

Chips (Charles) Reid

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CR: I'm 86, born in 1937. I was born in England in a place called Bishop's Stortford. Now the airport is right next door to Bishop's Stortford, one of the London airports. So it's close to London, not in London. I'm the second of two boys. My mother was a schoolteacher before she had the two boys, an elementary school teacher. She was married to an army man whose life had been in the army, all his life, as far as I know. This was the 2nd World War and he was in charge of the air raids, getting people during an air raid into the air raid shelters. He was an air raid warden. That was his job. He got paid very little, as most soldiers in those days got very little pay. This is a great moment in my history. I had nothing to do with it. I was only three years old when my mother got a cable from her cousin in Trinidad, and the cable read, come to Trinidad at my expense duration of war. Love, Charles. His name was Charles Lee and he was my mother's first cousin. My mother was born a Lee. So mother considered it at great length and then accepted the offer. We were transported across the Atlantic, a tremendous adventure, and arrived in Trinidad in October 1940. The blitz had ended in London in August 1940. My cousin Charles had relatives in the war. He'd already lost contact with his cousin who was in a concentration camp in Japan. So he was very anxious to help in any way, shape, or form, and this is the reason he evacuated us. He was doing his bit. Being in the oil industry in Trinidad, you have to appreciate England/Britain relied on the oil from their colonies. Trinidad was their colony, had oil, and during the 1st World War oil from Trinidad was shipped to Britain and was made into diesel. Churchill, when he was Lord of the Admiralty, declared that all our ships will be run on diesel from now on. So that was the 1st World War. When we did lose tankers on the Atlantic to German submarines, this is the 2nd World War now, and we're again losing shipping to the German submarines in the Atlantic. Some of the men whose ship was sunk off the coast of Trinidad came to the coast where Charles was working. He brought them in and shipped them up to Port of Spain, the capital, and took care of them. In fact, all the oilfields were very close in those days. Most of them were British-controlled or South African-controlled. There was one American-controlled company, Esso. They would sit down and talk about what they're going to do, besides which the colonial government told them what they were going to do during the war. For example, we can't get steel; we can't get drill pipe to drill our wells. What

are we going to do? Well, we're only going to drill half as many wells maybe or one third as many wells to maintain what drill pipe we have. We're only going to drill for light oil, because that is the oil we need. The heavy oil, you can forget about that for now. That's what they agreed to do, and they actually did. They reduced their drilling and kept oil flowing to the refinery and to the ships, the tankers. So some light crude oil had to cross the Atlantic and the heavy oil was left in the ground. The Europeans, mostly British, who were working in Trinidad, many of them went to fight in the war; so they left. The Trinidadians who had been trained in the oilfields were there to hold the fort, which was a great opportunity for Trinidadians, by the way. My stepfather, who my mother married when she was there, after many years she met Cyril Augustus and he worked in oil over 30 years with the company. He had been one of the original employees of that particular oil company, which was called Trinidad Petroleum Development. The boys had a joke. They said, you know what TPD stands for? Take, pressure, and dent. And TLL, you know what TLL stands for? Take little and live. Very amusing people; people of Trinidad and Tobago have a way of making everything amusing. So TPD Limited hired several back in 1928 and they hired my mother as a schoolteacher in 1942. During the war, let me step back a little bit. We got to Trinidad in 1940 and my mother's cousin, Charles Lee, as mentioned before, was the field manager of a small oilfield in Guayaguayare. As the war broke out, all the drilling in Guayaguayare stopped. It wasn't of interest to the oil companies to continue the drilling. So Charles Lee was left to manage only the production of the field. But Charles Lee was like the Justice of the Peace down in Guayaguayare. He was the person everybody went to. He wasn't the official Justice of the Peace, but he was the man that everyone went to to complain or to ask for help. Let's say somebody was sick in the bush. They would go to him and say, look, so and so needs. So he would arrange through the oil company to get them out and get them to hospital, even though they were not employed by the company. That's the way the company treated people. He had to deal with the union down there. He mentioned that in his book. He wrote a book, and his comments about the union were quite revealing. The workers were not well treated. Only in 1937 after the Oilfield Workers Trade union was formed was there any appreciable improvement for the workers in the oil and gas industry. So this union became very active, very proactive, and they would see situations that could result, and they'd go to management and say, look, we gotta do something about this. Charles set an example for me and my brother, Boyd. He showed me what life is like in the

bush, what life is like in the oilfields. He showed me many things. He was like my father. We were there from '40 to '42. My mother was hired by Charles to teach the few expatriate children, the children of the expatriates in the camp. Oilfield camps are just like mining camps. They're remote, they're completely run and built by the company and serviced by the company. So he was the CEO of everything: the camp, the village, the workers' housing. He's a very good man. He was my mentor. Later in life he helped me again. As I said before, the general managers or the managers of each oil company were always getting together to talk about things. He learned that TPD's teacher had contracted a serious disease and had to be shipped back to Canada. She was Canadian. So they'd lost their schoolteacher in TPD beach camp, another oilfield camp associated with the oil company. Then he suggested and got my mother to move to TPD as their schoolteacher. She was very welcome there, because there were about 20 young children from the elementary age of six probably up to, during the war, 13 or 14. They couldn't go anywhere. They couldn't leave the country to go and study in England. Most expatriates would send their children back to wherever they came from to study high school, university, etc. So they had few options. Port of Spain had some good schools in Trinidad. Barbados had some boarding schools for boys and boarding schools for girls. The British tended to believe in boarding schools. Even in England most young men and women went to boarding schools if they could afford it. So mother had children from the age of six to 15 or 16. I remember she said to me once, one of those children – she named him but I forget his name – I would put my arm out like this and he could jump over it, high jump. I don't know if it was an exaggeration; my mother tended to exaggerate a little bit. But what she was trying to say is, I was amazed at the difference in ages between the oldest and the youngest in my school, my one-room school. By '42 the U.S. had entered the war and built a base very quickly in Trinidad, having hired many oilfield workers to come and build their huge base, which was profitable for the island, the colony. They spent so much money, both on infrastructure and their soldiers and sailors spending a lot of money on the island as well. Another thing that people must realize is that they got much more pay in the U.S. army and air force and navy than in the British. So there was somewhat of a clash between the U.S. soldiers and sailors and the British soldiers and sailors. I say that because it became an incident in Guayaguayare at one time. We were in Guayaguayare in 1942, and in '43 we went to TPD – mother, Boyd and I. Mother got a bungalow, her own bungalow, which she didn't have in Guayaguayare, by the way. She lived with Charles and his

wife and a young baby. So she now had her own bungalow in TPD beach camp, and began teaching. In the meantime, Charles was still in Guayaguayare when this incident took place. Well he definitely was in Guayaguayare, but he wrote this down in his book. So I know all these facts. There was a ship called the Graf Spee, a German battleship I guess you'd call it, a huge vessel, one of the biggest they ever built during the war. Maybe they call it a battleship or cruiser, I don't know the technical name, but loaded with guns. It could attack and it was very powerful. The rumour was that the Graf Spee was heading to Trinidad. You could imagine the Germans would like to stop the oil coming out of Trinidad. So everybody was on edge. All the oil bosses were on edge; everybody was on edge. The government was on edge. The Graf Spee is coming. Of course Charles was told this. Every oil camp had a home guard, and Charles again was in charge of the home guard. But he had a guy under him who was the guy who ran the show, the home guard show. That man's name was Ramsay. This incident may not be historical for the archives, but I must tell it. Charles gets ready for the fact that we might have Germans on our land we have to defend. So we get the home guard ready. Everybody's cleaned their rifles and everything, because they had been trained to some extent. There's only one telephone line from Guayaguayare to Pointe-a-Pierre and on. Charles is sitting at the telephone booth where the telephone system is, and he can talk to Guayaguayare by telephone and they can talk to the rest of the world from there. They can talk to Pointe-a-Pierre, that is, they can talk to the refinery. The company's refinery is in Pointe-a-Pierre, the company's field is in Guayaguayare, one of their fields.

Q: Was TLL in Pointe-a-Pierre at the time?

CR: Yeah, oh yeah. They were the first refinery; then Shell had another refinery on the southwest coast. So he got the word from Pointe-a-Pierre that they were sending some U.S. troops down to Guayaguayare, I presume to assist if the Graf Spee happened to send people ashore for whatever reason. So Charles is sitting at the telephone booth and Ramsay has got all his men with their rifles, and everybody's ready in case of anything. It's night time, or I don't know if it was night time. Anyhow, all of a sudden three or four trucks with army personnel fully armed arrive from the bush, because there's a bush road winding through the bush, terrible road, to get to Guayaguayare. The only other way you could get in and out of Guayaguayare was

by the sea, by the beach when the tide was out. Charles used to use that route sometimes. So they get there and the sergeant gets out of the truck. He comes up to Charles and says, who's in charge here? So Charles says, I am. He says, what's the password? Charles doesn't hesitate for much and he says, I'm damned if I know. So the sergeant gets back in his truck and he drives off. Then Charles phones Ramsay, because they did have a line between them. The U.S. Army's coming in the trucks and the password is, no he didn't tell him what the password was. But then the U.S. soldiers get to a certain part of the field and Ramsay steps out of the bush where he was hiding. So the sergeant says, well...No, I'm getting a little bit mixed up. Ramsay says, what's the password? The sergeant says, I'm damned if I know. He says, no that's not the password. Come with me. The men came out of the bush with their guns, and they locked them up for the night. They put all of them in the machine shop and locked the machine shop. It's true. That's the animosity between the British and the Americans during the war. They're both fighting for the same cause but don't come on my show and tell me what's this and what's that; I'll tell you what to do. That's life. Anyway, the Graf Spee never did come to Trinidad. All was peace and quiet, thank goodness. But that's the story of Guayaguayare. Tony comes from Guayaguayare, her husband, so I thought I'd bring that into the picture. You might not need to use that. So you can ask me any other questions.

Q: In a few sentences, tell me how the rest of your life evolved.

CR: Mother's school was my first education, both in Guayaguayare and in Palo Seco, which was the village of TPD. TPD's beach camp at Palo Seco is where we lived. I managed to do well enough to get into St. Mary's College in Port of Spain and get a high school education; so did my brother. With that, I was accepted in the company, Trinidad Leaseholds Limited, TLL, as a student apprentice. A student apprentice studies and practises the trade that he's going to administer when he becomes eventually a supervisor. He's trained in all the different aspects of the oil and gas industry as it pertains to his choice. If he's chosen to go into drilling, he'll work on a drilling rig for a while. If he's chosen to work in production, he'll also work on a drilling rig and a production rig. I went through the training, and even my training was cut short because they were so short of supervisors they sent me to Barrackpore Field. I was still a student apprentice but I had the responsibility of a staff. So the boss told me, he says, look, you're still

an apprentice and if you make a mistake I'll take the responsibility. That was nice to know, because I was still learning. So briefly I learned everything I learned from the men in the field. That was very important to me. For example, the foreman of the pipefitting crew showed me every nipple, every valve, every piece of equipment that we had to buy and use and install.

Q: Who were the men in the field?

CR: They were the local employees in the employees union, like the foreman, the charge hand, and the pipefitters, and the welder, and the labourers, and the instrument technician and the shop supervisor. We used the machine shop a lot. The oil stocks, a very important function where the oil is all collected in tanks and then pumped to the refinery. So that was another branch of the production department. The tank farm was an oil stocks tank farm. My job was supervising the pipefitting, repairing the lines, the pumping jacks that go up and down pumping the oil out of the wells. They had to be maintained. Leaks, any leak of oil had to be picked up and prevented from going into the rice, the cane, and the vegetable gardens. The watermelon was growing right around by the wells. If you spilled oil into the watermelon field you might get people coming to the office: you damaged my watermelon, I want compensation; you damaged my rice, I want compensation, etc. Which I agree, it was their right, it's their land. So anyway to cut a long story short, I was trained and became a senior staff. There were three levels of employment: senior staff, junior staff, and then employees. The senior staff got the best housing, the junior staff got not so good housing but good enough, and the employees maybe with a few exceptions had no company housing; they had to find their own housing. Everybody got a salary. Of course the senior staff got the highest salary, etc. down the line. The employees were all paid by the hour, and the staff were paid by the month. That's how it worked in the oilfields, at least at TPD it did. I think it was the same in most oil companies. That brings me to a point when. . .

Q: So you were a senior staff?

CR: I was a senior staff and I was getting very frustrated because expatriates from England mostly would be hired, usually a bachelor or maybe married. But when they first came they

came single; then they brought their wives and children later. Anyhow, expatriates would come newly hired and they would need to be trained so they would know what the heck goes on in the oilfield, because they're straight out of university. So they asked me to take this man around in the truck in the field and teach him everything. So I taught this man everything I know in three weeks. Then, about a month later, the phone would ring and he'd start telling me what to do, telling me don't forget this and don't forget that, which is the very thing that I taught him. That infuriated me. It made me feel used; it made me feel frustrated. I had to get that piece of paper called Bachelor of Science Engineering or some kind of a degree; otherwise I was gonna be stuck here.

Q: Did he have any training?

CR: Yes he would probably have an engineering degree or science degree. So he's learning the practical side. He supposedly knows all the theoretical side. But when it comes to the oil and gas industry in those days, you learned from the bottom up. You didn't learn from university. The only thing you might learn from university is the mathematics and the chemistry and the physics, the science pressures and forces and acceleration and all these things. You'd understand that, but when it came to the practical, how did they do it before we had university? They found oil long before they had the university. Drill a hole in the ground and boom, you've got oil. So the finer points of production have lots of details which they can't put in textbooks. They never did ever put them in textbooks. So I managed to find out by luck that there was a university in Canada that I could apply to and get accepted. I was not accepted by any British university or technical college, because I did not have an advanced level general certificate of education. I only had ordinary level. One university in Canada, St. Francis Xavier in Nova Scotia, did at that time still accept foreign students with ordinary level schooling certificate. So I was lucky. I got in as a student immigrant in Antigonish, Nova Scotia. I enjoyed my first year.

Q: Was this 1961?

CR: Yeah, that would be 1961. So I was now 24 years old, six years older than every other student in my class. Maybe there might be one other student the same age as me, but most

students were not my age. I've gone through life always being the eldest; even in my extended family now I'm the eldest. So it was a great year at St. FX, wonderful people, friendly. I'll give you an example, two examples. Christmastime the foreign students from all over the world were invited by various fellow students to come and spend Christmas with them, whether it be in Montreal or wherever. I was invited by my roommate, my bedmate – we slept in bunks, and he slept above me – to come and spend Christmas with him in Montreal. So this is a big train trip all the way from Halifax to Montreal at Christmastime. First experience of train. This is my first winter; the streets of Montreal are covered in snow. What an experience. Wonderful hosts. Easter time another classmate of mine invites me over for Easter. He lives just 30 km away in Nova Scotia on a farm. I see what a farm is like. I see how they heat the farm, how they bring the wood in, and push it down below underneath. Everything is woodburning, everything – all the heating in the house, everything. So that was my year at St. FX. Another experience, Engineers Week in St. FX. The engineers traditionally made ice sculptures, so I learned how to make ice sculptures in the middle of the winter, which was another new experience. Another thing that relates to the Caribbean is that there was an international students' association. Luckily for the international students, there was a very kind ex-Arthur Murray school of dance instructor who was a student also on the campus. He volunteered to teach anyone in the ISA, International Students' Association, ballroom dancing. We had this ballroom dance class once a week, and he had to get young men amongst us to lead the ladies, because you have to have men to lead ladies in ballroom dancing. So I was picked or I volunteered, because I knew how to dance; I came from Trinidad. It was fun; it was a fun association. Many different countries students came from, an international scene in the universities of Canada.

Q: How long did you stay at St. FX?

CP: I did very well in university, but unfortunately I couldn't find any work in the area. I applied. At Christmastime I remember going into the library and sitting down and picking out all the companies – mining companies, construction companies, engineering companies – and getting their names and addresses. I wrote off a hundred applications at Christmastime. No kidding, a hundred applications. I got four replies, all negative. For a summer job, can you imagine? I didn't send a photograph or anything, but I did say I was from Trinidad.

Q: That was probably a mark against you.

CP: Anyway, I thought to myself, in the spring of 1962, I said, well I've gotta go back to cousin Charles, because cousin Charles, that's my mother's first cousin, Charles Lee, is now the CEO of an oil company in Calgary, Alberta. In fact, I had written to him and asked him if it was a good idea to go to Canada. He said it was an excellent idea. That was back two or three years before that. So I wrote to Charles and said, well I'm gonna have to come out. He said, yes come on down. So I got to ride across Canada, again a tremendous experience, because I got to ride in a car all the way across Canada all the way to B.C. After we got to B.C. to the driver's family, he then drove back to Calgary to start work, because he worked on the pipelines in the summertime. I came to Calgary to see Charles and Marjery, his wife. By this time he had four daughters. In Guayaguayare he had his first daughter; now he had four daughters. His company was hiring summer employment. So I got summer employment in Leduc, Alberta. I stayed in a boarding house in Leduc and applied to the University of Alberta. I got accepted based on my results at St. FX. My results at St. FX qualified me for first year Engineering at University of Alberta, because they required advanced level. But what I'd done at St. FX was equivalent or more than advanced level. For example, I'd taken. . .

Q: When was this?

CR: I was accepted into U of A in 1962, the fall of 1962. I'd just worked in the summer at Leduc. While I was in Leduc, I once again applied to BP Trinidad for a scholarship, and I got it. The company I'd just left was BP, it wasn't TPD anymore. It had been taken over by BP before I left. I can't remember the date when it was taken over by BP. But BP Trinidad paid my four years of university. It was an excellent scholarship, absolutely the best.

Q: So you went to U of A?

CR: Yeah.

Q: On a BP scholarship.

CR: Yeah.

Q: Did you go back to Trinidad, or did you work for BP in Canada?

CR: No, I went back to Trinidad and was in the Petroleum Engineering department. I stepped up the ladder from production engineering to petroleum engineering, which meant more technical stuff like designing the wells and designing the treatment for the well and designing the systems. It's more on the engineering side. I was reporting to the chief petroleum engineer. By this time BP had a new office in Santa Flora.

Q: What is production engineering?

CP: Production engineering is what I did in Barrackpore Field and Guayaguayare, which is collecting all the oil from the producing wells and pumping it away to the refinery and maintaining the production coming out of each well and servicing the well should it stop producing or should it need stimulation, or generally repairing the well, whatever shape or form. Wells don't produce continuously all the time; they tend to sand off or plug off or wax off. You have to take special tools and clean and scrape the wax out of the tubing. It's not bees' wax; it's wax from oil. There were many crews. I had dewaxing crews, I had bottom hole pressure crews, I had pipefitting crews, labouring crews to pick up oil and cut grass and paint. That all comes under production. Instrumentation, everyone has an instrument of some kind. So we have instrument fitters, instrument shop. Then we have the production shed where everything was stored and where everything happened in the morning. When you started the job, everyone got to the production shed and reported to their various bosses, who then took them to where they had to work in the truck that they had. Then there was a production truck that took all the tools. It was quite a logistical operation, so many different responsibilities for one supervisor. And a wide area, too. Barrackpore Field extended as far as Penal. We had exploration wells that we had to service as well, because when the company decided to try a new drilling 20 or 30 km away we would have to take the crews out there and do the pipefitting

and rig up a test unit to test the well. These were all responsibilities that fell into the production engineering. Now the petroleum engineer would be the guy to study the test results of the test.

Q: What test?

CR: Testing the new well, a wildcat well we call it. You have to test that to see if it's gonna pay. Before you finish and move the rig off, you have the rig there still but you're testing the well to make sure that, yes we're going to finish this well, we're going to cement the casing; or we're not, we're going to abandon it. It's a very big decision. Having spent half a million dollars on the well, you don't want to just walk away from it unless it's no good. But by the way, just as a matter of interest, the Guayaguayare Field, which had seen the first drilling, the first oil, and had been revived after the war, they're now leasing the Guayaguayare Field again. A company has bought a lease to drill in Guayaguayare again. Right now today, 2023, they're going to be drilling in Guayaguayare again. They're going down to about 10,000 feet, which is not what we used to drill down there. They've found prospects. They haven't found any oil yet; they just got the lease from the government of Trinidad and Tobago. So what goes around comes around.

Q: What part of Guayaguayare?

CR: This is an area between Guayaguayare and Moruga. It's kind of a remote area that hadn't been properly explored. They find new technologies to find new seismic and all of these new things, and that prompts them to go back and try some more. Because of what they found in a place called Ortoire, recently they found natural gas in Ortoire and it's being produced as we speak, deep natural gas. The gas is going to the LNG plants in Point Fortin. Three LNG plant trains, three parallel trains of LNG production on the west coast of Trinidad, on the Atlantic LNG taking the gas, compressing it, and shipping it all over the world. So it's still in the business.

Q: What part of engineering did you do here in Canada?

CR: When I was here, well I studied engineering here and got a Bachelor of Science in Engineering, Mechanical Engineering. I wanted to take the Petroleum Engineering degree but

they had discontinued the degree. They still had a Petroleum Engineering course offered here, but it was part of Mechanical Engineering or Chemical Engineering. So I took the Petroleum Engineering courses, which refer to reservoir engineering, how to find out how much oil and gas you have under the ground. I took all those courses. But when I got back to Trinidad I was back to the practical again. So we were petroleum engineers in the office. We were to try to keep increasing the production, finding different ways to increase the production and doing field operation supervising of special operations, like re-perforating an old well, etc. At that stage of the game for British Petroleum in Trinidad, they were not making any money. They decided that they couldn't afford to keep drilling anymore, because the drilling results were not producing enough to warrant the expenditures. So they decided to cut drilling, which meant a tremendous amount of layoff. Drilling involved lots of people. For the employees, they couldn't guarantee anything. But for the junior and senior staff, they could say, we will give you a severance pay, which they called voluntary redundancy. Voluntary redundancy meant that you just handed in your resignation and you waited to find out how much severance pay you would receive. I received nine months salary as my severance pay, which I thought was very generous. But this is only one year and five months after I started as a petroleum engineer. But don't forget I worked for them prior to going to university when it was TPD. In other words, before going to Canada I was actually working at TPD by that time. I had left TLL in Guayaguayare, moved to TPD where I grew up, lived in the same camp where I grew up, and that's where I was working when I managed to get into university. So one year and four months after graduating from university, getting to be a petroleum engineer, they were offering voluntary redundancy. I thought, I have a wife and a new baby; my wife's Canadian; I know what Canada's all about; I've been to Alberta for four years. Do I stay here and work when they're not drilling and the production is just going to gradually go down and down and down? That's what happens in an oilfield. If you stop drilling, the production goes down and eventually it's closed down. That's traditional; it can't be helped. I thought to myself, I don't want to be a boss here. I've always wanted to be a manager, but I don't want to manage a depleting oilfield. That's not my ambition. So I'm going to hand in my resignation and I'm going to go to Canada. The next morning after I handed in my resignation, I exaggerate not, I think I handed it in on a Friday and on the Monday there was a notice on every noticeboard in the office: we are not accepting any more voluntary redundancies. So I got in under the wire; they accepted mine. Some people had retired or taken

severance who'd worked 20 some years with the company. Then there were others who'd worked five years, some ten years. Many went to Canada; some went to the States; some just retired and never worked another day in their life. But I had an ambition and I figured I could contribute in Canada. My father-in-law was well established here in Edmonton as an insurance manager. Charles Lee was still in Calgary at the time. So he was my mentor. I knew that once I got to Canada I would be set.

Q: Did you seek employment in Canada immediately upon submitting your resignation? Did you get hired from Trinidad?

CR: No, I didn't get hired from Trinidad. I knew, based on my summer jobs when I was a student here, I knew the oilpatch quite well and I chose just to go on spec. We left Trinidad on the 30th of December 1967. Liz reminded me about that. I know it was -30 at the airport, Fahrenheit, when we got off the plane. My father-in-law came out with a big warm blanket to cover the little baby to carry her and walk back in. We didn't have the protection that one has now when you go by plane. You had to walk down the gangplank to go into the airport. So he came out to the plane with this warm blanket. He knew we didn't have any winter clothes, and he brought one of his big coats for me and we got off the plane. I started looking for work and got interviews in Calgary, and I became a drilling engineer for Union Oil Company of Canada Limited. Union Oil Company of Canada Limited is a subsidiary of Union Oil of California, or Unocal, as it may be known nowadays. They needed a drilling engineer, and they hired me. I enjoyed my first year with them because it was a very learning experience.

Q: What does a drilling engineer do?

CR: In Canada the drilling engineer is quite a job. You have to be on the rig when the most important operations are taking place. You have to be on the location and you have to be a supervisor of these operations. When it's just straight drilling, you're not necessarily there. But when you're doing the casing, putting the casing in the well, the first, second and third casing, or when you're completing the well, or when the well is giving trouble, the well is blowing out or whatever – you have to be there. So as a drilling engineer you'll get sent out to the well,

living in camp with all the workers. You have your meals there and everything. You go onto the rig floor, because the rigs always have a floor where the men work and then under the floor is all the valves and controls. You go up on to the rig floor and sit in the driller's shack on the rig floor. You look at the reports, what happened last night, how many feet did you drill, etc. Then you phone the office in Calgary or Edmonton and give them a report once a day; you only need one report. That field report goes into the office and everybody in the office gets it. It's pretty boring at times. If you only have to report what happened in 24 hours once a day, what else do you do with your time?

Q: You mentioned a blowout.

CR: Good point. There was one well that was drilled, and I was the drilling engineer on it. But it didn't blow out when I was there; it blew out later. But my boss got fired because of what happened. What happened was they were drilling ahead and they suddenly got a gas influxion, high pressure gas; they hit some high pressure gas. It blew out. They managed to shut the well in, but then when they tried to pull the drill pipe it was stuck. They fought with that and fought with that, and then. . . They tried to unstick the pipe and then they had to shut everything down because it was spring, and in the spring these remote wells are not accessible. The roads get very soggy and you can't drive in and out. So the well was redrilled or reopened up and drilling continued the next year in the winter. I wasn't there by that time; I'd left the company by then.

Q: Were there any lives lost?

CR: No.

Q: This was an automatic operation?

CR: No, there's nothing automatic.

Q: Is it managed from somewhere remotely?

CR: No, that technology hadn't arrived yet. It was up to the driller as to what he was going to do. He did it physically and there was nobody controlling what he was doing. The data was not going back to the office. The only data going back to the office was my report. We didn't even have telex or Internet, none of that.

Q: Was this the late '60s?

CR: Yeah, this is just about 1970 I guess.

Q: What's the impact when a well blows out?

CR: If it blows oil all over the countryside and the oil flows down the river, it pollutes everything. If it blows gas, the only thing is it could kill somebody because of the high pressures. If the gas has hydrogen sulphide in it, then the hydrogen sulphide is heavier than air and it settles. So the low areas of the terrain are very dangerous because if you're in that, you need a mask. I wasn't involved in any of that type of situation. But I could go back into my time as a summer job between 1962 and 1967. I had a summer job and I was sent to Valleyview to be a production operator. That means somebody who looks after the wells, measures the tank for how much oil is produced. A gauger, they call him a gauger. So I got a job as a gauger, and my experience was getting too much hydrogen sulphide on a tank and being overcome by the fumes, I passed out and fell down the ladder. Luckily for me there were two guys working on the lease, because 99 times out of 100 there was nobody on the lease except me. But there were two guys laying some gravel for me under my supervision on the lease, and they saw me fall or heard me fall, and they pulled me out. They were gonna give me artificial respiration when I woke up, and I woke up with a serious headache. So, that's my experience with H₂S. That's a very dangerous thing that's killed a lot of people. . . . Well we've had some various serious accidents on the rigs, and luckily I was not there. But I've been told many stories. That's one thing about oilmen: when they get together in the bar, they have a lot of stories about what happened to them when they were drilling or doing whatever.

Q: So you're in Calgary now?

CR: Yeah, so we settled in Calgary and rented a house and I started working with Union Oil. Then I quit Union Oil and went to work for, hmm, all of a sudden I can't remember. Oh yes, that's when I met, I told you in the car, I met [1:13:51] and got a job outside of the oil industry, which ended up being mostly in the pulp and paper industry and designing equipment for the pulp and paper to solve problems in the pulp and paper industry related to wear and tear and so on. After that job, I had other jobs in Alberta. I'm not in the oil industry anymore at this time, not specifically on the field. I'm working in places like a machine shop. Then I worked in a company that sold hard, abrasive-resistant alloys for the tar sands to prevent wear and tear on the big heavy equipment up in the tar sands.

Q: Describe that, please.

CR: You mean about the pulp and paper invention?

Q: The teeth that you were talking about.

CR: Oh, right. So this guy hired me to be his engineer and to go into the field basically and look for more wear problems. If there's some piece that is wearing out due to the sand in the tar sands, bring the piece back, make a drawing of it with all the dimensions and tolerances and everything, ship the drawing to the factory in Malaysia so they could make the part, cast it of cast alloy, then ship it back to us and we would delivery it to Suncor or Syncrude. As a result of that, I had to go into the field and see the equipment that this piece is being used on. Mostly it was the teeth that gouged the sand with those big huge buckets. It wasn't very technical, I might add; it was more just. . .

Q: Did you have to go to Malaysia to supervise the production of the part?

CR: No, in this case I didn't. But I have later experiences going to Malaysia in a different category of my career. The other thing that related to the oil and gas industry was pipelines. This is where I did consider I've made a genuine contribution to the renovation or rehabilitation of

the pipelines that wear out. Pipelines don't wear out from the inside, no matter what people think or say. They wear out on the outside from corrosion. To prevent corrosion of a pipeline, you coat it. But the coatings of the old version of pipeline did not stand up long enough, and then when the coating failed, corrosion would take place. There's salt in the earth, not everywhere, but wherever there's salt it eats away at the outside of the pipe. Once the pipe gets pitted with this corrosion it becomes a weak point. Remember, every pump is causing fluctuations. So the pressure is going like this all the time. That is what is called cyclic loading. Cyclic loading of steel causes catastrophic failure, because any little crack in the steel gradually propagates and gets bigger and bigger and bigger until finally the steel cannot withstand the pressure from inside and it splits open. I call it catastrophic failure; that's the term they use. Then our gas pipeline between here and Montreal or wherever suddenly blows up, boom. It's six feet under the ground; so people could die anywhere close to that. That was happening to TransCanada Pipeline. Now my boss, the guys who hired me, asked me to design a machine. They had the idea, we need a machine that can remove the old coating efficiently, expose the corrosion on the outside of the pipe, and allow renovation. So cut out the corrosion, cut out the section that's corroded, put in new pipe, and recoat the whole pipeline. Our job was not to recoat the pipeline, only to remove the old coating from the old pipe. We designed a machine to do that, and it's still in use today all over the world. The last time I heard, it was in use in Saudi Arabia. These pipelines are anywhere from 24 inch to 48 inch diameter. I got my name on the invention but I didn't make any money on it. In other words, the company owns the invention, and we just got a bonus.

Q: Was this Union Oil?

CR: Oh no, this is one of the jobs between working as a drilling engineer. I had several jobs, and one of the jobs was with this company called Canadian Ultra Pressure Services, CUPS Limited. They gave it that name, but these two Chapman brothers were welders on pipelines; over and over the years they built a lot of pipelines. They could see the future of removing the old coating, and they heard about ultra-high pressure water. They made a wand which could blow the ultra-high pressure water onto this coating and blow it off, literally just blow it off. We're

talking about 20,000 psi. That is a very high pressure and it could cut steel. If it's directed at the steel, it can actually cut the steel.

Q: What is psi?

CR: Pounds per square inch. You can work that out in bar or other units of pressure. That's the pressure that the water is delivered to the nozzle. There's a tiny little nozzle that contains the outlet, the nozzle, and that comes out like a jet. It can actually cut steel; if you leave it on steel long enough, it'll cut through the steel. The Chapman brothers wanted a machine . . .

Q: That psi could cut a human in half.

CR: Oh yeah, of course. You don't get in front of that at all. So we designed a machine that rotated these nozzles. So you had two nozzles and a wand with one jet here and one jet here, and it's going around like that. We put four or five of them around the outside of the pipe, and then we walked them along the outside of the pipe while they were jetting the water. Continuous operation. We had a tank of water, a very high pressure pump, and control man on the controls controlling the opening and closing of this machine that wrapped around the pipe. It had wheels that grabbed the pipe, and as the wheels turned they would move the machine forward slowly, creeping along, cleaning the pipe as it goes. There were other men and women behind all of this checking the pipe. As it came out of the machine it was clean and shiny bright on the outside, because the pressure had removed everything – rust, coating, everything. They could examine the pipe, mark it this has to be cut, this has to be cut. So that machine is called, what did we call it? Oh my gosh, I should've done my homework before I came. I can't remember what we called it. We gave the machine a name, but I'll have to tell you that later. Anyhow, it was an invention which was accepted years after by the patent office. So years after, while the company was still in existence, Chapman Brothers invited me down to Houston. They had moved to the States. We had built everything here in Canada right here on 17th Street here in Edmonton, that area down there. We had just a warehouse, just a small warehouse. We designed everything, tested everything, and then we sold it to a U.S. company. We sold the service, not the machine; we were offering a service, so much per day to clean your pipe or so

much per foot to clean your pipe. The company got a contract in El Paso, Texas, the first contract. It worked; after a lot of trouble, it worked. I'm kind of proud of that. But the only reason I didn't stay with the company was because they wanted me to live in the States. For anybody listening, I don't want to live in the States. Too many guns. So I said no, I'm sorry; I'm not gonna move to the States. They moved everything – manufacturing of the machines, operating of services – into Houston. Later on when they got the patent, and it takes a long time to get a patent, they called me up and they called my other inventor, Jim Seale. He's from Edmonton; he's still around. So the two of us went down there and they wined and dined us for a weekend and gave us a cheque for \$2,000 each U.S. dollars. That was it. But it was a considerable contribution to the rehabilitation of existing natural gas pipelines. When you see the pipeline going in now between here and Vancouver, that's an oil line. When you drive from here to Vancouver or back, you'll see men working on the side putting in this line. You can see the big pipes. The colour of the coating is turquoise, sort of between green and blue. That's the coating that is now being used to replace the oil coating, which was very much inferior. It didn't bond to the pipe; it was just wrapped around the pipe. It was paper wrapped around a pipe impregnated with asphalt. Asphalt is a byproduct of the refinery process; so it was cheap. You've got paper and asphalt as liquid, and you wrap the pipe continuously like that in the factory, not in the field. Or maybe they did it in the field, I don't know. I've never seen it being done because we only dealt with the old coating. But you could do it in a plant and you could also do it in the field, I guess. It was what they knew at the time and it served them for about 15 or 20 years. It didn't happen overnight that the line corroded – 15 or 20 years before it started to corrode. So it was an opportunity for new technology. There's always opportunities for new technology. Climate change, for example, has produced hundreds of opportunities for new technology. Once we discovered what CO₂ was doing to us and we had to find alternate ways of doing things, we have renewable energy, wind machines, solar panels, new opportunities for hundreds of engineers and scientists. That's what life is like.

Q: Are you still active?

CR: No, I'm only active in politics a little bit.

Q: What changes have you seen in the industry over the years, and what are your thoughts on those?

CR: I've had lots of thoughts. I have to think back on the fact that I spent most of my life trying to get more and more oil and gas out of the ground in as efficient a way as possible and shipping it, transporting it, and then I find out that we have to leave it in the ground. But I do believe we have to leave it in the ground. Now I'm completely. . . But not all my fellow workers who I worked with; I don't think all of them are convinced. Some of them even deny or disagree or just close their eyes and ears to everything. They wanna continue producing oil, searching for oil. I confess that we won't ever not use oil; we have many uses for oil. But the burning of oil and the burning of natural gas, that's what we have to reduce. But there's other uses for oil, chemicals. There's other uses for natural gas. You can get hydrogen out of natural gas. That's what they're talking about now. My wife's family members, young next generation of students at university, they are studying electrical engineering. We have three, a brother and a sister, both going to be electrical engineers, and another one. We were just talking about that the other day. That's where it's at – electricity, EV, electric vehicles. That's where it's at.

Q: Is there anything else you wanted to add?

CR: The oil and gas industry is huge, and the petrochemical industry is also huge. There's so much involved. There's the shipping, the tankers, the LNG tankers to move the stuff around the world. Oil and gas is not in every country. I like to mention Guyana. Guyana didn't have any oil, for years and years didn't have any oil. Geologists had been there and geophysicists had been there, but when they discovered offshore huge deposits of oil and gas, they are going to be producing one million barrels a day of oil this year offshore Guyana. One million barrels of oil, that's not a little bit of oil. So, as fast as we keep reducing our use of oil in our cars and whatever, Exxon Mobil is producing a million barrels of oil which will be used either to make gasoline or diesel or chemicals. Exxon Mobil have been an example to the world of how to deny climate change, how to infiltrate the news media and everything to try to convince everybody to doubt climate change. That's the company that is in the forefront of one million barrels of oil a day in Guyana. It comes straight from the well to the refinery. They don't even use the Guyana

land at all. It's not on land; it's offshore. The tankers pull up to the wellhead, fill up with oil, and off they go.

Q: The multinationals are the ones who benefit, and very often the countries themselves don't. We'll take a break. Then Don and I still have a few more questions. . . .

CR: The machine that we invented for Canadian Ultra Pressure Services is called a Hydro Cleaner. I just thought about that while I was in the washroom. I've used hydraulics in most of my sophisticated engineering solutions, the hydraulics of pressure and water and pressure of gas. For example, the drilling of a well involves drilling tools above the bit. The bit isn't the only thing to drill a well. You have various tools down there that do things. They send messages back up to the surface; they tell you what's happening. But there's one tool that doesn't do anything unless you get in trouble, and the trouble is when you get stuck. The drill pipe is now stuck – it can't come up and it can't go down. Whatever happened down there is holding it there. Mostly it's the hole caves in. So this tool is then used to try to get unstuck. It's a hydraulic tool that's got a mechanism in it such that when you pull on it and hold strain on it, fluid is moving from one side to the other inside the tool. When it gets to the other side, it releases that pressure that has been built up by the pull, and it suddenly releases and the mechanism on the inside is free of the outside, and the inside is attached to the drill pipe. It moves suddenly up six to eight inches, and the impact when it hits the top of the stroke is what gives the pipe a jar. That's why it's called a hydraulic jar. The expression is, he's jarring the pipe. How long have you been jarring? Oh, 24 hours. How long are you gonna continue jarring this stuck pipe? I don't know, until they tell me to stop. That's what the driller is doing. The driller pulls, waits about 30 seconds, and then he gets this shaking of the rig and shaking of everything. Boom, goes back down, pulls on it again. Boom, goes back down, pulls again. Boom, 24 hours, 36 hours. They don't stop. They keep jarring until the head office says, alright forget it, we're not gonna jar anymore; we're gonna back off and go down and try to wash over what's left down below and pull it out. This is all if you get stuck. So the jar is very important, and most times it does work. I learnt about a jar when I went to work here in Edmonton for Baker. Baker Tools job came after my sojourn with my good friend Ben Ronellenfitch in the plastics urethane business. I moved to Edmonton and worked for Baker. Sorry, what's wrong with my memory? No, I was working in

Edmonton with Baker, I mean in Calgary with Baker. But I had to come to Edmonton very often. I had to come to Edmonton, because we had our tools here. But Baker office was in Calgary. It was after Baker that I went to Edmonton permanently with Cougar Tools. But before we go to Cougar Tools, I'll just tell you about Baker. Baker is a big, huge oilfield service company, second only to Schlumberger and bigger than Halliburton I think. Those are the big three: Schlumberger, Halliburton, and Baker. So I worked with Baker and I met a guy there who invented a jar, a hydraulic jar. But not for drilling, for production. When you're working over a production well, the tubing can get stuck too. Just like the drilling pipe can get stuck, the tubing that you produce the oil out through can get stuck when you're trying to service the well. So your hydraulic jar is used to jar it loose. It works very well. So I learned the hydraulic jar with Baker. Then I moved to Cougar Tools, who were operating and repairing and building and renting a drilling jar, a hydraulic drilling jar. They hired me because they had a hydraulic drilling jar and they knew that I had experience with Baker in hydraulic jars. Cougar Tools was operating here.

Q: Why did you never go to work for Syncrude or Suncor in Fort McMurray?

CR: Well I wouldn't have enjoyed the life in Fort McMurray. I wouldn't have enjoyed the travelling back and forth if I had to do it from Edmonton or Calgary. That was not my thing. Besides which, that's mining. I'm an oil man. I work on the ground, not in the sense of surface mining. I work on the ground. I work with stuff you can't see, at least until I designed that machine. So anyway, I want to tell you about the job, because that was successful and then I got another job eventually with Halliburton because I knew about hydraulic jars. I redesigned a hydraulic jar that somebody else had designed for them, and it worked. It worked for years, until we were replaced by another hydraulic jar that not only would jar up but also jarred down. But before that up and down jar, we were the jar. You can't drill a well without putting in a hydraulic jar in your string. You have to have a hydraulic jar just in case, because you might get slightly stuck. Before you get into real trouble, you jar yourself out of trouble and then you circulate and clean out the hole, and you get out of trouble. But in the case of the well that blew out that I talked about before, they got stuck because the well blew out. When the well is blown out, you have to close everything in. You can't circulate; you can't do anything. The hole caves in

on the pipe, and you're stuck. So when you come to pull it back out, you're stuck, very badly stuck.

Q: What could cause a blowout, and what's the impact on the environment?

CR: What could cause a blowout is many things. When you're drilling a well, you're going through zones of high pressure and low pressure. You have to be careful in both cases, because you're drilling the well with hydraulic head or hydraulic pressure controlling the well. The drilling mud or drilling fluid is the whole essence of controlling a well. The drilling mud is given a consistency, a weight, and a quality with chemicals such that it will do the job efficiently and maintain and control the pressure of the well. But should you come into a low pressure zone, you put the mud in there to stop the high pressure coming in. But if you hit a low pressure formation while drilling, you lose the mud. It's called loss of circulation. In other words, return circulation is not coming to the surface anymore. The return circulation normally comes to the surface and goes over a shaker screen, and you can see the cuttings on the top of the shaker screen, which is what the geologist examines all day long – the cuttings, the rock. But if you lose circulation, the head of fluid is lost, and as you lose the head, the gas takes over because you're no longer controlling the pressure with the head of mud-drilling fluid. Then the high pressure gas, which is always there, takes over and she blows out. When she blows out, you have to shut everything in. We call them blowout preventers, BOPs, hydraulically controlled. You go over to a lever and press this lever, and hydraulics closes everything in. They're called rams, squeezes around the pipe. So that's what prevents a blowout. But should the well blow out oil and gas all over the countryside, you have to send people out and tell people, no fires, no lighting of matches. If you want food, come into the office, but no lighting of any fires. No lamp, no cigarette. That's what happened one day. It wasn't a blowout but it happened one day to me in the field in Barrackpore. A production well that was gas blowing from the site. No sense going into the detail of why, but we had to change that valve through which the gas was blowing. There was the smell of gas all over, but no H₂S, thank goodness. Luckily, Barrackpore had no H₂S. My job was to go and get the new valve right now pronto. So I went to the store and got a brand new valve and brought it back on the truck. Then we couldn't drive the truck to the location, which was a tank battery, because it might ignite the gas. So we had to cut the engine

on the truck, and he and I had to carry this valve about 200 metres. I nearly died carrying that valve, it was so heavy. It must've been about 300 pounds; it felt like 300 pounds. Anyway, we got it there and they screwed it on; they managed to get it on and shut everything in. But when you've got gas blowing, you have to shut it in. Another example is of the power of pressure. This one, I was not there but I was there the morning after. We had two shifts in Palo Seco field. In quarry field we had a well that every once in a while we had to go in and clean it. But it was tricky; it was a tricky well. When I say tricky, it would lose fluid and then the well would blow out. Anyhow, the guys were pulling the pipe to clean the well out, and all of a sudden they see the pipe moving up like this on its own. The packer, which is something between the pipe and the casing, was stuck or plugged. So the pressure was lifting this like a cork. That tubing, 5,000 feet of tubing, no, 3,000 feet of tubing, came out the derrick and curled around the lease. There was a packer hanging in the derrick when I got there the next morning. This is the packer; this is the bottom. The well blew out all the pipe, 3,000 feet of pipe. They spent about six hours trying to close that well in. Everybody but me was there. I happened to be sleeping in my bed; they never called me out. But the boss, the second boss, the third boss – everybody who they had on shift that night plus the bosses were there. But there was no H₂S. Once the pipe got blown out, the well was just blowing gas with some oil in it. But of course everybody was just covered in oil head to toe. That's what happens on a blowout: you get covered in oil if it's a production blowout. If it's a drilling blowout, first you get the mud and then you get the gas and the oil if it's an oil well. So it's a very dangerous game, not so dangerous now as it used to be. Hydraulic jars is something I used to sleep and eat. In my dreams I used to dream about hydraulic jars. We designed and built that jar, and then we had to go and service it sometimes in Aberdeen once, no, not Aberdeen, one of the Scottish, no one of the Norwegian sites, not at Aberdeen. Way up north in Norway they had a shop, and we were allowed to go into the shop to service our jar.

Q: You did that for an Edmonton company?

CR: That was from Halliburton, the jar I designed for Halliburton. So we went to Norway to service the jar, because they didn't like the way it was working. They were right, it had some limitations. We got it serviced and sent it back out in the field. Then I had to go to Malaysia to service the same jar. So those two places, and Dubai; I went to Dubai to service a jar. Everything

was jar. I'm Mr. Jar Man. Anything to do with jars, they came to see me. I didn't solve all the problems but I did solve most of them. The only problem is we got pushed out by the jar that jars up and down. They were very smart, the people who designed that. It was known as the hydra jar. Our jar was known as the sledgehammer; I named it the Halliburton sledgehammer jar. I worked day and night on that one. Liz said I used to talk about it in my sleep. . . .

It's been a pleasure. I enjoyed talking about it. I should've written it all down, but I haven't.

Q: You could give me a copy of the pages of history you have.

CR: Yes, I've made some lists of all the jobs I've had. But that's not the most important thing.

Q: I'm referring to something you've written up that starts with your experience working in Guayaguayare. I would appreciate getting a copy of that when I see you next.

CR: Oh yeah, that would be interesting.

Q (Don): When you were with United, where were the wells located?

CR: They were very remote. The first wells that I ever sat on as a drilling engineer were in Red Earth, northern Alberta. The two most remote wells, one was south of Fort Nelson, so between Fort St. John and Fort Nelson, 40 km to the west off of the Alaska highway through the bush. I think it was 40 km, a long long way. The other one you only got to by plane. It was in the Northwest Territories. You got there by plane. Everything came by plane except the rig got there on the winter road and sat there and drilled a well. Then they moved the rig to the next well, also on a winter road. Everything came in by, like I came in, by plane. The mud engineer came in by plane and flew black out by plane. I once went with the mud engineer back to Fort Nelson to get back home. We came very low over the river so that we could avoid the clouds. We were in just a single engine plane. I had my fun there. Also I had my fun with the tool pusher to that rig. He took me on a ride, because he needed the company, to the next lease where he had a cat skinner with a cat clearing the lease for the second well. We got shut down on the way. He fiddled with his carburetor on his truck; he fiddled with it and fiddled with it. Eventually I could

not bear it any longer and I said, George, what happens if you can't get it started? This is wintertime and we're in nowhere right now. What happens if we can't get it started? We burn the tires, was his answer. What he meant by that is if we burn the tires there's gonna be black smoke, and the boys are gonna see it at the rig. Smart, eh? But he did get it started. That's how far some of my jobs were. The one that was south of Fort Nelson 40 km in the bush, that's the one that blew out and they had to redrill it the next year. The one in the Northwest Territories was a dry hole – nada, nothing. I don't know if the other one was a dry hole; I presume it was, too. Or they may have not even drilled the other well, I don't know. That's when I left and went somewhere else. I had enough of that. I found the drilling engineering job on the well was very boring, absolutely nothing to do.

Q: How has your career come full circle?

CR: By joining Halliburton with my ideas about that jar and getting their jar to work, as a consultant, I was then hired permanently by Halliburton in Nisku in their design office to design anything. But they primarily kept me working on the jar. I retired in 2002 at the age of 65. Then the boss told me, you can't leave. I said, what do you mean I can't leave? He said, well we need you. I said, well I'm going. I'm taking five months and I'm going to Southeast Asia and Australia; I've got it all planned. I know, he says, that's fine; you can do that, but you have to come back. Why? Well we need you. Okay, well if you need me I only want to work three days a week. That's fine, he says, as long as you can get what I want you to do done in three days a week. We'll pay you as a consultant. So I started off with Halliburton as a consultant, became a permanent employee, then I went back as a consultant. But this time, why was I consulted, why was I needed? Well because I had known so much about patenting and inventing and dealing with the patent office and the patent lawyer in my previous companies, I was the patent expert in Edmonton for Halliburton. They had nobody else. They were stuck; they had to hire me until they could figure something out. I worked from 2002 until 2006 as a consultant three days a week. I made more money as a consultant three days a week than I'd ever made before for five days a week.

Q: Anything else you'd like to talk about?

CR: Well, all I can say is that I still have one foot in Trinidad and one foot in Canada. I have to balance between the two. Trinidad taught me a lot about the oil industry. In Trinidad we have every condition under the sun on one island – every drilling condition, every geological condition. It's a very complicated geological structure. The people who came out of Trinidad were not only Trinidadian boys and girls, but the British and other foreigners who learnt their stuff from guys like me and from the foremen and the instrument technicians and all these people who taught them everything they know; they went back and made big names for themselves at BP worldwide. One of them was on the executive of the company. They knew what they knew and they learnt it in Trinidad. Roger Bexon is one, an Englishman. He married the daughter of the general manager, and Mr. and Mrs. Bexon went to live in England somewhere, London office I guess. He became the one in charge of all North Sea operations. Not only that, the queen knighted some of them; not knighted, sorry, that's not the word. The queen gave them the title of OBE, Order of the British Empire. That's what they got, four or five of them, all who worked in Trinidad at BP and some of them even before at TPD. They were given the OBE by the queen, because BP is a crown corporation. So that goes to show you how much Trinidad has contributed to the knowledge. We had production techniques that nobody has ever tried in North America – it's called Plunger Lift. That's a production technique for pumping oil, Plunger Lift. I've never heard of it here. Probably in the States they have it. It's just another way of getting the oil out of the ground. We had wells that you'd lose circulation regularly, so you had to be very careful with the mud. There's a district near Forest Reserve called KK6. When you go to drill in KK6 area you watch out, because you could hit that formation and lose your mud, and boom. It's tricky, very tricky drilling. Keeping the wells producing is also tricky. It's not limestone; we're not drilling in limestone like we do here. We're drilling in sandstone. Sandstone is abrasive and it also collapses. It collapses on the bit, it collapses on the packer, and you can't pull your pipe out. So there's so many things different about Trinidad's geology and Trinidad's formations than here. Here you have one other thing we don't have too much of. That is hydrogen sulphide. You have to be very careful, and it's quite widespread. But down there I only knew of one field that had hydrogen sulphide.

Q: How much of the product is land-based and how much is offshore in Trinidad?

CR: In Trinidad now I would say that 99 percent of all the oil production is offshore, and pretty much 100 percent of the high pressure gas is offshore. But they have found a new high pressure gas field on land in Ortoire, east of Cats Hill. I don't know if you know those areas. It's a company called Touchstone, a Canadian company operating out of Calgary – Touchstone Exploration Limited, TEL. They have found gas and they've tied in their first well to the main gas line. They're going to be drilling many more wells there. Touchstone.

Q: So you're saying that the skills developed in Trinidad have contributed to the production here.

CR: Yeah, I think so. We did directional drilling in what we call the gulf, which is offshore west of Trinidad between Venezuela and Trinidad. We did directional drilling there, pretty well using a slide rule and a calculator. Not like they use now. That's how they did directional drilling in the gulf. Our directional guys came to Canada to show them how to do that, show them how to do it in the field. Rene Aché, he's still alive, he's living up in Powell River right now. He showed them how to drill using the technology that was presently used in Trinidad, which they didn't know how to use up here. He was drilling horizontal or high angle wells in Fort... anyway it's where Exxon Mobil, otherwise known as Imperial Oil, where they've built an island in the middle of the river, Mackenzie River, a winter island. They put the rig on that and then they drill. They drill a number of wells from that, high angle wells. He was one of the directional drillers on that. Fort, what's it called? Fort William, Fort something.

Q: Fort Mackenzie?

CR: No it's not called Fort Mackenzie. It'll come to me. So yes, the technology that we have developed here, we learnt a lot of it from the States, we must admit that. The equipment and tools came from the States. We didn't make our own drilling jars in Trinidad, we didn't make our own bits and all that stuff. We didn't make that. Canadians can make it; they've made it here. But when it came to the field and fighting the problems out in the field, I think we've done a lot – collectively, not individually so much. In the technical services, a lot of our guys went into

sales and started companies selling drilling tools and production tools. I would meet them at oil shows all over the world. I'd go to Aberdeen and meet Trinidadians and I'd go down to Lafayette and meet Trinidadians. They would be experts in their field at selling the service or equipment.

Q: We have Trinidadians in Greenland.

CR: What's he doing up there?

Q: Wherever there's oil, there are Trinidadians.

CR: I don't think there's oil in Greenland. There might be.

Q: You'd be surprised where there's oil. If it's not in production; it's in refining or some other division. . .

CR: We showed the world in the World War how we could convert the Pointe-A-Pierre refinery to make aviation fuel in a matter of less than a year. We got all the equipment from the States, rigged it up, and made aviation fuel. Mind you, the money for that came from the British government. The oil company was told, do it, we'll pay for it, get it done. And they did it. That's why we have a big refinery or we used to have a big well established refinery in Pointe-A-Pierre with all the bells and whistles at the time for making aviation fuel. We were fighting a war with planes in England. It was Spitfires and Hurricanes that defended the shores of England. The Germans were just across the water.

Q: What was the Pointe-A-Pierre plant called?

CR: The Cat Cracker, I think that's what they called it. Cat Cracker – catalytic cracking. . . . That's another thing. The oil companies, I don't know if anybody's written about this, but historically when I came, well just to tell you... Before I knew anything about it, I came to Canada and heard about something that was very strange to me. When somebody was drilling in Canada here, there would be scouts. Scouts were paid as consultants to sit five or six kilometres away with

binoculars and study what's going on on the rig of their competitors. They could count the number of joints going in so they could figure out how deep they're drilling, because when the next lease sale comes up they want to know how much they're going to bid for this lease. That's called scouts. We didn't have that in Trinidad at all, because all the leases had already been shelled out; everybody had their leases. So the geologists used to cooperate with each other, the companies used to cooperate with each other, and tell each other what they're doing. They didn't have any secrets. When I came here, it was all secret, because we have to compete with them the next time we bid for the lease. If we don't know what they're doing, how are we going to price our bid? How are we going to sweep that away from them or get some of that acreage that's being offered? It is very competitive, and I never knew that until I came to Canada. So that's another aspect of the difference between what I experienced in Trinidad and what I experienced here. But now in Trinidad today the companies have to bid; they've got the bidding process going in Trinidad now. That's why the company who is drilling in Guayaguayare won that bid. Another company has acquired the lease for Guayaguayare. I forget the name of the company now. It's not one of the majors. I could find out for you, though. I keep track of everything. Have you ever heard of Sheppard? It's a website, a news service for people who are investing in Trinidad and the Caribbean, called Sheppard. I get it daily in my inbox. It tells everything that's going on. So that's how I keep one foot in.

Q: You're also active in GeriActors.

CR: Edmonton Lifelong Learning, GeriActors, Mushroom Society. Now I'm just trying to figure out--I found a mushroom in my back yard and I'm trying to figure out what is this mushroom, because I don't know if it's edible. I'm not going to eat it unless I'm sure.

[END]