Interview With: Major J. L. Charles - Winnipeg
Date: November 11, 1982 (Revised April 1983)
Interviewer: J. Crozier
Transcriber: J. Lehman
Subject:
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C I'm with Major J. L. Charles in Winnipeg at the home of Don Shields. Major Charles first came to my attention through Dr. Hardy in regard to the railroad that was built to Churchill. So we're going to talk with Major Charles about that today, but first of all, will you fill me in a little bit about the kinds of things we were talking about over lunch time, Major Charles, where were you born and when did you come to Canada, and why?

MC I was born in Weybridge, Surrey, England on the 15th day of December, 1892 and I came to Canada when I was seventeen in the spring of 1910 and went right through to Edmonton. Edmonton was the first place that I knew of in Canada.

C How did you come to know about Edmonton?

MC Because the construction of the Grand Trunk Pacific Railway was going on there. I had thought that I could get on with the engineering department of the Grand Trunk Pacific.

C Had you had any experience in engineering to that time?

MC A little with a firm of engineers and contractors in England after I left school.

C Civil Engineers?

MC Yes. On sewer and water works. But I had learned and been told a lot about Canada and I had a yen to come to Canada. That's why I came and I never regretted it. Canada has been good to me.

C Then tell me some of the lines that you worked on, I think you said that you worked first of all on the line from Edmonton to Calgary, was it?

MC Yes, Tofield to Calgary.

C That was Tofield to Calgary, right. That's the main CN line going north-south isn't it in Alberta.

MC That's right. That was in the summer of 1910 and the track was laid and finished just before Christmas 1910. We, the survey parties I was on, moved into Edmonton for Christmas and I always remember what a beautiful Christmas that was. The sun was bright. I didn't even put on an overcoat. It was that mild.

C And so different from Christmas in Britain, isn't it?

MC Oh yes.

C Oh yes. When you've got that incredible sun shining away only as on the prairies.

MC Yes, beautiful. Then we were moved to go on final surveys of the Coal Branch, south of Bickerdike, which is a little west of Edson. Spent the winter there. That's where I learned about Canadian winters.

C I'll bet you did. Cause it gets cold out there.

MC It was really cold and it was tough country because there was a tremendous amount of windfall. The country had been burned over and then the wind had knocked it down. And logs laying all over and to get across a lot of it you had to walk along the logs and then jump to another one and so on, you know. That was quite an experience.

C I'll bet it was.

MC But the senior fellows that I was with were very fine gentlemen and very capable men and if a young fellow like myself showed interest and was willing to work hard, they would coach him along. I had a great deal to thank those gentlemen for.

C Can you remember some of their names?

MC Yes, the main one the one, I had contacted him in England, he was a Welshmen, by the name of Leonard Silcox. He'd graduated in engineering in London and came to Canada and started work on the route location of the Grand Trunk Pacific about Saskatoon. He showed aptitude, natural aptitude and just went right ahead. I'd got in contact with him in England through his sister, who was a governess to my sister. And he'd visited his sister when she was with my mother. He told me all about Canada and got me all fired up and I'd never forgotten that. He was wonderfully good to me.

C Sounds like it was a great connection to make.

MC Beg your pardon?

C It was a great connection to make.

MC Oh yes, a wonderful connection. That just started me off. I mean, my father died when I was quite young and he Mr. Silcox was like a second father to me.

C During that time Major Charles, did the majority of the people who were surveying and building the railways have formal training in engineering?

MC I'd say fifty-fifty. Some did, some didn't.

C I see.

MC You could get ahead without it. Which you couldn't today. I mean, I often think back now of when in later years I was Chief Engineer of the Western Region of the Canadian National Railways, that was from Thunder Bay right through to Vancouver. There was no Regional Engineer in Edmonton in those days. I took in all that territory. In those days the lot of men came up through the ranks, a lot did.

C Then you went to work and stayed with what eventually became CN from the time you were seventeen when you came to Canada until the normal age of retirement 65.

MC When I was approaching 65, Donald Gordon, then President, was going through Winnipeg and asked me to come down to his business car and talk things over. And he said what are you going to do? I said,

Oh I don't know. He said we'd like you to stay longer so I stayed for another eight years until I was 73. But that didn't help my pension. My pension was calculated at 65.

C Sure. They still wouldn't give you any more.

MC No, he was quite candid about that. He said "I know you could probably get more if you went out on your own, but that's all we can give you." I said "that's alright Mr. Gordon;" we shook hands right there and that was all there was to it.

C Were you glad that you had made that decision to stay on?

MC I was glad, yes. It worked out fine. And he said, I'll confirm that when I get back to Montreal, which he did. He wrote me a letter and that was it.

C Great. Well during those early times, Major Charles, when you were learning about railway engineering, on the job basically, did you, once you got back to a major center like Edmonton or Winnipeg, or wherever, did you take any formal training? In Engineering?

MC We never got back to any place.

C Oh, you never got back?

MC Oh no, never. That was one thing, you went out on a job and you stayed on it. Not like these fellows today. Who have to run home and enjoy their wives to put it crudely. They've got to see their wife/girl friends every once in awhile.

C Well, sure they do.

MC Well, that wasn't done in thosedaysyouwent on the job and you stayed on the job until it was finished.

C When did you get married?

MC 1916 here in Winnipeg. When I was in the Army, First World War, on a lieutenants pay $3.00 per day.

C So then you worked with the railway from 1910 when you first came to Canada until when did you join up with the Army?

MC In 1915 here in Winnipeg. With the Royal Winnipeg Rifles "Little Black Devils". Winnipeg Rifles, a famous Western regiment unit, mobilized for overseas units. One was the Eighth Battalion and that was the first one to go over. And then the Ninetieth and then the Hundred and Forty-Fourth, the one I was with. Then the One Hundred and Ninetieth. They mobilized all those and when I came into Winnipeg, in 1915 to join up, I got a leave of absence from the railway. That was from the Hudson Bay Railway and I had thought I'd like to be an artillery man, but that meant having to go to Kingston and take a course there, which I couldn't afford. And there seemed to be a possibility of getting a commission in the infantry here. That's what I did. I was given a commission in the 144th Overseas Battalion. I'm going to dinner this evening, a memorial dinner of the Royal Winnipeg Rifles.

C When you came back to Canada after your overseas service, did you go right back to CN?

MC Yes. I came back in the spring of 1919, with my wife and baby who had been in England. She came and lived in England for three years while I was in France and Belgium. That was a wonderful thing for me because that kept me out of trouble.

C Yes. Kept you both happy.

MC Kept us both happy and me out of trouble. I've often thought of that. A young fellow, he'd get ramping around London and places like that.

C That's right. She must have been a pretty nice lady.

MC She was a wonderful warm loyal person, very beautiful too.

C Okay. Let's just talk for a minute about that 1910 to 1915 period. Those five years you worked on the railway from Tofield down to Calgary and then you worked on the one Southerly from Bickerdike. The Coal Branch. Then on the CN main line west of Jasper towards Prince Rupert.

C Okay, and then what?

MCH Then I went to the Hudson Bay Railway.

C Then the Hudson Bay Railway.

MC I was transferred to it.

C Okay. What state was that Hudson Bay Railway in at that time. I think, hadn't construction, hadn't some work started in 1911 or there abouts?

MC Yes! The Hudson Bay Railway strictly commences at Hudsan Bay Junction which is north of Dauphin. The old Canadian Northern Railway that went north-westerly from Dauphin through Prince Albert. There was a natural point, at a place called Hudson Bay Junction, to turn off to the Pas, eighty miles long. That was built by the Canadian Northern with the idea of continuing on to the Hudson Bay. In 1910, the Federal Government, Department of Railways and Canals, took over, and they organized survey parties to locate the route. The route then was to Port Nelson. Construction was commenced. The first major thing done was to bridge the Saskatchewan River at the Pas. That was built in 1910. The first 185 miles of line (grading, etc.) were awarded by contract to J.D. McArthur, and he sublet parts of it and so on. That was, being worked on then when I went to the Hudson Bay Railway in May, 1913. The grading was then in progress as far as Thicket Portage, Mile 185. And Mr. Silcox who I mentioned before, was chief of the party to survey the balance of the line into Nelson. I was his transitman, zi/ci. We left Selkirk on the 24 May 1913 on the old boat Wolverine to go north to Warren Landing, the north end of Lake Winnipeg. Then we took our canoes, equipment and supplies on our own down the Nelson River to where we started to survey at a place called Manitou Rapids where the railway crosses the Nelson River and worked north from there. Then we finished into Port Nelson. in August 1914. That's when we heard of the outbreak of the First

World War via ships wireless freighting supplies to Nelson. We'd finished our job and were moving back to Winnipeg. After that I joined the Army. I didn't think I would see that country again for a long, long time. But when I cam home in 1919, then the Hudson Bay Railway was being rehabilitated. It had gone back to the woods up as far as where Gillam is today. And the Dominion Government employed the Canadian National on a cost plus basis to rehabilitate that. And with the view then of completing it into Nelson. But the site for a harbor at Nelson was almost impossible. Well it was impractical, there is a difference between those two words. Anything's possible if you spend enough money foolishly. But impractical that's another thing.

C Right.

MC In 1917, all work at Nelson was stopped and nothing was done until 1925. About that time, the Honorable Charles Dunning was Minister of Railways and Canals, a westerner, and with his help westerners pressed for completion of the Hudson Bay Railway. A lot of money had been poured into the sea at Nelson with no results, no practical results, so Dunning said we should look at an alternative, Churchill. Now Churchill had been looked at from the very beginning but Nelson was chosen because it was a shorter distance, but, they'd overlooked the difficulty of building a port at Nelson.

C That's a fairly major oversight, isn't it?

MC It is. So then it was decided that, on Dunning's instructions, that we'd look at Churchill. The first thing that had to be decided on, was to ascertain if it would be practical to build a railway across what's known as the Hudson Bay Lowlands, a vast area of muskeg between the Nelson River and the Churchill.

C I understand that area is all full of muskeg.

MC Just a vast area of muskeg. Well at that time there was a Mr. Murray Hill, C.N.R.'S top reconnaissance engineer. I knew him very well, met him in France. He was quite a man, a fine gentleman just diverse, to tell a little story about Murray Hill. He was loaned from the Canadian Engineers to the Royal Engineers in France. In 1918, when the Germans were making their final push an endeavor to get to the coast, and cut off the channel ports, the, plain railway came under shellfire and there was all hell to build an alternative. Murray was with a Royal Engineer company to stake this out, locate it. He was an expert, really knew location work, but was with a fussy old Royal Engineer captain. Murray finally got fed up. You'll excuse this, he said, "Sir, anyone with half an eye and no asshole could see where this ought to go"; That was Murray's favorite expression alright. A grand gentleman. Well all hell broke out loose then, of course.

C I'll just bet there was.

MC The R.E. colonel came and sorted out the situation and moved the

old captain and left Murray to complete the job. But I always remember that expression of Murray Hill's "anyone with half an eye and no asshole could see where this ought to go". He was "an officer and gentleman".

C Oh, but to say something like that to an old British Royal Army person.

MC Yes, you can imagine what that meant.

C Oh yes, I certainly can.

MC Now, the next thing I knew of Murray was I met him here and he was my boss for a long time. He was assigned to make a preliminary survey and report whether it would be practical to build into Churchill and I was to joing him after New Years as his assistant. Unfortunately he got very ill, pneumonia, and he couldn't do it. We had to move him to the hospital at the Pas and he didn't recover for sometime. I was instructed to take over.. That was was alrgith for me. And we made a preliminary survey through out the winter and I reported that there would appear to be no unsurmountable difficulties to build a railway there. And then the question was, the harbour. Frederick Palmer of Great Britain, an eminent authority all over the workd on building ports was called in. To make an appraisal between Nelson and Churchill. He was very strongly in favour of Churchill. He could see no reason why they'd ever gone to Nelson. In fact, he ended up his report with

the neatest thing I think I've ever read, he was a typical English gentleman, and he said, "there must have been some other and overwhelming reason why they'd go to Nelson". Now that was the neatest way of saying "politics".

C Crazy.

MC Yes.

C What was the problem at Nelson?

MC The Nelson River just opens up in a great big funnel and there are tortuous channels out to deep water and there's nothing there to build with, there's no rock, nothing. Just hopeless.

C A lot of silts and fines.

MC Yes, they're coming down the Nelson River all the time.

C Yes, okay.

MC The closest a boat could get an anchor-age was 18 miles off and every movement in, and out would have to be calculated exactly and precisely with the movement of the tide.

C Then tell me about the port at Churchill, Major Charles.

MC Churchill is a small natural harbour there's a difference between a harbour and a port. A harbor is a natural feature. A port is finished facility to handle ships. Well Churchill is a natural. Absolutely, you'd think formed for the purpose.

C Is that right?

MC The Churchill River flows into the Bay between two points of rock, half a mile apart, a deep water entrance into the harbour.

C So, no dredging problems, none of those kinds of things.

MC Mr. Palmer tabulated the ifs and pros and cons, and made his report. All hell broke loose that the railway should be completed immediately into Churchill, in one hell of a hurry, also construct the past. I was working on a branch line in Northern Saskatchewan that summer. I received a wire to report right into Winnipeg and, was instructed to survey the route to Churchill, the final route.

C That must have been a terrible job, that initial surveying both the one that you had done before the War and then the final survey afterwards?

MC Yes. Well the first thing that I had to do you see, we'd run the preliminary the year before and the only practical means of transport in that country was dogs, in those days, I had to go out and purchase 60 sleight dogs along through Gimli and places like that, along Lake Winnipeg. And it just happened that when I was looking around Winnipeg, walking by the old Empire Hotel, I spotted a fellow sitting in there, Luke Clemens, an old northerner a really personal friend of mine, from the early days, and

I said, "Luke you're just the man I want to come out and help me buy some dogs". Luke was a Lake Winnipeg fisherman originally, before he went in the north. I didn't have a car in those days, so I got a u-drive car and we drove out on a Sunday morning to buy, and get options, to buy the dogs. Well, I don't know if you should put this in there, but you use your own discretion.

C You go ahead. We've got just a couple of minutes before the tape ends and I'll wave my hand in just a minute to tell you the tape has just about ended. Okay.

MC Well we drove down to Selkirk, Sunday morning, went into the Merchants Hotel, that's just up from the dock, and in the rotunda there was a fine looking, well dressed gentleman there. And we walked in, Luke said, "Good morning, captain. How's the family?" And then he turned and in the same loud voice, "That's the son of a bitch who knocked up my wife." I could have gone through the floor. Well the son of a bitch knew enough not to say a word, he'd have got killed if he'd opened his mouth.

C Oh, you must have had some wonderful people in those times.

MC I've never forgotten that.

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C Okay let's continue on with this dog buying expedition we've got here.

MC We went up along the lake and called in to different places and made dickers for dogs. It was in the fall, you see, October and the duck shooting had just about finished and Luke was very well respected and known. Everywhere we went in we had to eat cold roast duck and have a drink. This went all day and we finished up and I was supposed to be home to dinner. We had some friends coming in to dinner but they'd left long before I got home.

C And was your wife still speaking to you?

MC Oh, she was pretting understanding. So we got the dogs and shipped them up north.

C How did you ship them?

MC On the train as far as Gillam, rather Amery, a little north of Gillam. Amery is where the line takes a turn from the route to Nelson, and goes due north to Churchill.

C Okay, then Major Charles when you were building that

line, the term permafrost wasn't even being used I don't think then, was it? Permafrost as a word wasn't used until say the late forties, I believe. Isn't that right?

MC Well maybe my first introduction to permafrost and it wasn't called that then, was in 1915 on the construction just south of the Kettle Rapids, Gillam, is around there. That's where I ran into it first. Then in 1938, the U.S. Army became interested in permafrsot in Alaska and they contacted the fellow Dr. Vilhjalmur Stefansson, the Artic Explorer from near Gimli.

C Yes, and I think that I was reading that article that you had written to go in the A.S.C.E. Journal in 1959 and I think you mentioned his name there.

MC Maybe. Well, anyway, the U.S. Army contacted him and then he contacted the Canadian National, and then I was put in touch with Dr. Stefansson in 1938.

C Stefasson, okay.

MC And I had quite a lot of correspondence with Stefansson and as a result I was asked to write a paper by the Engineering Institute of Canada and we were invited to Cleveland to give a talk to the American Society of Civil Engineers, Soil Mechanics and Foundations Division - on permafrost.

C Oh, did you?

MC Yes.

C No, I haven't seen that paper, Major Charles.

MC Yes, well I gave diagrams of comparative depths of permafrost northerly. That's quite interesting there.

C Could I get a copy from you or if you could just give me the full citation? - December 1959. Proceedings of the American Society of Civil Engineers, Soil Mechanics and Foundations Division.

MC I think I've got a copy left. For instance, permafrost first occurs in the south, in the manner of small islands, as far south as Wabowden. Then it gradually gets deeper. Now into Thompson, it was still islands in that part - Thicket Portage and Thompson. And at Gillam it was not quite universal, but you get north of there, then you come into continual permafrost. The last 100 miles of the Hudson Bay Railway is on continual permafrost. There's no bother with part of the line at all. Providing you leave permafrost alone, don't interfere with it. Now in the intermediate area there is difficulty because, in my own opinion, I don't think they're paying enough attention to drainage. You know, young fellows today, to put it crudely again, they don't like to get their rear ends wet, going out, staking out ditches and that, they don't like that.

C You've got to get your hands dirty, don't you.

MC They don't like that at all. Now when I was back into the Hudson Bay Railway, in 1934 as assistant to Major MacLachlan, who was in charge of building it. He was manager of the Hudson Bay Railway

construction and operations. At that time we had a very fine dragline operator, a fellow named Stan Williams. He's alive here in Winnipeg right now. You'd stake a ditch out and he'd take the dragline to the end of it and work in so that he kept a uniform gradient and the water flowed freely. Well we did a lot of that, did a lot of good work, in the intermediate zone. But that hasn't been continued. That's been let go.

C Well in that area of discontinuous permafrost I think.

MC Intermediate, yes.

C I believe that one of the papers that I read said that you'd had to excavate, excavate some of the permafrost did you, by hand?

MC That was in 1915. That we excavated by hand with axes.

C What a job that must have been.

MC Yes, what a job. By the fellows, we called them stationmen. They were mid-Europeans brought in for railway construction and they would take a contract to build, say, a quarter of a mile of embankment, maybe a dozen of them, and that was done by wheelbarrows digging up the moss, you know, that's all it was, and building it. They. to me, were the real heros of the Hudson Bay Railway because they worked tremendous hours, when they took these little contracts. I'd better go back a little. In the, that part building towards Nelson, the grading was sublet by J.D. MacArthur to McMillan Brothers. Well McMillan Brothers, everything, all equipment, supplies,

etc.,had to be put in each winter to last through the following summer. So they brought in hundreds of teams, sleighs etc., for the winter and they built caches every ten miles and put provisions in those caches, enough that they figured would feed the number of men that would be required to build the respective ten miles. And there would be a cache keeper put in there and at every second cache, twenty miles apart, a stable was built, where the horses were sheltered overnight. Well these stationmen, they were brought in in the spring and sent up the line and were given little contracts and supplies by the cache keeper. All they were given was a shovel and a wheelbarrow and an axe, a few nails and things, and each week they were given grub to feed them, just the bare necessities, and they went into the bush and built little hovels that they lived in, and they had to build a plank runway to wheel the barrows of muskeg up, to form the embankment, all done with axes and shovels and they really earned their money. The flies just terrible, just a mass of flies eating them.

C And insecticide, in those days.

MC No, nothing then.

C Oh those black flies are terrible. And mosquitoes, I expect.

MC Yes, black flies and mosquitoes. Well that was the way it was built except there were some rock cuts, the odd rock cut or two, that were let, usually to Scandinavian. They were given little

contracts too. So that was the way and everything had to be freighted in one winter to last until the next fall. Anything that was forgotten, well that was just too bad.

C You did without.

MC Yes, and no way of getting any more in summer.

C Well as engineer on the job, was it his responsibility to tell those people how much to build up.

MC Yes, there were resident engineers who would be responsible for say ten miles. He camped in the middle and it was his responsibility to lay the work out, stake it out, to be done on a piecework basis, per cubic yard. He had to make a survey of the areas where these fellows would be excavating the material that would build the embankment. And then in the fall when they were through, he had to cross-section that and then he could calculate the quantities-cubic yards that these fellows had excavated and built into the required embankments.

C Oh goodness, what a job.

MC So much a yard. Well that was, a resident engineer's duties. The resident engineer would have about six men under him. And he'd have to walk all the time back and forth to where he was wanted to do the work and see the Stanwinner were following his instructions as staked out. He was responsible for that. The cache keeper was responsible for supplying the men and keeping the books. But the resident engineer was responsible for seeing that

the specifications were carried out. And also calculating the the quantities in order that payments could be made the end of each summer, to settle up with respect to each contract.

C Well if those people were largely brought in from the middle and eastern, central European countries, there must have been a language problem. Was there one?

MC Yes, I suppose they got be well enough. Some a leader soon learned English.

C It wasn't a big thing.

MC Now, in addition to cache keepers every ten miles, there was a walking boss, the contractor's representative. The walking boss would have fifty miles and he would check up on the cache keepers. The walking boss that I used to contact was an Irishman and he was a real diplomat. He'd go along to those fellows chopping out the ice, to make a ditch, and hand them a cigarette and make them think they had a hell of a good job.

C Sounds like an Irishman.

MC He was a wonderful fellow. I met him years afterwards. We were building a line that cutoff east of here by Sandilands, on the line to Port Arthur. Where there was a steep gradient which we had to eliminate. And Mike, he was the contractor's superintendent there. We were coming into Winnipeg once, I had a car there,

and he was coming on the train; "oh Mike I'm going to drive in, come with me." We were driving in about midnight under the subway by Water Street Winnipeg. A good looking girl walked by and I took a look at her and I hit a bump and I remember Mike saying, "you son of a bitch, watch your driving". A fellow like that, you know, he's worth his weight in gold.

C Yes, oh yes. Because it must have been tremendously difficult for those guys.

MC Oh yes.

C Just a terrible job to have, but if you brought just a little bit of happiness into their lives, well ....

MC Yes.

C Well okay. Did you, if your job, if part of your job was to actually tell those people how to, basically how to build the railway, had you learned that then just from experience down the Coal Branch and other places where you had run into muskey and rock etc.

MC Yes.

C Alright, but down there you wouldn't have run into permafrost. You would have run into permafrost only when you were working on the Churchill line.

MC When I was up there, yes.

C Okay. What I'm trying to find out is when the people now are building a highway over permafrost or building an airport runway, or whatever, I think probably construction techniques may be a little different than what you used on the railway. Or are they the same?

MC Much the same. Now for instance the airport at Inuvik, well that was built on the permafrost with crushed rock quarry there you see, and the contractor blasted and excavated and built this up without interfering with the permafrost. And as far as I know, was very successful. Now the buildings at Churchill. After the line was in there, there was one, the Navy building, a big building, most successful building that was built there. It was built without interfering with the permafrost by sinking piles in, for the floor of the building to be five or six feet above the surface so that there is no transmission of heat of the building to the permafrost. Now that building has been very successful. That's the thing to do. Leave the permafrost alone.

C How did you learn that?

MC Just by common sense.

C You didn't have somebody else that you could learn from.

MC No.

C Well alright then, throughout the rest of your career with the railways, Major Charles, by the time say the mid-forties came along, the philosophy and the science of soil mechanics was really

starting to come into its own. I think Lionel Peckover told me that he was the first geotechnical engineer with CN and when did he start, about 1954 I think, that Peck started.

MC About then, yes.

C Did you find that procedures changed at all in the construction of the railways once you started taking on geotechnical engineers?

MC No you see, well let us get away from permafrost, the ordinary country where you had difficulty was with landslides, you see; well now I don't think they added too much. What I found successful with landslides was to counter balance by putting enough weight at the bottom to counteract the forces above. You take slides into the Fraser and Thompson Rivers particularly, we overcome a lot of those by just dumping in rock rip rap, it had to be rock mind you, and dumping it into the foot until you had enough to counter weight. And I don't think, well they found out a lot of other things, but in general to me, that's the principle to adopt.

C And I think that holds with geotechnical engineering principles, doesn't it?

MC Yes, I think so. However, I remember an especially difficult job on construction of the Great Slave railway at the crossing of the Meikle River valley - very subject to landslides. I studied it up and down on foot and was very apprehensive. So I called in Thurber & Associates, geotechnical engineers, of Victoria, B.C. and studied the situation together. Considerable test holes were drilled

(per run out) and results carefully studied to establish the slopes and heavy beams required at the toes of slopes to stablize the materials required in cuttings and embankments. This was nearly twenty years ago. No slides have occurred. We erected a steel viaduct 175 ft. high, length 2127 ft. between the grading on the south and north sides of the Meikle Valley.

Certainly the careful studies of the soils and drainage, together with the weight of the beams at the toes of slopes counteracted the potential slides.

Unfortunately Reg. Thurber, former R.C.A.F. pilot during World War II, crashed with his personal plane, when travelling from Victoria over the mountains. No remains have been discovered. I sincerely thank him for his technical assistance in successfully building the Great Slave Railway across the Meikle River.

Reference - Engineering Journal, May, 1965.

C You mentioned a little while ago that you had done at least one job with Bob Hardy. Do you want to talk about that for just a minute on tape. Remember you said that you'd worked on the Alberta Resources Railway?

MC As you know, Alberta Resources Railway was built by the Canadian National for the Alberta Government, the Alberta Province. There was a long stretch of it close to the Smoky River, was washed completely out. And there was quite a controversy.

I was in Brazil, in Rio de Janeriro at the time, and I got instructions to come back to Canada, this was just ahead of Christmas, to meet Bob Hardy and Ron Bailey to make a joint report with them. We went over the line by helicopter and wrote a report between us. He, Hardy of course, is much more technically qualified than I am, and that was it. There was a tremendous change in temperature, climate and everything in a few days, from Rio to Edmonton and return to Rio.

C And up along that Smoky River valley, it can get so cold up there.

MC Well, it wasn't too bad then but I was back in Rio at New Years Eve.

C And I'll bet you stayed there until it got warmer in Canada, didn't you?

Mc Oh well.

C Okay, just one other question, then Major Charles, cause I think it's getting on to four o'clock and I know you've got an appointment for dinner. Can we just, you mentioned to me a couple of minutes ago that you had written a book, about your life and your activities with CN. What was it, can you tell me again the title of it?

MC Yes, "Westward Go, Young Man". I had orginally put it, "Go West Young Man, Go West" but I found out that title had been used. Now that was a typical slogan when Icame to Canada in 1910. So we had to change it a little, that's all.

C Did you write the book by yourself?

MC Yes. There are a lot of very good historical photographs in it that were reproduced from photos which I had. The Canadian National Railways assisted me financially in that. It cost about $5,000. I paid half and the CN paid half. And the manager of the photographic department at CN, he was a personal friend of mine and he really did a job of reproducing the photographs. He's a perfectionist. He's just now retiring at the end of this year.

C It must have been a very interesting project for you to do.

MC Well, it's a big book.

C I'm going to look it up.

MC It's quite big.

C I'll get Don to borrow a copy for me.

MC Yes, you can get it. Ron Bailey has a copy.

C Okay.

Mc I've only got the one copy left. The last one I gave away was to my nephew in Johannesburg. But it seems to me now I was quite diffident about doing it. However, it appears to have been well received.

C Did you decide to do it? Was it your idea to do it or had the CN ask you to do it?

MC No, it had been, I had been urged to do it. I've done quite a work in association with Queen's University. And Professor Law

who's head of a department they have, Guided Track Transportation.

C Guided Ground Transport

MC I've done quite a bit with him and he sent a fellow to write a bigography of me. He came, his name is Semomour Hamilton, well quite a capable man and a Ph.D. in English and all the rest of it. I gave him quite a lot of time. And he went away and sent me a draft of the first few chapters. Well it was much bunpkum.

C Oh really.

MC Absolute bumpkum. I'd told him the things that had happened when I was a chairman, and rodman, instrument man and he wrote it as though I was personally, the big guy doing it. Charles did this, Charles did that. Well, it couldn't be. I mean people would say they're ridiculous, Charles, has gone off his head, telling such things. So I had quite a row with him and we broke off. As they still wanted something, I said I'll write it myself. But I promised Hamilton that it would not be for sale, purely a personal thing. And so that's how it came to pass.

C Great. Well we'll get a copy of it Major Charles. Okay. I think we've come to the end of the time and the tape, so we'll just thank you.