PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: Marty Dewis

INTERVIEWER: David Finch

DATE: January 25th, 2000

DF: This is January 25th, 2000 and we are with Mr. Marty Dewis at his home at #409, 5201 Dalhousie Dr. N.W. in Calgary. My name is David Finch. So nice to be with you today Mr. Dewis. Can you start by telling us when and where you were born?

MD: I was born right here in Calgary in 1918. My dad and mother had come out from Nova Scotia and settled in Calgary and Dad worked here for a number of years. I was about 6 or 8 months old when they moved up to Canmore and I was actually brought up in Canmore and spent my youth up there and all my high school etc. and went to university back in 1936 and came out of there in 1941 with a degree in Electrical Engineering.

DF: Let me ask you a couple of questions along the way. So when you lived in Canmore is that where you learned to love the mountains?

MD: It sure is.

DF: Did you ever run into any of the old timers, like Lawrence Grassi?

MD: I certainly did.

#010 DF: Any stories about him?

MD: I have one regret about Lawrence Grassi. I met him on the street, this would be about the summer of 1937. I was home from university and working for the summer at the mine and met Lawrence Grassi on the street one day and he said, you know I'm getting kind of old, he must have been about 40 at the time. He said, there haven't ben too many people up the First Sister, I'd like to take somebody up there so they'll know how to tell other people to get up there, would you like to go and I said, I certainly would. And so we set up a date and this was about the latter part of August and unfortunately something came up before that particular Saturday we were going to go. Lawrence had a climb out west and he said he had to go, but we set a date for about the second Saturday in September, I think it was. Unfortunately, I've regretted it ever since, I got a call from the university, would I come up immediately and start training for track, I was into track up there. I returned up to university and I missed the opportunity. I never had a chance to climb up the First Sister with Lawrence Grassi. He told me how to get up at the time, this was up the front of it and he said, you can do it without ropes, you just go up a chimney and just a few years ago I went up to the base of the mountain, I was by myself, and I decided discretion was the better part of valor, I didn't try to do it.

#025 DF: Good for you. So where did you go to university?

MD: Edmonton.

DF: And Electrical Engineering you said. Tell me about that degree, what did you learn?
MD: When I came out of there I thought I would probably like to get on with a company like the Calgary Power Company, being out here in the west. Actually I had been out about a month. Pardon me, let's backtrack a bit, when I graduated I went right into the Air Force and spent four years in the Air Force as a navigator on the east coast on convoy patrol. Actually it was at university, knowing this fellow by the name of Bob Haun who took civil engineering, he had spent some time in geophysical work. His dad had been a manager for Texaco Company here in Calgary and they did some geophysical work and during the time he was at university. And also after we got out of there, we kept in touch with each other and he kept telling me about geophysics. He was a navigation instructor and he got out of the Air Force about January '45 and wanted me to get out immediately and go to work with Heiland Exploration.

#039 DF: So Bob said, come work for Heiland, and what did you say?
MD: He wanted me to get out in January when he did and he went right to work for Heiland Exploration. He started explaining to me what geophysics was all about, I really didn't have a clue about it. But anyway it turned out I was toying with the idea, I could have gotten out probably because the war was slowing down at that time but VE Day came along and they announced our squadron was going to move from Dartmouth, Nova Scotia to Pat Bay out on Vancouver Island. I thought, gee, it would be nice to spend the summer out at Pat Bay. So I was just about to decide to get out and I gave up that idea and thought I would spend the summer at Pat Bay. So I thoroughly enjoyed that. So anyway, finally after VJ Day, I never say the forces work so fast. I thought the getting out process would be very slow but within a couple of days I had notice to report to Calgary to be discharged on the 1st of September. So I did this.
DF: September 1, what year was that?
MD: That was 1945. Bob Haun immediately contacted me and wanted me to go to work for Heiland and I said, I'm going to take a month off. So a couple of Air Force friends of mine, actually one of them was from Canmore, we took about a month and toured around up in the mountains, Jasper, Lake Louise and just had a great time. After I got back I made one call to Calgary Power to see what they had cooking and they said, we think we'll probably have something coming up but we just can't give you anything right at the moment. In the meantime Bob Haun's breathing down my neck, come to work for Heiland. So I said, okay, it's not the kind of work I want to do, I took Electrical Engineering and I don't know whether that really fits in, I'll give it a whirl for about 6 months, in the meantime I'm going to be looking around for something else.

#059 DF: A real job.
MD: Well, anyway, after I got into geophysics, I started working right here in Calgary in their head office.
DF: How big was the office at that point, how many people were working here?
MD: They had the part owner, Henry Medsgar and we had one room with a secretary and Bob Haun and I in a room about the size of this. The field crews were all out in the field and

they had a warehouse for equipment and this sort of thing.

DF: How many field crews?

MD: At that time, I think they had 3 or 4, I'm not too sure. They eventually had 6 or 7 going up here.

DF: So what did they hire you to do?

MD: I was going to do what they called computing, this was working on the records and interpretation type of thing.

DF: But you didn't know anything about this, how did you learn?

MD: You just learn as you go. So I was in the office about a month in Calgary here and they decided I should get some field experience. So they had a crew right on the top of Cypress Hills, so they sent me down there. . .there was what had been an old forestry camp set up on the top of the hills down there, just an old barracks you might say and this type of thing, which Heiland rented for the time that they had their seismic crew down there. I was there for about 3 weeks I guess, and the crew for Imperial Oil and they had pretty well finished up there job but just about 2 or 3 days before they finished, why they discovered that the surveyor had been cooking his notes. So this was a terrible situation so the crew moved out and they left me there with another surveyor and we had to resurvey the whole thing. But that was rather a beautiful spot up there.

#081 DF: So what do you meant by cooking his notes, why was he doing this?

MD: They did what they called spot correlation at the time, one hole here and a mile away another one, just sort of preliminary exploration. And the Cypress Hills has valleys coming up like this you know all over and a plateau on top, so this surveyor, according to his notes, he must have set up here you see and he had a figure in there and he erased it a couple of places and the Party Manager got suspicious. You don't erase your notes, you put a line through it, so he got suspicious of this so he and I and another surveyor went down there and we stood where he obviously was supposed to have taken this shot. Well, it turned out the hole was up another draw up over here, you couldn't even see it. Anyway, that was a rather interesting experience in surveying, I had never done any seismic surveying before so that was certainly good experience for me.

DF: So by resurveying you were able to make all those records worthwhile?

MD: Oh yes, there was no problem that way.

DF: Okay, so you saved the day. So why was this other guy doing this, did you ever figure that out. . . .lazy?

MD: Well, he was kind of a blowhard and lazy you might say and this type of thing. I guess he just didn't want to take the time to drive down along in here and go up this little draw over there.

#096 DF: So what did you learn in the field that first time out?

MD: When I first went on to the crew I was doing the computing on the records as they called it. Then the crew actually moved to Taber from there so I joined the crew at Taber and then we moved into Lethbridge. This would be going into '46 now. We spent the winter

and spring in Lethbridge and we worked in and around Lethbridge and Taber there until about the first of July then they moved the crew up to Mameo Beach. That was a great summer, we rented a cottage right on the lake. So after work we had swimming and this sort of thing. Anyway I began to her stories about. . . our crew was working for Imperial Oil incidentally.

DF: Straight through, all this work was for Imperial.

MD: That is correct. One of the fellows on the crew, he knew a couple of chaps with Imperial Oil and he was telling me stories about how they had gone on foreign service and this sort of thing and so being young, I thought I'd like to travel and that type of thing and I didn't see too much future staying with Heiland so I quit about the middle of August and decided I'd go and put an application in at Imperial Oil. So I had met the Chief Geophysicist from Imperial Oil, Ray Walters, and he had been down to supervise the crew a time or two, looking at the work and what not. So anyway I put my application in. Of course, I got the usual run around from the personnel department, we'll call you if we need you. So I waited about a week and nothing happened, so I thought I'm going down to see Ray Walters so I went down there and said, I wanted to see Ray Walters. Of course, the girl wanted to know what for and I said, I have an application in here and she started to say something and just then Ray Walters came out, well, hello Marty, I was just going to give you a call. So anyway I got on with Imperial Oil. So I stayed with them from September of '46 until about the spring of 1951. And during that time had a very interesting time with Imperial and of course, I got some tremendous training. But, where I had been working on records in the office, have you ever heard of Frank Spraggins. . .anyway, Frank Spraggins was the Party Chief of the crew that I was assigned to. So their system was, anybody going into computing, they had to do about 6 months in the field. So I put in about 6 months in the field working as a shooter's helper and a jug hustler and a junior operator and this sort of thing. I said to Frank one day, when am I going to get into the office, oh, he said, you're not going to the office, you're an electrical engineer, you're going to be operating the instruments. As a matter of fact, I didn't mind that at all, I just loved the outdoors, I didn't argue a bit, that was just fine by me. So eventually I was a Junior operator for a while but then Leduc came in in '47 of course, promotions just like that. Imperial started putting more crews out, I got to be an operator and eventually got up to be Party Chief with them.

#136 DF: Before you go on, can you tell me what you did as a junior operator and then as an operator?

MD: As a junior operator you work underneath a head operator I guess you would call him, of the instruments. You learn how to run these. . .they have these instruments in what we used to call a doghouse which was a sort of a deal sitting on the back of a truck.

DF: So this is all analogue, right?

MD: Oh yes.

DF: Paper records.

MD: Correct and develop each one.

DF: Okay, explain that process to me.

MD: For recording instruments they had what they called galvanometers, which would make a trace on photographic paper and this paper would be rolling. . ., say for example, 24 traces and each one would be tracing a line on there and then you'd develop it right there on the job and look at it. And you might take a second shot at the hole or you might just move on to the next hole and so on.
DF: So how long were these pieces of paper?
MD: Your records turned out to be about this long.
DF: A meter longs, three feet.
MD: Yes, about this long.
DF: And then you developed those in big vats of. . .?
MD: Well, we had one here with the developer and then we had one with water, which we would rinse it off.
DF: And then a fixer?
MD: And then we'd put it into another one, just a place to put it temporarily that's all. And then when we got back into town, we'd have to hang these things up to dry.

#154 DF: And how many of those would you do in one day?
MD: It varied quite a bit depending on the terrain and what type of shooting you were doing, you might do anywhere from 12 -20 holes in a day, roughly that. So as a junior operator, you had problems with instruments, these were the old tube days and you know tubes would go, so you had to learn how to fix these various amplifiers when anything went wrong. Normally I gather from some of the fellows, Americans, they said away back in the 20's and 30's type of thing that a guy might be a junior operator for several years but up here things expanded so fast I think I was a junior operator for. . . I don't think more than about 6 or 8 months. And then I became an operator and of course, in the olden days in the States as an operator you might be that for a long, long time, years. And then the next step would be the Party Chief on a crew. Well as I say, I guess I'd been at the business with Imperial. . . .I became a Party Chief after four years I guess and I was the Party Chief for a year up until the time that I left Imperial.

#170 DF: So you became a Party Chief four years after starting with Imperial?
MD: Correct.
DF: But how long was it before you became an operator?
MD: I was only about a junior operator about 6 months. As I say a lot of it was due, this was right around '47, the Leduc thing, Imperial putting out more crews and things were just moving so fast. Promotions came very fast.
DF: So you were in the field for those five years or whatever it was?
MD: That's right, between various towns. . .
DF: Tell me about that, was that part of the job of the Party Chief?
MD: Actually I started with Imperial at a little town called Sangudo just west of Edmonton and then spent about a couple of months there and then Imperial put out a new crew so I was shipped to that crew and that crew was at Edson. It was there about three months during the winter, then I was transferred back onto this initial crew of Frank Spraggins that I was

on. That winter we spent in the Whitecourt area. Then I spent quite a bit of time around Edmonton, working out of Edmonton, shooting in various places surrounding the city. And actually then in '48 I got married. I warned my wife that sooner or later I was going to be moved out of Edmonton, and we would be in some little town probably somewhere. I warned her before I got married but anyway she said, okay, I understand. So we got married in July actually.

#188 DF: July what?
MD: July 16th, 1948.
DF: And what was her name?
MD: Marjorie.
DF: Great. So what did she think of moving to all these different towns.
MD: The first move we had came about October and we were told we were going to High Prairie. So up we go to High Prairie and of course, the accommodation up there was very, very limited and we got a little shack but it was very, very well insulated. The whole thing would be from here to that wall.
DF: Okay, so how big is that, about 10 x 12.
MD: I'd say 10 x 12 might be a good estimate. And then there was sort of a little nook tacked on to the side of that where we could get a double bed in. And that was it. No running water. Anyway, people in High Prairie were just great, we didn't have any furniture to take up there to a little teeny place like that so we made some enquiries if we could rent a bed. First thing you know, people offered us a bed and then. . .well, all we needed was a bed, a kitchen table and two chairs. We were there for that winter and then the following summer we went to Falher and we spent a good year in Falher. Then again, we were very fortunate, we got a house up there with a couple of bedrooms in it. Enjoyed that part of the country. Of course, that was solid French, the only English people there was the station agent. Also there was a French chap by the name of Gamache that had gone to university and his dad had the Red & White store there and Gamache had taken law and just prior to us getting up there, he had come back to Falher and was actually living there and had a law practice going. So we had a very nice time there with this chap. Then from . . . .it would be the summer of 1950, about June 1950, that the Party Chief on the crew, and you many have run into this chap or heard of his name, Bob Grier, he formed Velocity Surveys. Bob just passed away here about two weeks ago. He had been the Party Chief and he decided to go out on his own and form his own seismic company, which he did. So I was given the crew. This would be about the first of June and we were informed that we were going to go up north of Peace River in a camp for the summer. As a matter of fact, our camp was established just about 8 miles north of the bridge that crosses the Hay River, just north of High Level. You have High Level and I think the bridge is just north of High Level and then I think we were about, maybe 2 or 3 miles north of that again, north of the bridge. I think it was 8 miles north of High Level. At that time there was nothing at High Level, there was a Hudson Bay store, that was it. So I spent the summer up there, we worked 40 days and then took 20 off. And I thoroughly enjoyed that.

#234 DF: And you were Party Chief by this time. Tell me how your responsibilities were different?

MD: Of course, you were responsible for the whole field operation. The reason they made operators into Party Chief's was because operators had the experience on shooting, taking the records and knowing what to do to get the best quality of record. So that was Imperial's policy. Their Party Chief's were former operators. So you would have 2 or 3 drills on you crew that you had to. . . .at that time they were contract crews, there was a time when Imperial had their own crews but by this time, they had taken on contract crews so we had 2 or 3 contract drills so you were responsible for them of course, and keeping everything going.

DF: How big a hole were they drilling for you?

MD: 3½" to 4" diameter.

DF: And how deep?

MD: It would vary on the particular area, the type of material and everything else. But generally speaking, your seismic holes generally would run anywhere from, 30 would be a pretty shallow one, say, 30 feet to maybe 150. There weren't many areas where you would have to go as deep as 150 but it depended upon the layers of dirt that you had to go through to get a good reflecting deal.

#251 DF: And how much explosive did you use in those?

MD: There again, this would vary anywhere from a pound and a quarter up to 40 or 50 pounds. I would say that the average might have been 5-10 pounds.

DF: Any stories about dealing with the explosives, was that dangerous or pretty much run of the mill?

MD: Anytime with explosives, if you're careless. . .there were a couple of people killed through carelessness. Other than that, this one particular incident I recall. . .I'm trying to recall exactly what it was. I think the fellow had hooked up the charge and had put the cap into the dynamite and had it sitting there and there was a delay or something or other and somehow or other he hit the button by mistake, so the guy got blown up of course. But really that was the only dynamite accident that I recall and that was strictly due to carelessness. Another hazard that I experienced on my own crew where we had a drill set up underneath a power line and the mast touched it and it killed two people. They had their hands on the controls of the drill and so. . . whenever you had a power line overhead, here again it was carelessness because everybody was aware of it and warned and everything else. That happened up in the Peace River country. Anyway when we got up to that High Level up there, matter of fact, when we were posted up there, we thought that's the last we'll ever see of civilization. . .you know, the whole of northern Alberta, that we'll be up there in camps and I'll be whipping down to Edmonton to visit my wife at time off and this sort of thing. It came about, we were out on leave and. . . . .

#277 DF: You mean she wasn't traveling with you, she was back in Edmonton?

MD: No, I was up in a bush camp.

DF: Okay, when you went near small towns then she went with you but not when you were in the bush?

MD: No, not in the bush. Anyway, as I say, we thought we were destined to spend years up in the north country. We were out on leave in October and Frank Spraggins phoned me, he said, how fast can you get your crew down to Edmonton. It just shocked me and I said, what's this all about. He said, we're going to move your crew to Edmonton. You mean right to the city of Edmonton and he said, yes. That was unheard of. And he said, you're going to be doing what we call hot shot work around the city of Edmonton and I might get a weeks work or two weeks work out here by Westlock and another one out here at Camrose and another three or four weeks out here. But he said, you'll keep your office in Edmonton but the crews will be staying out in these various locations. So boy, that was really something. So I got the fellows together and went out there and brought the crew down. We did spend. . .I was about a year I guess, that would be the fall of '50 that we brought the crew down to Edmonton so we spent the winter down in Edmonton. Now here's where my friend Bob Haun comes in again. Bob in the meantime had been working for Heiland and Harold Farney, I think you interviewed him, had started up his own company. So Bob went to work for Harold Farney and Bob was doing interpretation and computing and what not on the records in the office. So he contacted me, he wanted to start up his own company and he wanted me to go in with him. He started calling me by phone in January, I just kept saying no, I was perfectly happy with Imperial, I couldn't see any reason for leaving. Well, this went on for about 3 months and finally I said, okay. He wanted me to run the operations end of it and he would run the interpretation end of it. And I knew Bob very well so I was sure we'd get along fine together, which we did. Anyway came around about May, I guess it was, I gave my month's notice to the company. So of course, when you give a month's notice to the company, you're gone today, they don't keep you around. But in the meantime Bob had gone ahead. He'd ordered all the equipment and the trucks and it was all ready to go by the first of June. But we were shopping around and we didn't have a contract when we had all the equipment ready. So I don't know whether you heard this mentioned before, we did what they called a participation job. In other words, you went around to various companies and said, okay, we're going to do a months shooting or x number of holes, maybe 200 holes in a particular area and we'll make up 3 or 4 maps of the area showing various layers down there and this will only cost you, in this particular case, $1,000. Whereas to do it on your own at that time would have cost about $15,000-$20,000. So we figured we had to get a minimum of 10 to get $10,000 just to cover our cost. So we got 12 over a period of a couple of weeks of shopping around to various companies and whatnot. And the first job we did was right out here at Olds. There had been a well drilled called Bailey-Olds well and they had some encouraging results. Well the industry was very interested you see. I think we said we'd do 200 holes, all around this particular discovery well, as they were sort of calling it at that time. So we put up our crew in Didsbury. . .we hired all the personnel, we got a couple of surveyors out of SAIT, and we hired an operator from another company and I started out for that one particular job I did the operating and I Party Managed the crew at the same time, while I was checking out this other chap to be

the operator. And fortunately we got some very good records and we impressed one company in particular and that was Gulf Oil. Gulf Oil participated in it and before we finished the job they said, we want to hire your crew on a steady basis. So as a matter of fact, that one crew worked for Gulf for seven years. So as soon as we finished that job, Gulf took us on and our first job with Gulf was up in the Delburne area and we actually moved over to Saskatoon. That was rather interesting over there. They'd never had a seismic crew working out of Saskatoon before. So some way or other word got around to the paper, the Saskatoon Star Phoenix, that there was a seismic crew in town. So the reporter contacted me and came out to the field and took pictures and . . . heavens, it was a whole page when it came out. And what made me laugh was the guy talked about how we got into this and anyway, he made it up that here was these two young fellows that had been working for companies and they'd decided they were going to go out on their own and a real Horatio Alger story. You know, we're in debt up to ears. . . . And the kind of comical part about it was, one of the fellows up at the geophysical for Gulf, working in the Calgary office, he was from Saskatoon. He happened to be over in Saskatoon and he saw this big write up, so he gave us the real raspberries about this Horatio Alger story.

#369 DF: Now it sounds like you and Mr. Haun had formed a company by then, what was the name of this company?

MD: Geocraft Limited.

DF: So you didn't have any contracts to begin with, you had to go. . .?

MD: No, we took a gamble and. . .

DF: And was Bob the salesman here, was he the one out pounding the pavement trying to find contracts?

MD: Yes, he was. He was doing this when I was still with Imperial.

DF: Did you ever get any work out of Imperial or wouldn't they hire you because you quit?

MD: As a matter of fact, Frank Spraggins offered me a job for the summer but as a portable crew. At that particular summer I think he put out four portable crews and these are on horseback, way up in northern Alberta, pack train and this sort of thing. They had little hand drills that they could only drill down, not very far, and put a small charge in and they just jumped around to various places in northern Alberta and it was strictly a reconnaissance type of thing. So Frank said, he'd give us a portable crew contract but of course, we had all the trucks bought and everything, we just wouldn't touch it.

DF: Before you go on, when you were Party Chief for Imperial, were you always working with trucks or did you have tracked vehicles, muskeg vehicles.

MD: At that time we just had trucks.

DF: Okay. And the same thing when you started your own company, you started out with just trucks?

MD: Yes.

DF: So you're still working with truck based crews?

MD: Correct. This has been all truck work.

#397 DF: So we have you in Saskatoon working there, then what did you do next?

MD: While we were in Saskatoon, Gulf said to us, we want you to put out another crew. There was an agreement called the Northern Foothills Agreement, which was Imperial Oil, Mobil Oil, Texaco. . . .I don't know if Shell was in it or not, I can't be too sure of that. They had a bunch of acreage up in northeast B.C., north of Beaton River. Do you know where Beaton River airstrip is? And Gulf Oil was going to be the operator on 2 or 3 of these blocks. They wanted us to start the first of December up there and they wanted 2 crews. We were in debt up to our ears but anyway, geophysics was moving along good and we had no trouble getting money. Bob Haun and me never put any. . .the only thing we put into this company were our cars and we got two people to put up $5,000 apiece. And the rest of it was all . .

DF: Bank money.

MD: Bank money.

#418 DF: Do you remember how much it cost to put the first crew together, just ballpark?

MD: About $22,000-$25,000, including the instruments and the trucks and the whole works. One of your big trucks will cost you that today.

DF: More.

MD: Yes, it was just amazing. So we said, okay fine, we'll put out the second crew, so we did. So about the middle of December, we moved these two crews up into Beaton River. There was an emergency landing strip up there and there was a road to there of course, but nothing beyond. So we had aerial photos and then we started with the bulldozers going north at Beaton River. We had a terrible time with the bulldozers, we didn't hire them, they were hired by Gulf, they hired one of these fellows called a ten per center, a guy living in Grande Prairie. He just got a couple of cats here, one there and so on, from other companies, and he said, you give me 10% and I'll get you a job. So he got 6 of them and these guys were all supposed to be up there starting in the middle of December. We get up there and there's only two cats and we were held up and had a terrible time, finally we were into January, working through Christmas and New Year's at that time, which you couldn't get anybody to do now, I went to Gulf and I said, look, these guys are just not bush operators, they've been building roads, they haven't a clue. They've got the wrong kind of cats, they've got cable cats, do you remember the old blade lifted by cables, well you need hydraulic ones with pressure on them. So Gulf really balked at this because they had these signed contracts. Finally the head guy flew up to Beaton River and we took him out to the field and showed him. We still didn't have all our cats and they were supposed to have a truck hauling the fuel in for them and all this sort of stuff, they had nothing. They were using a half ton pick-up with a 45 gallon drum thrown on the back of that. Finally we got rid of the cats. In the meantime, I knew there were cats in Fort St. John and Dawson Creek and I talked to them. They'd had a lot of experience in doing seismic lines, they were real operators. The winter went on and things went on pretty well as a matter of fact. Gulf guaranteed that they would keep this extra crew, either they or one of the companies in the group would keep it working for the summer and through the following winter. So this is great. So it comes around to the next fall and Gulf wants to put on a third crew. I think at that time they said, we can't guarantee that third crew a job

for the following summer but the two of them would. So anyway we put out a third crew, which was probably a mistake because it only worked through the winters, as long as we were operating, it only worked through the winters so it was kind of a drain on our resources.

#478 DF: Because you still had to have all the equipment, but. . . .

MD: Yes. Because during the summer at that time, you worked full capacity through the winter and about 50% through the summer.

DF: Because of road bans and so on?

MD: Road bans. But you did so much work in the north in the winter time you see. Every crew you could get could work in the winter time but not in the summer. We went on for about 7 years as a matter of fact. We're now to the spring of '57. This was sort of the beginning of a slump in geophysics. Not only that but also tape was now coming on the market and there were three types of magnetic tape. Imperial had a type, SIE had a type and Texas Instruments, three types. And the big debate was, everybody felt that one of these is going to be the one that comes out on top. There's no way that you're going to be able to have three different tape systems going in the geophysical business. And by this time, the companies, for that summer, with the slump and what not, you couldn't get a contract unless you put tape out. Well, what tape should we buy, you know. We'd paid off everything, we were out of debt. So we talked about this for quite a bit and finally we decided that maybe we should shut it down, we had a couple of offers. When I say offers, with the slump and whatnot, they weren't that great, I can assure you. Actually, one of the American companies wanted to buy us out but we weren't too pleased about that but there was another company called Accurate Exploration, have you heard of that one. Bud Coote and Wes Rabey. They were both former Imperial Oil geophysicists. Wes Rabey had left and he had formed Accurate Exploration and Bud Coote, he had formed West Provincial and the two got together under the name of Accurate Exploration. What happened, let's see. . .this would be. . . .I think in the spring of '57 it must have been, no actually it must have been '56. What happened was that Accurate Exploration was bought by Geoprosco. Geoprosco was a company that had been bought by the Cementation Company of London, England. The Cementation Company of London, England was basically a civil engineering company and they operated around the world.

DF: And what does Cementation mean?

MD: They were basically civil engineering jobs, cementation, if it's cement, I'm not sure.

End of tape.

Tape 1 Side 2

DF: Okay, so Geoprosco had been bought out by. . . .

MD: Geoprosco, they had started up over here and were bought out by the Cementation Company. They didn't have the proper supervision and they never did make much of a name for themselves. They had a lot of money behind them but they were not considered a good seismic contractor. So Imperial Oil wanted . . . .this must have been about the fall of '56, Imperial Oil wanted to put four crews in the area between Whitecourt and Valleyview and they wanted them to be able to operate summer and winter. Trucks in the winter, track equipment in the summer so you had to have track and truck. So this is going to be a really big capital investment for anybody who got it. Accurate Exploration, initially, by themselves, they couldn't have done it. This is how, in the fall, they got together with Geoprosco. But Coote and Wes Rabey had very, very good reputations with Imperial Oil. So there was not question as far as Imperial was concerned, Bud and Wes were just tops with them. So they put in a bid for the job and they got it. So it rolled around to the spring of '57 when Geocraft was thinking of shutting down and Bud and Wes came to Bob and I and wanted to know if we were interested in selling. They explained what they wanted. Basically, as it turned out, because of my field experience, they wanted me to be the Field Supervisor for these four crews. And I had worked for Imperial and I guess they found out that my reputation must have been okay, because I know they approached somebody in Imperial who happened to be a good friend of mine and wanted to know what my reputation with Imperial was. He put a good plug in for me. We sold out anyway to Accurate Exploration. So then I took over the supervision of these four crews. In the meantime, Accurate had set up an office up in Edmonton because that was much handier, they did the interpretation as well as the field operations. So when I entered the picture, they were just going into the summer operations with track equipment and that is one of the worst summers I ever had in my life. You've probably heard of Nodwell equipment. Well, Bruce Nodwell, for about a year he had been experimenting with a piece of equipment with tracks. And it looked pretty good, so he decided to go into production. And we equipped four crews with all these new Nodwells. The biggest mistake he made was that the unit he tested for a whole year, he decided to make it bigger and he changed the rear end set-up completely because they one he had was too small. These things were steered by clutches, there was a clutch here and a clutch here and these clutches, I understand were from some machine, a lathe machine or something or other, that type of clutch. The big problem was you could get in one of those things and you could take one of those clutches out so easily. We even had a crew put in a clutch out at night in the bush and make a circle around the camp and have that clutch go out. So we just had a terrible time. I was getting phone calls 24 hours a day from the radios out in the field. They had to have the stuff and there was no access to these fields except by air. That previous winter, Imperial had cut small landing strips you see, so they could fly stuff in. So it was a terrible time, we had nothing but problems. And

finally we got together with Imperial Oil, we got together with Bruce Nodwell, and Bruce had a fellow that was backing him, that was actually putting the money up and in Accurate we had a mechanical engineer, so the four of us got together, we had to do something about this rear end. Finally I guess, Imperial had been experimenting with a rear end and they came up with one that was finally adopted into Nodwell's track equipment. But by this time it was too late for that summer's work. We were going on into fall. . . .let me think. . . .it was just that fall that Imperial Oil suddenly canceled the contract. It was four crews for three years. And the reason for it was that Imperial didn't have an acre of land in there and they thought they could go in there, they would do some preliminary surveying and then they would go in and pick up acreage and they would be the operator. Well, there were some of the other majors in there too like Shell and Texaco and Amoco I think it was. Anyway, they found out they weren't going to get. . .that was one of the reasons, now there was some other reasons too. . . .

#057 DF: But if they couldn't get land, that's pretty major.

MD: That was the major reason. They suddenly found out that nobody was going to deal with them or nobody was going to let them be the operator. If there was any land deal the other company was going to be the operator. Anyway this created quite a bit of a problem, terminating this four crews, three year contract and I got involved somewhat with that. We finally got it all sorted out. We kept working for Imperial Oil following that. So we're into '58 now.

DF: Did Imperial have to buy you out of that contract or how did that work?

MD: A good part of it was settled with them guaranteeing other contracts and this sort of thing, rather than an actual cash deal. So Accurate, with that deal over, right up until the time I left them, I left them in 1969, we had at least one crew working for Imperial steady all the time along with various other contracts. So for the balance of the time. . .just a minute, that was way back in the 50's, and then we get into the early 60's and . . . .

#072 DF: There was quite a downturn in the early 60's wasn't there?

MD: There was a downturn. Prior to this downturn though. . . it must have been around '62, I'm not too sure of that. . .that things were kind of tough and Cementation of London, England were having problems with some of their companies around the world and they said, unless these companies are making an x return on our dollar, we're going to get rid of them. And it turned out that with the downturn in the geophysics that they weren't making this so they decided to sell off Accurate. So it turned out that they shopped around the world and they couldn't sell it. Bud Coote and Wes Rabey were pretty sharp with the pencils, they decided that if they're going to sell this or shut it down, it's going to cost them, they're going to have to pay us key fellows severance pay. So they came up with a figure, you know, it will probably cost you about $100,000 in severance pay and this sort of thing to settle this thing if you just shut us down. We said, we'll buy the company for $100,000 and they jumped at it. I just had a small part of it, I wasn't one of the major ones, I got a percentage of it. So then we operated along like that for about 3 or 4 years and this is a private company. So how do you ever get your money out of a private

company, if you want to leave, it's a pretty tough situation, so we decided, I wonder if we can go public some way or other. They heard about this company called Kenting Aviation down in Toronto which did mostly aerial surveys, magnetometer surveys, and they did aerial photographic surveys as well. They had some aircraft and helicopters and they were a public company. So. . .again, you have to give credit to. . . .Wes Rabey had left by this time, Bud Coote was in there, he said, what we should do, there's going to be a tremendous amount of work done in the Northwest Territories and you look at a map and there are puddles of water around all over the place and it's removed and what if we could offer a package. Not thinking of the major companies right now, like Imperial but some of the larger junior oil companies you might say, that have acreage up there, where we'll do the initial geology, then we'll go on and we'll do the aerial magnetometer if they want or the gravity meter work, they we'll go and do the seismic work, then if there's any drilling we'll do the drilling, then we'll also do the servicing of the wells. In other words a package deal, that we can go to these companies and say we can do the whole thing for you. So we got together with a drilling outfit called Petrolia Drilling, they were one of the better known and very well-respected big rig companies. So Petrolia Drilling and Accurate decided to push this idea so they approached Kenting and the out shoot of it was, Kenting went for it. So this is when Kenting Ltd. was formed out of Kenting Aviation. Actually the idea of the package deal and everything didn't really pan out but the company was very successful and I stayed with them right through until about 1969.

#123 DF: So the whole packaging system doesn't work, what parts did?

MD: Well, we got a lot of jobs out of it.

DF: You get drilling.

MD: Petrolia Drilling did a lot of drilling, we did a lot of seismic but we never did really get a whole package, it just didn't pan out.

DF: What did Kenting get out of it, the aerial survey?

MD: They weren't doing that well really, with their aerial survey. Eventually that was just phased out. Kenting Ltd. was eventually bought out, this was after I left, by that big trucking outfit here in Calgary. . .what's the name of it, you've probably heard it many times. . . anyway they eventually bought out Kenting Ltd. I'm not sure what the status of Kenting is at the moment. But one of the very interesting things that we did was, way back in 1959 and looking at the Northwest Territories and seeing all of this water. One of the fellows in this company was Ernie Pallister. Ernie had done marine seismic work over in the middle east somewhere and he looked at all this water up there and he said, maybe we can do some kind of marine seismic work and whatnot. So we got kicking this idea around and we thought we should find out something about how you could operate up in the Territories there, who should we talk to. Somebody said, Max Ward, because Max Ward at that time was living in Yellowknife and had a Buffalo aircraft, a freighter aircraft of some sort, sort of a miniature Hercules you might say, let's talk to Max Ward. So we called him and we set up a meeting with him, I remember this, at the Corona Hotel. So we spent a whole afternoon with Max, very nice fellow to talk to, asking about the transportation problems and how you operate up there in the Territories. The out shoot of

that was, I guess it would be in the spring of '59, we talked to various companies here in Calgary to try to get them to back the idea of doing marine seismic on the Mackenzie River. Of course, there were a number of Americans up here, geophysicists and what not and they said, that just won't work, we tried marine seismic on the Mississippi and on the Missouri and this and that. They said, there's too much noise in the water, it just won't work. We weren't stalled, we went ahead and we got a second hand water cable, which has the geophones mounted right inside of the cable and is specifically for use on the water. We couldn't get any company to finance us. We wanted to go up and do some experimental work the summer of '59. We couldn't get any backing. Anyway we got an old second hand cable and then I think it was April of '59, I went up there with 3 or 4 fellows and Ernie Pallister was one of them I believe. There was a little open stretch of water there by Providence, where you crossed on the ice and we thought, we'll lay the cable out into this open stretch of water and we'll set off some dynamite in the water and just see what kind of results we get. So we hired a whole bunch of Indians to hold onto this cable, there was quite a drag on it and we fired a few shots and I recall looking at the records. They were holding the cable you see, and the water's going by so it's creating noise. But anyway Ernie Pallister and Bud Coote who were the interpretation types, they thought they could see enough on there that we would go ahead that summer and do some shooting on the Mackenzie River. We'd start just near Hay River and work our way down as far as Norman Wells in a few spots here and there.

#174 DF: On spec?

MD: Yes. We did that on our own. It cost us, I forget now, quite a few thousands of dollars of course. We rented some old boats there at Hay River and we actually brought in one of these landing crafts from Vancouver for sleeping the personnel in. We tested several spots down the river. When we were actually firing the shots, to get rid of some of the noise, we'd always operate upstream so we'd be going along and then at the time we wanted to fire the shot, we'd cut the motor and let the cable drift so you would at least get rid of the noise of the water on the cable but you still had the noise of the water over the bottom. On the whole the records were not very good, except at Norman Wells. We got picture book records. We eventually put those up for participation and I don't know how many times we sold that stuff. Eventually we sold it to one of these data processing centres which sold seismic and just 2 or 3 years ago I talked to a guy and he said, do you know that we're still selling that. We had the perfect example of a Devonian reef at Norman Wells and it's out in the middle of the river. We went up over the top of that and these records were the most beautiful we ever got on the river and it just showed exactly, the characteristic change in the character of the reflection as it goes up onto the top on both sides. Just absolute picture book. From then until I left in '69 we had a crew up there for about 6 weeks every summer. We did work in the Delta and also we went out up around Nicholson Peninsula I think it is, down into Liverpool Bay and shot down into Liverpool Bay. Liverpool Bay is a long narrow bay and we shot several miles and it's a long narrow neck of water. We got some really nice records in there. Surveying was always a problem on the river and then you know, how do we get our position. So most of

it was really done by using aerial photos and having a surveyor on the recording boat and almost simultaneously taking a bearing on this or on that or reading the aerial photos to actually sort of pinpoint himself in the river. When we got into Liverpool Bay that was a little more difficult because it was pretty flat except, have you heard of these pingos, we shot on pingos for christ sake. Or take a couple of shots at one time. Another time we. . . Kakisa Lake, I think that's just inside the Territories, maybe you'd have to look at a map. . .there we used radar. We set up two radar positions and at the time of firing the shot we'd get two bearings on this sort of thing. This was all reconnaissance stuff so it wasn't really that critical.

#220 DF: Was this all still on spec, were you selling this?

MD: Oh no. After Norman Wells we had contract every summer. Imperial Oil, Shell Oil, Mobil Oil.

DF: But based on the Norman Wells material they could tell you could do a good job.

MD: That's right. And then we never got records anywhere near as good as that again. A few places we did. But I thoroughly enjoyed supervising the crew. I'd go up there, make maybe two visits during the six weeks that they were up there.

DF: What else did you do to improve the records on the river work?

MD: Prayed. Nothing. The first bit that we did, testing with that open stretch of water, the reason it was open, there was a very fast current there. So that was the worst conditions that we could have been in.

#233 DF: Tell me a little bit more about that marine work, did you set off the explosives just in the water?

MD: We would have it down about 6 or 7 feet and we supported the shooter. . .they had a separate boat for the shooter of course. He would get his charge and he would put on say, six feet of cap wire with a charge on the end and it would be tied securely around the charge. We would put three big balloons. . .we bought these toy balloons and they'd blow these up and I think they'd put maybe two on each one of these to suspend the charge. They had radio contract between the recording boat and the. . . so when the shooter and the recorder were all ready and they cut the engines, then the shooter, as they were drifting back, the shooter would drop his charge and he'd whip off to one side and fire the charge. Then there would just be a shot of water up there. We had quite a bit of discussions with the fishery people about killing fish but I can assure you that we killed practically none. One summer they had a fellow from the Fishery Department with the Territories, he had a run about and he stayed with that crew all summer long, tagging along behind. I think most of the time he would run and get groceries for us and this sort of thing because we weren't killing any fish. The only time that you might kill any number of fish, if you happened to have the charge go off right on top of a school of fish. But time after time, not a singe fish.

#257 DF: How big were your explosive charges?

MD: They would vary, I think most of them would be about five pounds.

DF: Didn't do much damage?
MD: Absolutely inappreciable.
DF: How long was your cable?
MD: We were using a quarter mile cable.
DF: And how many geophones in there?
MD: There would be 12 stations, let me think, did we have multiple phones. . . I'm not sure, at each station we might have had a total of three but I'm not sure of that. But we were using only 12 amplifiers, 12 stations.
DF: And those were all sealed into a cable?
MD: Correct.
DF: Any trouble with that, did they get out of. . . .
MD: Once in awhile water got in and you'd have to pull the cable in and work on it, retape it and everything else.
DF: Any other things unusual while working on the river?
MD: Yes. We picked up a dead body. This was not too far from Norman Wells. In the recording boat, the guy up on top suddenly let out a yell, he said, there's a body coming down. I happened to be there. He yelled at the shooter to grab a pole and grab the body. So they put it up on shore. But what happened was, this turned out to be a couple of Indians that had been at Fort Norman, had gone up to Norman Wells and bought a bunch of liquor and got drunk and headed back up the river I guess it would be. They found the boat, evidently, the transom??? was out, they said the had too big a motor on the transom and it tore the transom right out and they both drowned. I don't know if they ever found the other fellow or not. So I had to go to Norman Wells and tell the RCMP to come and pick it up. I walked over into the, remember the Canol Project. Just across from Norman Wells, was one of the terminals, about a mile from the river, a mile west of there, it's rather interesting walking over and seeing all that stuff in there, there was still all kinds of stuff in there at that time.

#288 DF: Just abandoned.
MD: Well yes and no. I guess they caught people stealing stuff out of there. Finally they sold the whole works to some American. I know the particular summer that I walked into it, one warehouse had nothing but hardware, door hardware, hinges, just hundreds and hundreds. You would wonder why in the world they had so much of it, it was crazy. Another one, truck chains, holy christmas, the number of truck chains, just all laying all over the floor. And of course, what they did after the war there, they burned and buried a lot of the trucks. The Canadian government didn't want them flooding the market with these trucks so the Americans just destroyed them.
DF: What did you do for housing on the river?
MD: We slept right on the boats. As I say, we brought this one landing craft.
DF: But a landing craft is usually just flat isn't it, did you build something on top of it?
MD: No, the landing craft, it was one of these things that. . .
DF: Yes, with a nose that drops down.
MD: Yes. And you had an interior there. And we built bunks and whatnot in there to house it

and we hired a boat to pull it. This particular thing wasn't powered at all. I guess we got two of those, one wasn't powered and one was powered.

#307 DF: So almost like a barge.

MD: Yes. That was the first couple of years. Then for a number of years, we got a fellow that was a missionary, he had built himself a big, it was really a powered scow is what it was. But it was ideal. This fellow really knew the north, he was an American and ran a missionary deal up there. So he built this boat that he used to go visit the various little villages along the Mackenzie River and along the Arctic Coast.

DF: Do you remember his name?

MD: I'll think of it in a moment.

DF: Did you get to know the people at Fort Simpson?

MD: Not really. I got to know one person. This fellow that we hired, this particular boat, this particular year was in getting groceries in the Hudson Bay store and he said, I'm in a hurry, get this stuff ready, I have to meet Marty Dewis down there at 2:00. And this girl said, who, she said, I'm a Dewis, who's this Marty Dewis. It turns out it's a distant relative of mine, about a second cousin. Eventually I met her. Anyway this fellow also had an aircraft that he flew around and visited some of the remote districts . But he was a great operator. He looked after his equipment and it was the best set-up we ever had on the river. And rather interesting, the first couple of years as we worked our way down the river we were using Indians as helpers and whatnot. Compared to the Eskimos they were a dead loss. The Eskimos when we got further down, we started picking up 2 or 3 Eskimos. Those fellows were really hard workers, they did a tremendous job for us.

#334 DF: So why do you think the Indians weren't as good?

MD: You could never depend on them. It's the same old story, we had them on land seismic too you know. I remember one time, one of the Party Managers, when they're ready to pick the cable up the operator would blow the horn on the truck and the guy on the other end would start picking up. He blew the horn and nothing was happening down there and finally he sent somebody from here, walked down there, nobody there. Well, it turned out the Indian kid we'd hired, he had an uncle living 2 or 3 miles away, he decided to go see his uncle. And they'd work for maybe 2 weeks, you might say until they got their belly full. They would eat like you wouldn't believe and then they'd be gone.

DF: But why the difference between the Indians and the Eskimos, any insights into that?

MD: The Eskimo was much more responsible.

DF: I'm trying to understand why there's a difference, why?

MD: Is it because the Indians have been maybe more closely associated with the white man and got more alcohol and more bad habits, that's the only thing I can think of.

#355 DF: Yes, because the Eskimos are certainly much more remote?

MD: They're much more remote. But they were having some problems with the Eskimos drinking too much too. But they were far better workers and they're much more mechanically minded.

DF: How about your own men, did you have trouble with booze on the crew?

MD: We never allowed booze on the crew.
DF: Well, I know that's the official policy but what really happened?
MD: Only had one problem. And that's when we were north of Beaton River working for this NFA group for Gulf Oil and one of the supply drivers unbeknownst to me, was bringing in liquor from Dawson Creek when he made his run to pick up groceries and whatnot and the cook got into it. And one morning, the cooks drunk, he had been boozing all night. Of course, I had to fire the supply driver and the cook came around but the flunky, he knew something about cooking too so he got the things going for breakfast. But that was the only time I ever had a problem. What we did do, I forget whether it was once a week or once in two weeks, I think once in two weeks I would have the supply guy bring in say, two bottles of beer per person and that was it. If you let it wide open. . . . you know there's always a lot of gambling too and you get gambling and drinking together you can imagine the problems you're going to have then.

#382 DF: Did you ever have any encounters with wild animals up there?
MD: The only problem we had was with the cables and the rabbits. The rabbits liked to chew on the cable.
DF: Why?
MD: I don't know whether it's from any salt or stuff from your hands. Of course, this is in the winter time but they would gnaw on the cables. Now and again they would gnaw right through. But of course, you're moving all the time so often it wasn't too bad because when the rabbits saw you coming. . . . Of course, the rabbits have the seven year cycle. There were times I'm telling you that bulldoze trail would be a mass of rabbit tracks some winters and the highway, out on the main highway to Dawson Creek and Fort St. John, there would be dead rabbits all over the road. Suddenly there would be a winter come along and you'd hardly see a rabbit, hardly see a track. But as far as any wildlife, there were lynx up in there, but they were never a problem, they would always just take off. Wolves, there were wolves. One experience I had, I was driving from one camp to the other in the middle of the night and it was about minus 35 or 40, bouncing along this road, and suddenly I see what looks like a snubber, you know, sitting up on the frame so that when the truck comes down, instead of hitting the frame, it will hit these rubber snubbers. So I see this on the road and I go by it and I think, that's got to be from one of our trucks, so I back up. I left the truck there and I'm about 200' away I guess and I get my flashlight and I walk back down to this snubber. It's steaming, it's fresh wolf shit. Boy did I get back to that truck in a hurry. Another time I was driving along and there was a wolf right in front of the headlights there and the wolf just jumped up on the snowbank here and just stood there and I sort of cranked my window down and I couldn't have been this far away from it and looking through this little crack in the window.

#418 DF: So you were just 3 or 4 feet away from it.
MD: Yes.
DF: Any bears?
MD: They were hibernating. No problem at all.

DF: Even in the summer.

MD: I'll tell you the problem we had with the bears. We used to leave our camps in there because it wasn't practical to pull it out and to leave it there and leave a man in there, that meant you had to have radio contact, you had to get supplies into him, this is a costly thing. Finally we decided we're going to leave them there, we're not going to put anybody in there, we'll take a gamble and see if there's any damage done. Only one year do I remember anything serious. A bear tore the door off of the kitchen. We didn't leave any fresh food or anything. In this particular case there were a few cans of something or other were left in there and I think there was some flour or something like that. But the bear tore the door off, got in there, bit into the cans there and scatter the stuff outside, pulled the drawers out and sort of broke several of the drawers. But that was it, one of the fellows. . .when we went in there with our advance party, one of the fellows was a handy carpenter. This damage that was done, in a day he had most of it fixed up. So that was the only time there was anything like that done.

#443 DF: Any other adventures in the north, did you fly around much, any airplane stories?

MD: Talking about aerial stories, we did some helicopter surveys. Where you used helicopters for moving the drills. These were special drills that were designed and you could break them down into 3 parts that could be lifted by a helicopter, a Bell 204. We did some of that west of Nordegg.

DF: When did you start doing that, what year?

MD: It would be sometime in the 60's, maybe 65, 66, somewhere in there. We did another helicopter job up southwest of Norman Wells.

DF: what was the reason for going in with helicopters?

MD: Both cases, it was very, very hilly. You wouldn't get track equipment or trucks up and down these hills. And all they did, to lay the cable, they'd cut a place just wide enough for a guy to walk along and lay the cable. You had some axe man going ahead.

DF: So a hand cut line.

MD: A hand cut line. They'd have to cut a circle out for the helicopter to land of course, at each location but this would be in places where you couldn't use trucks or track equipment because of the steepness of the terrain.

#472 DF: So how expensive was that compared with truck operation, twice as much, three times as much?

MD: I'd hate to give a figure. I can't remember the total figure. I'd just be guessing, I don't want to throw figures out.

DF: But significantly more.

MD: Yes. On the job we took the helicopter on by the month with a guarantee of so many hours.

DF: Given your interest in the out of doors and your love for the out of doors, what did you think of all the mess you made when you were putting bulldozers through the woods and so on, did that ever bother you?

MD: No, it wasn't so bad as you might read in the papers. Initially you didn't have to clean the

line when they first started cutting these lines. But early on, I think by 1950 or earlier maybe, the government started to make you clean these lines up. And I found, and I've done a tremendous amount of hiking and whatnot, there was the odd location that I got back to where I could see there had been erosion. One spot in particular up north of Beaton River, there was the most severe erosion I'd seen. There was a very, very sandy soil and a hillside and it really cut a big trench in there. But 99.9% there wasn't any. And as far as the animals were concerned, they grow grass there now and the animals feed on it. Lots of times hiking in the wilderness, I've seen moose or deer or elk going down the cutlines. I suppose when they talk about timber, up in northern Alberta and northern B.C., most of that timber is small and it's muskeggy and everything else, so the value of the timber in most areas would be insignificant. It wasn't timber they'd be cutting anyway.

#520 DF: So when did you finish your career in the seismic industry?

MD: I left them about September or October of 1969.

DF: And why did you quit?

MD: What had happened, my wife had died in 1968. And I had two children, one was in grade 12 and one in 9, a girl and a boy. And I was running operations. Although around this time now, although I was still responsible for operations, I wasn't doing that much in the field. I was spending quite a bit of time contacting clients and getting contracts and this sort of thing. About this time, I was 50 and you were bidding on all these jobs now. The last job I bid on was on Melville Island in the Arctic. I'd never been up there. I had to bid on this job by hearsay more than anything else of what you could do and what you couldn't do. And the last couple of years that I was in it, I had found that the pressure was beginning to get to me. Whereas I would take things in my stride, you know whey you're younger, you had all kinds of problems, you know you just took them in your stride. And I suppose, my wife had been ill with cancer for some time and I suppose this may have added to it also. And with kids, I just decided to get out. So I actually, I gave my resignation in the spring of '69 but I said I would stay on until they got somebody, well they got somebody but it turned out. . .

End of tape.