '83 we actually put it legally, '82 we got together. I was asked to lunch at the university by the Dean of General Studies and I said to Marlene, Marsha Hanen has asked me to lunch, I suppose they want a donation for their department. Because I had been associated with the Humanities Association of Canada, Calgary branch, and had in fact, been their president. So I'd had a foot you see, in the non-scientific camp. And the great thing about the Faculty of General Studies is it tends to be cross-disciplinary so I assumed they'd realized I was very sympathetic to such an outfit. And so I said, make sure I've got my chequebook before I leave home, which she did but I was never asked to produce it, I was offered a job. Would I like to teach a course on technology in society because the incumbent had expressed a wish to move out and they were not entirely happy having an engineer teach the course, they wanted perhaps more of a humanist. A geologist is not an engineer, a geologist tends to be more of a humanist I think. So anyway I said I'd think about it and then they gave me 6 months to prepare a course, and I plunged into it with great enthusiasm. I thought, this is fascinating. It's something I haven't read much about. I'd read Lewis Mumford but I hadn't read any of the great classics, I hadn't read the French Jacques Ellul and they advised me to start right in on that, which I did. So anyhow, after 6 months I was ready for the fall term and taught my first course, which after a slightly rocky start, I was not used to dealing with such immature young people. And ones with such enormous gaps in their general knowledge. People who's never heard of the German Goethe, perhaps had heard of Shakespeare but just heard. So when I made, as my wont, literary illusions and so on, they went over like a lead balloon and I realized I had to rethink my approach considerably. But I learned how to do it and I think I became rather good at it. I certainly got my final sort of evaluation as an excellent teacher. So I was pleased with that and I developed a course, I wrote everything carefully and published it on the Internet. I still find it interesting to read my own course notes because they're the distillation of a great deal of thinking and reading.

#198 DF: How many years did you teach that?

PFM: I was there for altogether, 12 years.

DF: 12 years. And when was the last year?

PFM: 1998. They asked me to continue but I knew there was someone just chomping at the bit to get that job and I thought, it's a little unfair of a 78 year old to hang in there. So I said I was quite willing to go into graceful retirement.

DF: Before we went on tape you mentioned that you met the Pocatero's, can you tell me about

that?

PFM: Yes, I'm trying to think where I met George, I was wondering whether it was with Jim Nicol. In fact, I think it probably was. Jim Nicol, the artist, and Marion, they lived in Bowness and I became very good friends with them, particularly with Jim. He was about 15-20 years my senior. He became a sort of, I would say, a role model for me, as a Canadian. He was 100% Canadian, his mother was the first white child born in Fort Macleod but he was a scholar and a gentleman to his fingertips. I never heard him use an inappropriate expletive, for instance. Certainly not in the presence of ladies. He was a very, very fine man. He also met other ideals of mine, he was not basically materialistically driven. He never wanted to become rich, he never owned or learned to drive a motor car. But he had friends from all over the world, and particularly artists. He'd known several of the Group of Seven. Through him I met many people and I have an idea that I may well have met George Pocatero through him, he certainly knew him and spoke of him. Norma used to come into Calgary and take part in various things that I took part in also.

DF: Such as?

PFM: Musical evenings, things of that kind. So I didn't know them well but I realized that they were a fascinating couple, I'd like to have known them better, known more about them. I never went out to their ranch. They were getting pretty old by the time I knew them actually.

DF: What kind of an impression did George Pocatero make?

PFM: I have to say that Norma made the stronger impression.

DF: Really, tell me why?

PFM: Well, the fact that she had a background in Italian opera and was living in the boondocks you might say, in Alberta. And I realized this man must be quite remarkable to have lured a diva from the opera houses of Europe to the ranches of Alberta. And the fact that he had done so much on his own on horseback, in the mountains, exploring this and exploring that. I just thought that they were a rather romantic couple. But she was very outgoing so I suppose. . . and I was stuck as I say, by that transition of hers. It's the sort of thing you are always fascinated by when you come to somewhere, on the frontier as it were, and you find that there has been a movement of all kinds of fascinating and amazing people and they somehow have come to a halt here. You remember the German baroness who ran the lodge up at Assiniboine for instance, people of that kind. Their stories are always so fascinating. So yes, I didn't know them at all well but . . .

#244 DF: Do you remember her singing?

PFM: I seem to but I don't have a vivid recollection, whether she sang at a soiree. . . I knew that she was a singer but that's not the same thing as remembering her singing. I don't actually remember that. I don't actually have a very good memory now unfortunately. I have a sort of patchy memory, I remember silly facts and not sensible faces.

DF: We have a few minutes left on the tape, can you tell me any other things that you've really enjoyed in your retirement years or any things you haven't discussed that you'd like to mention?

PFM: I think that my experience at the university was a very enjoyable one. That was really a very, I suppose one of the highlights of my life.

DF: That was an undergraduate course?

PFM: Yes. And I met a lot of nice students, one of them was here yesterday for tea with her children.

DF: Wonderful.

PFM: Yes. So I've kept in touch with quite a few of them. That was an opportunity to meet intelligent, sensitive young people in Alberta which is perhaps hard to come by normally. You know, because one doesn't sort of cross paths, apart from one's own children, who are intelligent, sensitive young people. Young? My eldest daughter is now approaching 60.

DF: And her name?

PFM: My eldest daughter is Linda.

DF: And where is she?

PFM: She's in London. She comes out here every few weeks to see me, particularly since I've been diagnosed with cancer. She's been out 3 times this year I think, and she'll be back for Christmas.

DF: Wonderful. And your other children?

PFM: My son Patrick is in Vancouver and my daughter Allison is in Edmonton.

DF: Have you had any regrets, things you'd change?

PFM: I do I suppose. I think I could have been a better husband, not to my first wife, she was a flibberty-gibbet and she just ran off, she got married several times again. But to my second wife. I think that my career or my geology was too demanding and that I spent a lot of time travelling and doing geology when I could have been a better husband and father. I do regret that. Wisdom comes to you always too late. I try to make up for it now you might say.

#279 DF: Any things in your career you would like to have had a chance to do more of?

PFM: I often wondered you know, whether it wouldn't have been better for me to have entered the academic world. On the other hand, on balance I think not, I think that the challenge of a business environment is a sanitary??? one, it makes you realize that a lot of things may be interesting but they're not important. If you have to choose between things that are interesting and important you should choose things that are both interesting and important, not simply important but not interesting, you should avoid those too. But never do things which are not interesting and not important. Of course, a lot of the oil business is not important, I think. Most of it is pretty interesting, it's really pretty fascinating business. And certainly, this is the place to study it, Alberta. From scratch you might say. And so very much a home grown sort of industry isn't it. Where people are sort of born into it and experience it all their lives. Whereas I started in an international group which simply came together for that purpose and was sent from one country to another in a rootless sort of way. One of the things that I think made me stay here at the end of my first 2 years, when I was asked to go back to the international group, was this feeling of rootedness for the first time because I had been a wanderer. I was born in England, raised

in Switzerland, sent to boarding school in England, moved overseas with the army, went to North Africa, Middle East, Italy, back to Europe, off to Trinidad. From Trinidad I worked out in Venezuela, I worked. . . also an interesting sideline, I worked on the island of Santo Domingo. I was sent there at the request of the British government who asked Shell for a geologist because they wanted to know what was going on. They felt that the Americans had got some sort of an edge there. They'd heard that some oil had been discovered other than the known oil in ??? between Haiti and Santo Domingo. So I went there more or less as an industrial spy I suppose. I had a very interesting time there, tracking down this oil seepage. The President, the dictator, Ramon Trujillo, was personally very interested. I never met him face to face but I was placed in the room next to him where an intermediary shuttled between us conveying my findings. Then I discovered, what had happened was that in a neighbouring village about 300 metres away was a very large diesel oil tank which had been the reserved for their electricity generator. It had burst and was filtering through the broken rocks to the river where it came out. you see, when I first saw these seepages, which were genuine I thought, that's a very interesting thing because these are not petroliferous rocks, these are volcanic rocks. This is not where oil comes from, there's something fishy here. So I got my augers made on the Trinidad pattern and started a crew drilling, sampling and then tracking. And I ended up in this village and I quickly formed the impression that's where it came from. And I got a sample of the oil from it and I sent it off to Shell to do an analysis and found it was a refined oil. So I was writing my report one day when I got a message from the British Embassy who was handling things, it said, we think you should leave Santo Domingo now, as soon as you can. They didn't explain why but I think they felt that if this news hit the presidential fan something would fly and it might be my head. So I said, all right, I'll pack up this evening and take a plane out in the morning. Well, perhaps you should go to the airport now. So I did. I said, where is the next plane going, they said, St. Lucia or something. I don't know where it was, I took it anyway. I never said goodbye to anybody, I left the British Embassy to clear it up and I've no idea what happened. They thought discretion would be the better part of valour at that stage.

#346 DF: You have some papers in your lap there, are they to remind you of something?

PFM: Yes, but I don't think there's anything very important that I haven't. . . There was a point about the corporate culture which I perhaps would like to get back to. One of the things that I found quite extraordinary was the reluctance of our organization here, and this may have been peculiar to Shell Canada, I don't know, to document what they were doing, for meetings to be minuted. I wondered why this was. It seemed to me there were two things, they didn't want to look back, this was very, very much against things. So when we drilled a hole, if it was a dry hole, had no positive results, it tended to be brushed under the carpet, just forgotten. Sometimes they even changed the name of the land on which it was drilled so to make it appear fresh next time. Partly this was obviously ass covering, nobody wanted to be held responsible for anything. I remember, after discoveries everyone claimed victory, after failures everyone pointed the finger at somebody else but there was no record of what had happened. And we also didn't know why it didn't

succeed because we didn't compare the prognosis with the outcome. Whereas in the Hague we had a regular sequence of procedures which were followed. When a well was proposed the conceptual log of the well was drawn up and said, this is what we expect to find and this is why. That was filed and when the well was finished they said, bring out the prognosis, bring out the results, compare the two, where did we go wrong, what was wrong with this well. The seismic was correct it seems, we got the right horizon, so that's interesting, so what was wrong with the stratigraphy, with the geology. Maybe the geology was right but in this case say, the water levels were unexpectedly high or something of the kind. But we learned, every dry hole was a learning hole and in Canada they never learned. So they failed to become a learning organization. And they adopted of course, new techniques all the time, because there was the boardroom buzz and people would exchange information, no doubt, on the golf course and so on, so we were always doing new things but we weren't learning from our mistakes. In fact, we didn't make mistakes. That I found was a marked contrast to the Royal Dutch Shell group and a very, very sad affair. Because the whole point of the thing is to learn. But of course, if you have this salesroom type of used car lot atmosphere for promotion and if people's careers depend on being seen as the salesman of the month and expect to see their name up, it leads to it and you get an unwillingness to really face geological facts. They're not of any great interest. It's the salesman facts that seem to be of interest. And as soon as certain tools became available . . . for instance, we got economists into the act, that was a terrible mistake. The reason is that geology is a very inexact science and economists can't bear inexactitude. They have to put exact numbers on inexact things. So they would always be producing prognoses to the nearest month of pay out and so on. At first no one took any interest of them though the management seemed unduly impressed in my opinion. But later the Hewlett-Packard coloured printer out which produced coloured graphs. As soon as we got those coloured graphs people became mesmerized. Geology ceased to be of any interest at all, it was the coloured graph of the money flow resulting from this purely fictitious future event which everybody was looking at. The mind boggles but it was true, that was actually happening. It's very difficult to carry out proper evaluations of a business like the oil business because the exploration cycle is rather long. It's measured in years, from the time of the first concept to the time of the successful well, and the sufficient flow of hydro-carbon to tell whether this is going to be overall, a profitable venture or not. So it's rather like primitive societies who, and pre-agricultural societies often don't realize the connection between copulation and birth. So the same sort of gap obtains in the exploration cycle. People don't really analyze these cycles. There's a huge gap; in my opinion, there's opportunity for sociological studies of exploration methodology based on concrete cases. The trouble is that the culture forbids the data being released. I would have thought that once a company's gone into bankruptcy or something, if I were in the university department of management I'd try to get my hands on those data and try to analyze every important case. But the trouble is they wouldn't find very much because it's all oral. The oil business is a very oral business, don't you find that?

#431 DF: Absolutely.

PFM: Yes, and there's a real dearth of written records. Whereas in the Royal Dutch Shell group they were, documentation as they called it, was a very essential part. Everything was documented. And they had full time senior clerks who knew where the documents were, we didn't need electronic systems. Every country had its expert documentation clerk and he could put his finger on data from way back. Most of it he had in his head for instance. You'd say, this well we drilled here, just south of Pickford, yes, that went 2,000 metres, they had certain and so on, he'd be able to tell you, but he'd say I'll get you the log. But there was a real dearth of documentation and when I tried to get geologists, when I was chief geologist, tried to get geologists to write up reports the management would say that I was wasting their time. That's all done, that's washed out, we didn't get anything there, we don't want to go there. And they couldn't write anyway, poor dears, they didn't know how to write. I don't know, I may have been an economic disaster if I'd been in charge. But we'd have had honest well documented geology. I kept feeling that we were constantly going back over old country, learning nothing, learning nothing. That was the real sad part about it. But it's part of general North American optimism. Yes, well, yesterday is yesterday, today is now.

DF: So what would be the impetus then, for going back into an area again, new technology?

PFM: Yes. And new understanding. I mentioned the way we understood the way sediments were put together, and the sort of ecological systems had been revolutionized in the 50's and the 60's in particular and 70's perhaps. Since then there have been further revolutions, I think particularly, say, with deep water sediments, which even then we didn't understand, we'd only begun to. I think there would be a lot more understanding today so you might find many areas to go back with a reinterpretation. The new technology being the thought processes.

DF: But if you drilled in a certain area and there was nothing there but then you forgot about the fact that you drilled there then new geophysical technology or a higher price of oil or something might put you back into that same field again, right?

PFM: Yes.

DF: But not based on the knowledge of before?

PFM: Well, the knowledge is there somewhere, we know we drilled, we could find the log but it's not been digested.

#472 DF: Not valued.

PFM: No, or valued, that's right. I've known many cases where in fact, a prospect and a whole project of development failed and then had a name change, so that they could go back and have another pitch at management or something, on some new basis. So it was difficult for management to suddenly realize, but this Nose Creek, isn't that the well we drilled at Battle River. But it happened, the historical continuity was lost in that respect. And the whole idea of devising an integrated documentation system into which this material could be placed had certainly not occurred to anybody at the time. Though the Hague was working on systems of that kind all the time. That's why the advent of the computer, which should have perhaps produced revolutionary good results produced very few good

results I would say. It certainly made it easy to handle the location of wells but the idea of actually putting geological data in was botched completely. Because that requires quality control and the amount of labour involved in quality control is always intensive and people often don't want to spend that sort of effort. So we introduced various data systems but from the point of view of producing accurate maps and so on, they were pretty well useless. They were simply pretty, pretties.

DF: You've been here for quite a big part of the post Leduc period. How have you seen the province. . .the very wealthy period since Leduc, how has that affected the development of his province in your understanding?

PFM: It's certainly had beneficial results. I think, to begin with, with the availability . . . I mean it was a poor place I think and it became a well to do place, we could afford to do things. I had quite an admiration for Ernest Manning and I was able to meet with him and talk to him when I was mayor of Bowness. He was a very receptive and intelligent man, although he had his unfortunate sort of religious prejudices. He tended to switch them off on Sunday evenings. But he was a sincere man, he was not a greedy man personally, and I think he did a great deal for the province, both from the oil business point of view in establishing sound legislation, proper controls, the Conservation Board, under completely incorruptible management of Dr. Govier, a rather brilliant engineer but a model public servant. You see an element of sleaze entering later, with a lot of easy money floating around and someone like Klein being elected on a populist platform, with actually no content at all. He could have run for any political party, and considered I think, several others before he decided to become a Tory. So I've seen a deterioration of public life, a deterioration of public investment. You can't go by simple numbers, Klein says we're spending more money now. Of course, we're spending more money, we have more people. I notice he never gives per capita expenditures, they're always absolutes. With an expanding province of course, they're going to go up.

#538 DF: And inflation and everything.

PFM: Yes. So it's very difficult to get the real numbers but that's one of the great things about the Parkland Institute of the University of Alberta. They have, and continue to dig into the real numbers and to publish them. In fact, I'm an active supporter of the Parkland, as is my wife, and we're going up to their annual conference at the end of this week. So it's been a sort of moral decline I see. And I see that link to growth of a religious fundamentalism, which is a sort of topsy-turvy world where the stronger you preach about your religion the more you've got your hand into the till behind your back. But you see so much of that. I feel that riches have corrupted, in a sense, the purity of Alberta. It's perhaps inevitable. I don't think that Klein is the cause, he's the consequence. It's very sad that we don't have a strong opposition, morally based and I don't mean religious morality, I mean someone with a deep ethical feeling and a deep felling for the public good, something that is denied by neo-conservatives. If there is such a thing as the public good. And for social justice, which seems to me to be fundamental to living a good life, is to participate in some way in furthering the public good and furthering social justice. That's where Alberta disappoints one. But it's a very general wide-spread phenomenon. It

seems to have popular support unfortunately. We may find things changing, there may be disillusion. Certainly they can't keep the actual information away from people as they used to be able to do, although it is extremely difficult, extremely difficult to obtain information from the government of Alberta. But the Internet, if it's there, it'll be winkled out. How many years did it take that reporter lady to discover, as we did just this week, that Mr. Mulroneu had accepted \$300,000 from Mr. Schreiber. Stevie Cameron. It took her years but it came out. So now they're saying \$300,000, what's that. But that's very indicative of what I'm talking about, of the moral decline, \$30 would be too much.

DF: Yes.

PFM: McKay, the mayor of Calgary, lost his job through 6 cement sacks. It wouldn't happen today, he wouldn't bother with 6 cement sacks.

#592 DF: No. Anything else in your notes there?

PFM: I don't think so. I don't spend a lot of time thinking about that phase of my life, though it was obviously a vastly important one. At the moment I'm involved with the Parkland Institute. I've become involved in philosophy, as I think a lot of people in their latter years do. They've begun to asking what are the big questions and so forth. So for some years I have been involved with the Apeiron Society, for the practice of philosophy. Although I don't agree with their objectives entirely, which are really to eschew anything smacking of politics, because I think politics are central to life, however, I have been active in them, I've been secretary for a number of years. I just recently resigned because of my illness. And I'm still active in some respects and I run a philosophy café every month at Annie's Bookshop. It's a very participatory group of the public and we have one professional philosopher who is invited to come along, set the scene and to keep us on track if we make absurd statements or to point out the consequences of arguments which we may offer. And I'm still quite involved with that and I look after the books for that. Having been on the Board of the Apeiron Society and seen all the trouble that the Societies Act causes one, and the opportunities at game playing it offers, which are quite subsidiary to its main objectives. I have decided this is run out of a very simple notebook which is open to anyone to look at and in which all transactions which are financial are entered in longhand, the computer is not involved. If something is crossed out you can see it has been crossed out. And I said, anyone can look at this at any time, this is the money I've got, this is how I collected it and this is how I'm spending it because we just collect enough and spend enough to rent the room and that's all, no other expenses. Because it's computer based notifications, we have no mailing costs and it couldn't be simpler. The philosophy aspect is interesting. I'm reading more and more in philosophy. I just finished a little book by Phillip Hoffman. Phillip has now taken over the presidency of Apeiron Society, he's a young Australian, very thoughtful and a great people person I think. He should do very well. He teaches at DeVry. You'd be surprised to know they have a philosophy department but they do because ethics has to be part of the teaching of an engineer. Then I just read, for instance, *The Future of Human Nature*, by Jurgen Habermas, a leading German sociologist and philosopher of society. What he's actually concerned with is the effect of genetic engineering on the human genome and on human

behaviour. I'm reading Pinkar's book, Stephen Pinkar from MIT, I'm reading his book on human nature, which he calls The Blank Slate, which is I think, who was it who referred to the tabula rasa, Locke or someone like that. So those things are of current interest to me.

DF: Good. Well, we're just about to run out of tape here.

PFM: And I'm about to run out of breath probably.

DF: Okay. So on behalf of the Petroleum Industry Oral History project and particularly myself, I'd like to thank you so much for letting me come and speak with you today and to record some recollections of your story and we'd like to thank you very, very much.

PFM: I appreciate it, thank you for the opportunity.