

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: Wes Rabey

INTERVIEWER: Nadine Mackenzie

DATE: October 1984

NM: This is Nadine Mackenzie speaking. I am interviewing Mr. Wes Rabey. Mr. Rabey, thank you for having accepted to participate in our project. Can you tell me, when and where were you born?

WR: It's quite a while ago now but I was born in Moosomin, Saskatchewan in 1922.

NM: What did your parents do?

WR: My father, he was in the garage and service station business. He'd just returned from the war and set up his own company and he and my mother, they moved to western Canada from Ontario?

NM: Were they Canadian?

WR: Yes, well, they were Canadian immigrants. They were both British parentage, lineage but they both came to Canada as very young children. Then they stayed in Moosomin, Saskatchewan for about 2 years, until my sister was to be born and then they moved back to Ontario. So all my education and my youth was spent in a little place called Manila, Ontario, just north and east of Toronto.

NM: And then you went to high school?

WR: Yes, I took my public school in a little village, Manila, which probably consisted of a couple of hundred people and then they had first 2 years of high school in Manila and then we went to Lindsay Collegiate and that was a case of commuting back and forth each day, it was 14 miles from Manila.

NM: Can you tell me about Lindsay Collegiate, what was it, was it a big college?

WR: Well, yes, in those days you didn't have many collegiates or high school as we call them today. That served a very large area of probably 25 mile radius around the centre of Lindsay. So people came from Fenelon Falls and as far east as Bobcaygeon and south from Lindsay and west over to Manila. So it served quite a large area.

NM: And then you went to university?

WR: Yes, it was just at war time and I tried to join up in the Air Force. I wanted to be a pilot but they wouldn't take me because of my eyesight, it wasn't up to scratch. So they wouldn't take me as a pilot then I said, well then I'm going on to university and through the good fortune of my parent's insisting that I go because I would have probably joined up but they said, I think you ought to go and get an education. So I went and they started me through my first year and paid my first year and then from then on I financed my own way through university.

NM: And what did you study?

WR: I took engineering.

#029 NM: Why, what was the reason?

WR: Well, I took mining engineering because I always had the feeling that Canada was a resource area, and of course, being in Ontario, we knew a lot about the mining industry, the gold and silver and nickle and it was always a very, very prominent place in the economy of Ontario. And we had an old mining engineer who lived in the village, he did a lot of prospecting and he made a big impression on me that I should maybe follow in the mining field. So that's what got me into mining.

NM: How many years did you spend at the university?

WR: Just 4 years. I started in the fall of 1940 and graduated in the spring of 1944.

NM: Did you have any summer jobs?

WR: Yes, I worked every summer in the mining industry. Except the third year. The first year I went up and worked in Kirkland Lake in the Mikasa mines and then the second year I went up and worked in Val d'Or Rouan, for the Noranda Corporation. And then the third year a group of us were selected to go into the military and we were selected for officer training. So we did our summer training out in Chilliwack, British Columbia and that was different. Then we came back in the fall of '43 and started our final year in mining engineering and graduated in April 1944.

NM: What did you do after graduation?

WR: Well, of course, I was bound and determined I was going to be a good mining engineer and I went to work for the Ventures Ltd. and they were an exploratory type mining group. They did most of their work in northern Ontario and northern Quebec and they hired me on as a full time employee, except that when October came along I had an attack of appendicitis and had my appendix taken out. When I came back I wrote my report for them and then they said, well, that was a very excellent report and they'd like me to come back next year and continue on in the same exploratory program. So when I said, what will I do for this winter, what kind of jobs, didn't they have something in the mining industry that they could keep me involved and they said, oh well, you'll find a job. Well, I did find a job, I found a job with Imperial Oil and I got into the oil business and I've never been back in the mining again since.

NM: And this job with Imperial, was it in Calgary?

WR: No, I started off with Imperial Oil in Toronto. They were looking for young engineers to work on seismic crews. What they were doing, the seismic crews would come up from the United States, from one of the other subsidiaries of Standard of New Jersey which was the Carter Oil Company and they would do work for Imperial Oil. And Imperial would supply them some trainee type people that would work in Canada in the summertime and then go back to the U.S. in the winter and then they'd come back up again the following summer. So it was a seasonal type job in those days, for the seismic crews and it was one of the best of both worlds because you had a nice mild summer by working in Canada and then you had a nice mild winter by working in the southern United States.

#068 NM: Sounds very good, yes.

WR: So it was a very exceptional opportunity for young engineers. Unfortunately for me I only got in for the one year. In the year that I joined them I went down to Louisiana and worked in a little town called Plain Dealing. This is kind of interesting because at that time there was another quite prominent oilman here in Calgary, he was working as a trainee on a National Geophysical crew, called Bob Bullware???. So I knew Bob Bullware before we knew each other here in Canada. But it was a very interesting year because we did a lot of work all around the Plain Dealing area and it was early in the career of the Party Chief that we had, Harold Stallman??? was our first Party Chief and Harold went on to great things with Imperial Oil and the Standard of New Jersey organization after that. But he inspired me very greatly to become interested in the geology and the interpretation and got me started in the geophysical field early, rather than getting off into the field operations and doing operating, surveying, things like that. He insisted that I get into the interpretation side. So I owe him a great deal of gratitude for getting him into that side.

NM: How many years did you spend in Toronto before coming to Calgary?

WR: I didn't spend any time in Toronto because I started with Imperial and I spent probably 2 weeks learning a little bit about geophysics and the geology of western Canada and then they shipped me to Louisiana as I mentioned and we stayed there from January through to May and then we moved back up to Saskatchewan. The crew actually did the operating work out of Davidson, Saskatchewan and we had the crew headquarters in Saskatoon. So I was stationed in Saskatoon for that whole summer. We did a lot of work in around the Davidson area. It was very good basic information which even is in use today from the knowledge of the subsurface that we gained from the seismic that we did in those days.

NM: So you were a pioneer.

WR: That was right. It was the first I think, that was ever done in those areas. So there was no well information to speak of, there was a lot of well information further south but nothing in the areas that we were working. So they were very, very interesting days because we were dealing with so many unknowns. You didn't know how good reflections you would get from the seismic, whether they would be continuous type reflections that you could carry over a regional area. So you have to go in and do a lot of experimental work to find out whether these will happen. Then of course, there's very little surface information known because it was all covered with glacial till, so the geologists didn't have much surface information to help you in your interpretations. So then we would do our seismic and give them the interpretation and they would try to put whatever subsurface information they could to it before they drilled the wells in the area. But it was very pioneering as you say. The wells that we drilled were always anticipated with great expectation. With of course, every one we drilled we thought we were going to have an oil well but of course, it wasn't so.

#112 NM: So did you spend a lot of time in the field?

WR: Well, in the early stage. When I was down in Louisiana I spent about the first 3 months, then I got into the interpretation and then I was on interpretation from that time forward,

on the seismic crews. What they always try to do is to have the field crews, split the crew into say, 2 parts, one you'd have the office and the interpretation side in a major centre and then the field crew would go to the smaller towns in the surrounding areas and operate out of there. It was very difficult in those days to move 30-40 people, into a little town of maybe a couple of hundred people. You just overpowered them, there was no accommodation. So to minimize the number of people that went into these smaller towns they did split the crew into 2 parts and just have a smaller number of people going into these areas.

NM: How were the conditions of living?

WR: You're talking back in the mid 40's. It was nothing like we have today. The roads were all, either dirt roads, a few good gravel roads on the main highways but not modern facilities. In most cases there was no running water, you had to carry your own water and use all the outdoor privileges where available. I can remember one own that we went into, it was back in Coldspur, we went over and did a little bit of work and that was just west of Edmonton. We had to stay in an old building there and a group of us, we just went in to do a very short survey. We could look out through the cracks in the wall, all we had were sleeping bags and you look out through the cracks in the wall and there ???, it was pretty cold. But they were fun days. The people were very kind to us in a lot of these small towns and they tried to make it as pleasant as they could for us and would invite us into their homes for dinners.

NM: That was nice.

WR: Yes, they were very good. The odd place maybe they weren't quite a friendly because they didn't want to see their way of life being disturbed by the seismic crew and some cases the seismic boys were a little boisterous maybe. No harm meant but they sometimes get a little. . . .

NM: They were all young.

WR: That's right, they were young.

#143 NM: How long did you keep this first post for?

WR: I stayed out on the field crews from, I'm talking about the summer of 1945 now, we stayed in Saskatoon until September, then we moved over to Wainwright. Just at that time the CCF government, as you'll remember, came to power in Saskatchewan and they just decided that with the rules and regulations they were going to impose on the industry that there were far better hunting grounds in other parts of Canada. So Alberta was a good example. So Imperial just moved all of their activities out of Saskatchewan at that time, and over to Alberta. So our crew moved from Saskatoon over to Wainwright. So we spent the winter in Wainwright working areas around Provost and the Wainwright area. It was a very, very severe winter too I recall, because we had a lot of snow and this was the first winter that the crew had stayed in Canada. As you remember I said they used to go back to the States, so they were pioneering working in winter conditions. We found that the winter conditions meant that you had to clear the snow off the roads that you wanted to work. In an area like Wainwright where there weren't too many trees, with a lot of winds

you could clear the snow out and the wind would blow the snow back in, then you'd clear it out and the next thing you know, where you were clearing the snow was more snow in that particular location than there was out in the field. So you had to do your work very efficiently so you didn't have a lot of roads open before the crew got in there. I can always remember the Party Chief on this crew, his name was Frank Robertson. Frank was a southern U.S. resident and he had never experienced anything like snow before in his life. But he was bundled up, doing very well, until one day he went out to visit the crew and he had to go through the Wainwright military camp. On his way through, he found that the roads were getting too heavy so he decided to turn around and when he turned around, being a military establishment there were a lot of different facilities there and he didn't know where they were and he backed the car into one of these little foxholes that they use for training facilities. While he was there, it was a prisoner of war camp and after being there for about half an hour some of these prisoners of war came around and saw him. Of course, they couldn't speak English and they weren't supposed to help him anyway, he was in there on a permit. So here was Frank, frantically trying to get his car out of this foxhole, one wheel out of the foxhole and he never got back to town until about 8:00 at night. I remember him coming in and he was fit to be tied because he had spent about 6 hours trying to get out of this hole.

NM: And nobody could help him.

WR: And they couldn't help him. So when he got back to Wainwright I was in the office doing some work that evening on some interpretations and he came in. We had one of these old telephones that had the crank on the side and he just rushed right in the door and went over and grabbed the phone and cranked it up and he was phoning Calgary because he was going to resign. He said, I quit, I don't want anything more of this country, I don't want anything more of this job, I don't want anything more to do with this company.

#192 NM: He was quite upset.

WR: He was very upset. Fortunately he couldn't get hold of anybody that night and the next day he had calmed down considerably, so he stayed on. After spending the winter in Wainwright we moved the crew, in the spring, right at road ban time, to Leduc. So the field crew moved to Leduc and the office was moved to Edmonton. Our office was located in the Alexandra building, which was owned by one of the geologists father, Harry Reedford. I'm not sure what the father's name was but Harry was a geologist with Imperial Oil and did a lot of field work for them. It was the first oil entry into Edmonton of any oil company or drilling company or anything. But the field crew was located in Leduc and the very first line that we shot, Imperial. . .I'll go back just a bit here. Imperial had some land that they had taken out, they took out large permits in those days, 2, 3, 4 hundred thousand acres in a permit. So what they could do is to work this and then select their drilling sites and presumably they could keep all of the land if they so desired. Well, we had this block of land so we thought, we'll do the correlation type shooting. So we took one single line that started off at Bruderheim and it went south over Luma and

Joseph Lake and then west over Leduc and south over Wizard Lake and Bonnie Glen and then we swung west and went right out to Buck Lake. If you could use hindsight now, if Imperial had taken all the land along that line and drilled every anomaly that we could turn up on it, they would have found billions of barrels of oil on that very first line that we ever shot. Of course, that was the first seismic that had ever been shot in the area so we didn't know whether you could get reflections that would carry continuously from shotpoint to shotpoint or just what it would be like. So naturally we were all very anxious to see the first records when they were shot and some of them were good and some of them were not so good because we didn't know what depth to shoot them and what charges to use and a lot of things, so there was a lot of experimental work done. But it turned out to be very, very good shooting country and we were able to carry reflections continuously. So we could carry the second white specs, we could carry the lower Cretaceous reflection. We got a weak one at the top of the Devonian or the Paleozoic section because you have both Devonian and Mississippian in that area. And then we had the out point salt. They were our major reflectors and as we went west, then the out point salt disappeared. Now we didn't know what any of these reflections correlated to in those days, all we had were reflections and we just knew that these things were carrying and we had no idea what formations that they represented because again, we're pioneering, this is the first seismic work that was done in the area. There had been the odd shallow hole that had been drilled for gas. Like the Viking-Kinsella gas field had been found at that time and they had done a little bit of seismic in there apparently, by Imperial Oil a way back. We tried to use that as a little correlation but it wasn't very useful. Then we were further west, being over in the Leduc area. But we shot about 3 or 4 lines like this one that I talked about, from Bruderheim to Buck Lake. We shot one that went out north up through Morinville and Legal and up that way and we shot another one that was west, out to . . . well, it was north of ??? Lake and out through that way. But we correlated all of these and found that we had pretty good continuous reflection. So then they decided that they would shoot what we called the 5 point pattern. That was a matter of shooting on an east-west line, every hole, every 2 miles apart. And then on the next line, it would be a mile north of that, you would shoot the alternate miles, 2 miles apart but you'd be alternate miles so that when you looked at them on the map, it looked as though you had, for every 4 sections you would have 5 points. One in each corner and one in the centre. And we did that all over the acreage that Imperial had, as well as some of the open acreage that existed in the area. We turned up a number of anomalies, as a matter of a fact, on the very first line that we shot we turned up the anomaly on Leduc. We also turned one up as I recall, on Wizard Lake. Now they weren't very definitive, just kind of little bumps on these lines. Because if you only have one single line you don't know where it extended laterally from that particular line. So we did a couple of more lines and did more of this 5 point pattern all through the area and certainly a very interesting anomaly turned up at the Leduc and that was mapped by our crew. We turned up several others, like at Luma and Joseph Lake and Wizard Lake and further west. Then we were put on further assignments and one of the things that sort of annoyed the Imperial boys was that they hired a contract crew to go in and do some detailing on the Leduc feature. Well, we could understand it

later but what it meant. . .

#290 NM: Why would they do that at the time?

WR: They hired a new crew, this Heiland crew and they wanted a place to check them out and see what they could do. And when you start to do continuous profiling, continuous profiling means that you shoot a hole every, in that era it was shoot a hole every quarter mile. And then you tied the reflections together, so you could actually have a continuous reflection going right along the whole line and each one of these points would be. . .well, you'd have your 12 traces between your quarter mile so that meant you had a point every 110' along the line. Then you'd shoot it back the other way and you'd have 110' the other way so this gives you an overlap so that you were sure that you had continuous profiling. When you put a new crew out it's easy for them to adapt their equipment to do the continuous profiling, as opposed to our crew which was set up just to do this correlation type shooting. But it meant our crews were working quite a ways away from location and the fellows had to do a lot of driving. And here was a contract crew working right outside the door of Leduc and it made the fellows feel very hard done by. So actually, the crew that did the detailing on Leduc was the Heiland crew. So we didn't actually do the detailing as the Imperial crew. But in the meantime we continued doing more shooting and we turned up several anomalies. One of the things that was very interesting that happened, we were working north and east of Edmonton, in the Redwater area. Keep in mind now that I was just one of these young green interpreters and I'd only been interpreting since about June of the previous year, well, say March of the previous year I guess. So I'd had probably a little over a year and a half's experience and when we did the work around Redwater area, I mapped it as though there was a big structure at depth. So we couldn't tell what formation this represented.

NM: This is the end of the tape.

Tape 1 Side 2

WR: Just continuing, as I mentioned, we did this correlation program northeast of Edmonton, in the Redwater area. And we were using the 5 point pattern so we didn't have anything continuous to carry our reflections in a continuous fashion. But I had mapped, in that area, what we considered the biggest anomaly we'd ever seen in this whole area, much better than what we had seen at Leduc. So I mapped it as a very large structure, but when they sent the maps to Calgary they didn't match with what the other chap who had a lot of experience, had shown. He mapped it as though it was flat because all he had seen in Alberta was these flat continuous type reflections without any big anomalies. I insisted, because I could show them that this character on these reflections matched and that there was an anomaly there and particularly there was some critical dip. I was kind of incensed that they didn't believe my interpretation but I can understand, being just a young green interpreter with maybe a little over a year and a half experience that they couldn't really match somebody who might have had 10-12 years experience in Calgary. So I thought, gosh I must be wrong. So I went back and worked over that stuff several, several times

but I still couldn't believe that it was flat. Frank Roberts again, who was a Party Chief, he went away on holidays. While he was away I talked to our operator who was Bob Grier, and I said to Bob, I want 2 miles of continuous profiling done on the east side in this Redwater area. Next day it rains and the area that you're working, I'd like you to take the crew over there and do this. So I had the surveyor go and survey the lines and the drillers go and drill it so it was already to be done and sure enough, it rained. Bob, he was quite a sort of a little upset that he had to change the cable configuration to do this continuous profiling but he did it. And of course, they shot it and it confirmed my interpretation.

NM: So you were right.

WR: So I was very elated about this. But when Frank Roberts came back from his holidays I showed him this, expecting him to say, boy, isn't that great Wes, you've done a great job and your interpretation is right. He jumped all over me and said, who gave you the permission to do that. I said, nobody and he said, you can't do those sort of things and I said, well, it's already done. So all I got from him was a calling down for taking action. So he was very upset with me. But what that did was to show the people in the head office in Calgary that this young green interpreter had something on the ball I guess. It turned out that it meant a move for me from the crew in Edmonton, to Calgary, where I had to follow 3 crews then instead of just doing one crew. But it was very distressing to me at the time because I was about to get married and my wife, who lived in Saskatoon had come over and we had found an apartment. To find accommodation in those days was very, very difficult so we had found this very lovely apartment in Edmonton and put down a deposit and we got married on October 12th and we were going to take possession of this on October 15th. Well, they moved me to Calgary on October 1st. So it created a tremendous personal problem because when we got to Calgary I couldn't find a place to live.

#042 NM: But you had this apartment in Edmonton.

WR: But I had one in Edmonton. So I had to pay the month's rent on the one in Edmonton and then I couldn't get any place in Calgary. Imperial were very generous, they gave me one day off to get married. Of course, one day was Thanksgiving day so we had a 4 day weekend to get married. We got married in Saskatoon and we came back and spent the first 3 weeks in a hotel looking for accommodations. So it was very distressing to me personally but it was very rewarding to me from a business point of view to be able to be in the head office. I found that when I got there that there wasn't very much cooperation or coordination between the geologists and the geophysicists. The geophysicists did their thing and the geologists did their thing.

NM: Did you talk to each other?

WR: Well, we talked to each other but we didn't really sit down and say, what do you know about this area that I can put into my interpretation and what have I got in this interpretation that you can take over here and put into yours. So I made it a point to work very closely with the geologists and whenever I had something that was different or anomalous or interesting I'd run down to the geological department and talk to them and say, hey, what about this and what about that. Well then, that was the fall of '46 and as

you know, Leduc was drilled in 1947. So it wasn't very long that we had to wait to find out what was going on at Leduc. When Leduc was drilled we were quite. . . well, really just to go back a little bit, when Leduc was drilled it was drilled as a lower Cretaceous anomaly because this was the only reflection that we were very confident about in the seismic department and the geologists, their interpretation of that whole area was that we'll find some Cretaceous oil and if the Mississippian is present, we may have a chance to find some Mississippian oil. So we drilled down through the Cretaceous and of course, we didn't find anything in the Cretaceous section so everybody was quite sort of down in the mouth about the . . .

NM: Very disappointed.

WR: Yes, they were very disappointed. And they continued on and then they touched the top of this carbonate and then they weren't sure whether this was Mississippian or not. So they kept on drilling and drilling and finally they said, no, this is obviously not, we're below the Mississippian so we don't have any further targets in this area. We all know that there's no oil in the Devonian so there's no point in going any deeper. Well, apparently the story as I understand it, and I wasn't there first hand to get this, so it's third hand that I repeat this, they were given instructions to abandon the well to the night shift. Because it was at night they said, well, we'll continue on drilling through until the morning and then we'll let the day shift abandon the well. Well, when they came in the morning here was some oil staining in the pits, which was very exciting. So of course, they continued on drilling and testing. That turned out to be a D-2 oilwell. So Leduc #1 was a D-2 well. And as we all know now, the D-2 had very sporadic porosity. You can drill a lot of different wells, a lot of the wells that were drilled in the Leduc field following that had no porosity at all in the D-2. So we were very, very lucky in drilling in that location that they drilled it where there was some porosity in the D-2 as we call it today. Of course, that was quite exciting for the geologists because they did some coring and weren't sure what kind of formation this was or what, because it was something new to them to have porosity and certainly some oil in that zone. And of course, then they went on to drill Leduc #2, which was another D-2 well and then they drilled Leduc #3 and there wasn't any porosity in the D-2, so again, we were very disappointed. So now we've got no oil where Leduc #3 was drilled. So they continued to drill that one down a little deeper and when they hit the shale, the green shale below the D-2 or the Nisku member, then they said, well that's it, we're out of this carbonate, we're into this green shale member. So we won't find any oil in that but they continued to drill on and again, as I understand it, it was another one of these sort of delays in getting information to the drilling crew to abandon the hole. So they just continue to drill as long as no one tells them not to drill they are going to keep on drilling so they continued on down and again, they stumbled into the D-3 at this time, the Leduc member. As I say, I wasn't there to personally know this but this is the story as I recall it at the time of Leduc. So this was very exciting then, because this was far better production out of the Leduc #3 than we got out of the first 2 wells. So at that time we said, gosh we've got to go in there and do a lot more seismic on this area and try and find out the total extent of this whole Leduc area. I remember the chief geophysicist at that time was very insistent that we didn't do any more. I said, well I can't understand that, we

should know what was all going on in this area. He said, well, everybody thinks that we know everything that's going on there now and if we go out and do some more seismic then they're going to know that we don't know as much as we thought we knew. I said, well I just don't understand that logic at all, I think you've got to go out there and define the outlines of this thing as best we can with seismic. But we never did. And it wasn't until a couple of years later that they went back in and did . . .

#116 NM: It took so long.

WR: . . . did more seismic so that they could understand what was going on in that area. But a very interesting thing. When Leduc did come in, I have to back track a little bit now, there was sort of an old boy association in the oil industry and the senior members of the companies like Texaco and Shell and California Standard and Imperial, these fellows would meet at, I guess it was the Renfrew Club in those days. They'd talk and say what they were doing and no one sort of usurped anybody else's position. So if you found something it was sort of an old boy's agreement, you have the first few days to maybe add to your land position if you want and if you don't do it then it's open to anybody else. So after Imperial drilled Leduc #1 they had the opportunity to pick up some other acreage immediately south of Leduc which turned out to contain the Wizard Lake oilfield and they didn't do it for several days and Texaco went up and filed on it and they got the Wizard Lake because that was open after we had found Leduc with the Leduc #1 well. I insisted at the time that, now that Texaco have moved in and other people, this is going to be a competitive situation, you better take the acreage out to the immediate north of Leduc, which was the Woodbend because that area was open. I had mapped that and that was a very, very difficult area but the old type of instruments that we used in those days, the H type had given us the best character of any reflecting instruments, the best character and represented the reflections better than any other instruments that we had seen at the time. By working labouriously over the records I could see that there was an anomaly that stuck up to the north of Leduc. So we went and filed on that Woodbend area and it turned out to be the Woodbend field, which is just immediately north of Leduc. Of course, we had mapped that trend then. We had thought, this trend does extend further north because we could see things going on up towards Morinville. So we were pretty sure that all of this. . . so we made sure that we had all of the acreage going north on up into Morinville at that time. So they were exciting times but coming back, while we were doing all this mapping in the Edmonton area, when they moved me to Calgary from Edmonton and I had proven that they had a good anomaly at Redwater, we didn't know what it was, Imperial didn't have the acreage. There was a big block in there of about 100,000 acres that was open. So I kept asking them when were they going to take this acreage out because here I'd done all this work and proved up this big anomaly and they weren't doing anything about it. So each day the exploration manager would come back and the chief geophysicist and I'd ask them, have you filed on that acreage and they said, no, we haven't yet. Because they say they've got more acres than we can handle right at the moment because we've got our hands full. I kept insisting and it wasn't until about November of December that they went in to file on this acreage because I said, look, if

you aren't going to file on this thing I'm going to quit and take it myself. Well, they said, you can't do that because you're working for us and I said, I can quit and go and pick it up. They said, you're very insistent on that aren't you and I said, sure I am. Finally they did take it out in the latter part of 1946. Of course, when Leduc came in and we proved out that maybe this was reef because the geologists were working back and forth, then we were trying to figure out, maybe Redwater might be reef too but we had no idea whether it was or not. We just knew that it had a big structure at depth. After doing studies on Leduc and the green shale, the velocities of green shale versus the velocities of the reef we realized that there was a variation in these velocities. This could create a pseudo-anomaly below the reef, so wherever you had reef, your reflections travelled down through that at a much faster speed than what they would where you had no reef, just 2 or 3 miles away, it was all green shale. Going through the green shale it took slower time. So when you mapped these horizons below the reef in time where it took longer time to go through the green shale they were a lower level than that same reflection would be underneath the reef where you had a faster velocity so the time went down and back quicker. So this gave you a pseudo-anomaly on these deeper reflections. In actual fact, after you applied your velocity gradient to them you would find that those beds that we mapped that showed anomalies were relatively flat, they might have had some small structure or small little bumps on them but they were relatively flat so it was just a phenomenon of mapping these reflections in time that you would see these as anomalies. Well, we kind of suspected that at Leduc when we saw this anomaly at depth and then we did a lot of research on it and then we had the various people in the Carter organization, they had a research lab so we had them working on this project at the same time and they suspected that this would happen. But the chief geophysicist would never believe this, he had never, ever seen this before in his career and he wouldn't believe it so all he wanted to do was to drill Cretaceous anomalies. He said, all we're going to do is drill Cretaceous anomalies so as long as we had a Cretaceous anomaly, whether we had a deeper anomaly or not, that didn't bother him, he just wanted to drill the Cretaceous. Which we found some other very interesting features, using this method, but we did it for the wrong reasons and found some oil. So it takes a little bit of luck as well as a little bit of skill.

#205 NM: Do you remember people working with you at Leduc?

WR: Oh yes. The members of the crew, on Frank Roberts crew, the operator as I mentioned was Bob Grier and another one of the interpreters was Carl Chapman. I can think of some of the others that were there, there was Jimmy Ward as I recall and Rae. . . Jimmy Rae that was one, Jimmy Rae was the surveyor. ??? Allen, I don't think he was on that crew, he was a shooter on one of the other crews but he was one of the shooters on the crews. And I had an assistant interpreter, a fellow by the name of Greg Haynes, he was on the crew. Yes, there were a lot of the old timers, Sheldon Gibson, he was in the office in Edmonton. There was a lot of the old timers that were there. Roy Bealey was on the crew. And then they had changed the personnel around from crew to crew. They actually had 2 crews I think at that time, because Frank Spraggins was operating a crew and the personnel were exchanged back and forth between the crews so at any one time there

might have been different people on the crews. But we had the 2 crews, Frank Spraggins and Frank Roberts. And then they started another crew up after that time and I've forgotten when that was and Labby Laberge was the Party Chief on that one. And then Imperial had 3 crews. So it was very interesting times.

NM: An historical time.

WR: Oh, well, you were dealing with so many unknowns from all angles. From the subsurface geology, you didn't know what you had, you didn't know what the surface conditions were, you didn't know what the low velocity corrections that you should make on the weathering to interpret these things. So it was very interesting because you had to keep solving all of these problems and you'd solve one problem and there would be another problem and you would solve that problem and you'd get another problem. It just seemed to be one problem after another but that's because you're dealing with so many unknowns in this business.

NM: There are also so many challenges too.

WR: That's right, yes.

NM: This is the end of the first interview with Wes Rabey.

Tape 2 Side 1

NM: This is Nadine Mackenzie speaking. This is the second interview with Wes Rabey.

WR: I think where we left off last time, Nadine, we were talking about Leduc and refining and I don't know whether I mentioned the difference in velocities to green shale and the reef as a way we were able to find the anomaly. Imperial had this technique which we had developed in our geophysical department as an exclusive for probably a year or more. The other companies were trying to find out the same type of information. Then of course, when we found Redwater, it became a fairly known fact and one of the geophysicists with Pacific gave a paper and he expounded on how they found reefs which had all of the technology that we knew and we were quite surprised that other companies in the industry came up with the same idea. So we thought there was a leak in Imperial Oil but actually that wasn't so.

NM: There was no leak?

WR: No, not that we know of. There were people that came and left but I think what happens in the industry like that and which I've seen since is when certain information comes to light in the industry you have a short period of exclusivity in being able to use this but. . .

NM: Then people catch up with you.

WR: But then they catch up because they have the same sort of thinking and logic that you have and it's only a matter of time until other companies come up with it. I remember as being a young geophysicist we were shocked to think that other companies were as smart as Imperial Oil you know. We thought we were sort of an exclusive group. But it was very exciting times. After Leduc of course, we went on and we did take out the acreage in Redwater after a lot of hard persuasion on my part with Jack Webb and Ray Walters who were my immediate seniors in Imperial Oil. When we drilled at Redwater we held off drilling for quite a long time because there was some freehold acreage that the company

was trying to get, Imperial was trying to get, and they delayed drilling the Redwater #1 well to try to augment the land position that they had. So they couldn't make a deal to get this acreage so they finally went ahead and drilled it. In the meantime the Alberta government had changed the regulations again, the land regulations. So that instead of being able to keep half of the land, like we were able to do at Leduc, they had cut it down to where you had to have blocks of 3 x 3 or 2 x 2 or 1 x 2 blocks and they could only have contiguous corners.

#038 NM: What was the reason for that?

WR: They felt that the industry shouldn't have the full control over all the land. If they did the exploration and found an anomaly they felt that by ending up checkerboarding this thing on this block plan that I outlined there was sufficient and that the Alberta government then, would be able to get some of the lands back and be able to post them and make further sales of that land and make more money on it. I remember the uproar that came from the industry was tremendous. They said this is just going to kill the oil industry in Alberta, I mean they changed the rules after the fact and this is going to stop all exploration. Well, as we know it never did. But I can remember our anxiety after we did drill Redwater #1 and we did find oil, then of course, we had to start to make our selection of the land blocks. We didn't have the advantage of computers in those days to be able to use all the different combinations so it was just a matter of sitting down with pencil and paper and trying to superimpose these block diagrams with . . .

NM: Like patchwork.

WR: That's right. And try to maximize the maximum acreage we could. And of course, you didn't know how far down the flanks of the structure, we call it structure but it really was the draping over the top of the reef and also using the pseudo anomalies on the outpoint below it, would extend. So it was quite sort of a juggling act but we worked, I bet I put together 200 different combinations of land blocks just in a 4 township range area that we were looking at that, to try to maximize the land holdings of Imperial Oil. So it was a very exciting time.

NM: What about the competition, were there other oil companies interested in these lands too?

WR: Well, that's an interesting comment because when we drilled Redwater and found it, I talked to Les Clark who used to be chief geologist for Shell and at one time Shell owned that block of acreage on which Redwater was located and then they gave it up.

NM: So they missed the boat really.

WR: And I hadn't realized that at the time but apparently that was so. But Shell had other acreage that they thought was better, to the north, in an area called, I think, Smoky Lake, I think that was the name that they had. And of course, they went in and did shooting over Redwater again and they did the shooting over their Smoky Lake and they thought they had something better at Smoky Lake than we had at Redwater. Unfortunately they were up on a bank type reef whereas Redwater was a biohermal??? self-contained type reef. But one of the other interesting things that came out at that time, Pacific Petroleums had hired a number of different people in the industry including Ted Link from Imperial Oil. So they were very interested in the Redwater area. They did some shooting and they had a

seismic crew doing work in there for them and they outline the reef very similar, in less detail of course, than what Imperial had. But they were very active in bidding on blocks on that Redwater field. And as a matter of fact, that's one of the things that set them up in the oil industry because the monies that they paid we thought were quite high for a section of land, I think it was in the order of 1 or 2 million dollars, which was a lot of money in those days. In today's market if that was available they would be paying probably 5 or 6 times that kind of money for that kind of oil in place, because it was pretty well defined and once you knew the reef outlines then you knew that you were pretty sure of finding oil. But there was very exciting time. As a matter of fact, Jack Gallagher, with Dome, they were one of the bidders at that sale and of course, Gallagher had been with Imperial Oil too so they had some sort of extra information about these areas, not as much detail as Imperial had because we kept that confidential but I'm sure that some of it leaked out at cocktail parties and such like.

#093 NM: Which was very tempting too.

WR: Oh sure. So that was a good start for Dome Petroleum in being able to buy acreage on a known field like that. So you can go back and rationalize on these things that the government had changed the rules and may have destroyed some confidence in the oil companies but in reality what it did was provide other opportunities for other oil companies to get started and they went on to become very successful companies. Now they may not have had that same opportunity if they hadn't had a chance to participate in that Redwater field. And I'm sure there are other stories of other companies like that but they're the ones that I know specifically about. So they were very, very exciting times where you had little information and a huge land area.

NM: So there was a lot of guessing.

WR: Well, there really was. The geologists at that time did a superb job of piecing together the bits and pieces of information that was available, as they always do even today. But when you go into a new area like western Canada was at that time, and there had been a number of wells drilled with very little success in the early days until Leduc came along and then of course, Redwater, well that just set the whole empire going there really. But I can remember some of the other side of the story too because we had a lot of surface geology done up in the Peace River country by the geologists. They were very excited about that area and we didn't do any geophysics to speak of but after they had done their preliminary work and then they did some subsequent geological work then they spudded a well called Spirit River #1. That was projected as about a 10,000' test in the area and they were very shocked when they got to about, I think it was about 5,000' and they hit basement. But they kept drilling for a long time in the basement because they couldn't believe that this was basement. They thought it might have been some intrusive or something that came in that maybe there were other sediments below it. So that's when we ran into what we call the Peace River Arch and no one knew that that existed before that time. I was going to say that I think we did a seismic line over there but they information was so spotty we couldn't really give them much help. We didn't know what was going on there either. But I'm not sure that we did it on the Spirit River well or not. I know some of the people in

Imperial could probably elaborate on that a little more. I know subsequent to that we did go up and do quite a bit of work in the Peace River country and that was an area of great interest for Imperial Oil. But just following on in the D-3 Leduc type reef exploration, we did a lot more work all through the Edmonton area, trying to find some more of these Redwater type reefs or Leduc type reefs. We had several crews by that time that were working for Imperial Oil and they were working doing this 5 point pattern, this correlation type pattern. And I can remember when we were out in the Willingdon area, which is south and east of Edmonton. The geophysicist who was working the area was working for me and it was a girl geophysicist, and I can't remember her name right now. Anyway, I remember her working at this and she came in with one of these velocity anomalies and again, we had a beautiful example of a Leduc type reef. Well of course, the excitement in Imperial Oil was very high because we found this Willingdon and then another one within a few miles of it, sitting there again, called Pinedale. Well, we thought we had 2 more big oilfields for Imperial Oil and we were patting each other on the back saying, Imperial are going to really do well and we were thinking of our pension plans and that where we had Imperial stock, how well we were going to do. But subsequent to that we did a lot of detailing and defined these things in extreme detail and then when we came to drill them we had the sad disappointment to find that the reefs had been eroded, the top of the reef had been eroded prior to deposition of some type of cap rock. So any oil that was in them, if there was any, had escaped. So that was a very . . .

#159 NM: So it wasn't so fantastic after all.

WR: That's right. We thought we had the big discovery, we were practically counting the barrels of oil in the ground only to find that due to erosion, that they top had been decapitated and the oil had escaped. But these are the interesting things that happen in the oil industry. When you think you've got something for sure, then that's just the time you find you have nothing. But it was very exciting. So I thought I was very lucky to be involved with a group like Imperial Oil, where you were doing all this original type work in an area where there were a lot of unknowns. They treated me extremely well as an employee and of course, I'd helped them tremendously in finding the Leduc type reefs and helping them define these parameters. And of course, my persistence in them taking out the acreage over Redwater, I don't think they've ever lost any money on the time that I worked for Imperial. But I found that as time went on that they were hiring people at quite a fast pace. . .

NM: It was expanding a lot.

WR: Very rapidly. And I knew that my future would be quite good with them but I also knew that I was just an employee for a large company. Some of my immediate sort of contemporaries and superiors have done very well, Jack Armstrong was my immediate superior at Imperial, he was the senior geophysicist and I was sort of next in line to Jack. He went on to become exploration manager and of course, to be President of the company. So I'm sure if I had played my cards right and worked diligently I would have been very successfully rewarded in Imperial as well. But I got kind of itchy feet I guess, as a young engineer trying to see what I could do. My father had been in the garage and

service station business and he'd had his own business and he had the freedom of making his own decisions. So I grew up in that environment. I guess that had a big influence on me. . .

NM: So you wanted to be your own boss?

WR: When the opportunity came to get out on my own, why, I thought, well, I think I want to do this. Because if I don't do it I'll always say I wonder what would have happened if I had done it. At that particular time geophysicists were in big demand. I thought well, if it doesn't work out there are numerous other companies that would like to have a geophysicist with some experience in western Canada to work for them. Because at that time there were a lot of new companies coming in from the U.S. As a matter of fact I had several offers made to me because I don't know how it happened but they heard about me and things that I had done in Imperial. So I remember 2 or 3 companies had approached me in a casual sort of way, whether I was happy at Imperial and would I be interested in another job. I would never have left Imperial to go to work for another company because they treated me so well. But I knew just from these contacts that if I wasn't successful in my own business then I could always probably get a job with somebody else. So it was kind of a comforting fact. But I remember when I turned in my resignation to Walters at Imperial, he said, I don't want to accept this. I said, that's what I want to do and he said, we've got some plans for you and they offered me a big raise and another . . .

#218 NM: So they were trying very hard to keep you.

WR: They really were. I said, I'm very flattered and it's not a case of money and it's not a case of responsibility, this is just a situation where I want to go off and do something on my own. And it was kind of funny because the way it happened, we had a contracting company that was working for Imperial, it was called Allied Exploration. It was a fellow by the name of Higdon Rogers and prior to that time, he had been with Heiland Exploration. Higdon and I, I had to supervise his crews, so he was quite an alert type of businessman and of course, I had to explain to him what we were wanting to see, production from their crews and also in the quality of the data and things like that. So he took quite an interest in me and when he decided to expand to 2 crews then he asked me whether I wanted to join him. I said, well, I didn't know whether I wanted to or not but of course, in the back of my mind I knew I wanted to do something on my own. So we made a deal and I got an interest in the company and I didn't have to put up any money, so it was an excellent opportunity for me to start out on my own. I can remember going out and leaving Imperial and saying good-bye to all the fellows there and what a sad feeling it was. It's kind of a sinking feeling in your stomach and I'm going out into this cold hard world all by myself. It was quite exciting too because we had to buy all the equipment and get the contracts and do things and it was very, very exciting. But I can remember after the euphoria started wearing off and you realize that this was just a job, that you had to get it done, all of a sudden we were cut off from all the sources of information that you had when you were with Imperial. You had access to all the daily drilling reports of all the wells that were going on, other companies as well as Imperial and you had this tremendous library of geological information and geophysical information. When you get

out into the cold, hard world on your own you had nothing. But it's surprising, you look around and you find this publication and that publication and this bit of information and you strike up friendships with people and you can start to patch the information together and get a pretty good working knowledge of what was going on.

#260 NM: What was the name of your company?

WR: We called it Accurate Geophysical.

NM: Why Accurate?

WR: I thought that was. . .

NM: It's a very nice name.

WR: I thought it was a very good name and I've had a pretty good knack for picking out names. There were 2 reasons, 1) geophysics is a very precise type of business and so you want accuracy and the other was that it was A in the alphabet. So I thought, that's . . .

NM: And you're first in the phone book.

WR: Yes. So it had a double ???, because you could use other words that gave you the precision but . . .

NM: A name like that also can give confidence to people.

WR: Yes.

NM: You can trust a company called Accurate.

WR: Yes. Anyway we went out and did some work. Our first contract was with Seaboard Exploration. As a matter of fact, Les Clark had gone to work for Seaboard and he was the fellow who told me how Shell had had the acreage over Redwater. So Les and I had a very, very good relationship. He liked my approach to things and my interpretation and of course, I appreciated his vast knowledge of the geology. So he and I worked very closely together on the interpretation so we had an excellent relationship and did a lot of good work for them. Then Higdon Rogers decided to go back to the United States and he was going to run some crews down there. So I bought out the Allied part of Allied Exploration and he went back to the States so then I had 2 crews. We subsequently increased that to 3 crews and we were working for various companies. But we had 2 crews on with Seaboard.

NM: Where were your offices?

WR: We had our offices when we first started off was in a little house on 4th St. and 14th Ave. There was a house there and we had the 2nd floor of this house. I can remember that old house was quite a . . . it's gone now because the old buildings have been knocked down but it was. . . this was probably the only type of office space that you could get was to utilize an old house or an apartment or something, in the downtown core because there weren't many offices around. Then we had our 3 crews and we were working very diligently and another friend of mine who had been with Imperial Oil was Bud Coote. He had started his own geophysical company and he had one called West Provincial and he had 1 crew. One of the problems when you have. . . I'll just go back a bit here, one of the problems you have when you have 1 crew, it's fine as long as you continue to keep working for 1 client. But often times they shut you down and then you've got to go find a job with another company and you may be shut down for a week or a month or 2 months

or whatever it is. So he felt that he needed to expand and I felt that I needed more help in the company that I had so we put the 2 companies together. That turned out to be quite a successful arrangement because Bud and I were partners for quite a number of years following that. And it turned out to be, oh we had our ups and downs in between but I . . .

But prior to Bud coming with us we ran into a slack period, the industry was much like it is today, you work very busily during the winter months because the ground is frozen and you can go pretty well anyplace.

NM: This is the end of the tape.

Tape 2 Side 2

WR: Okay. Before I put the deal together with Bud as partners, we had the same problem as we had today where the crews worked busily during the winter months but then come the spring and the summer why, it was sporadic work. You had to really get out and hustle to try to find contracts for the crews. And by that time we had 3 crews. In those days you had to do the interpretation so it meant you had all of your field personnel, your operator and your shooter and your surveyor as well as the office personnel, which is your interpreter and junior interpreter. So these were key people that you had to keep on the payroll. So the money that you made in the winter months was dissipated very rapidly in the summer months because you had little or no income. So because I had done such a large amount of work in Imperial and we had covered large areas I had good knowledge of what areas were good reflecting areas and which weren't. So I hit upon the idea that what the industry really needed was some basic information that they could share and not have to pay the full cost of doing the work themselves. So I came up with the idea that we would do what we call today, a participation survey. That was to lay out an area that you say you're going to do some shooting and then get the companies to share in the cost of shooting that with the contractor, like ourselves, owning the data and then after we got our money out of the shooting then we had a shelf item which we could sell if anybody else wanted it. Well, this was revolutionary because no one had ever done this before in the whole industry. When I went to some of the companies they said, no, no, we're not going to participate in that because then everybody's got the same information. I had a consultant friend of mine who said, that will never work west because companies will just assume that, because you're going to end up owning the data that you're going to go into the oil industry and you're going to be competitive with them. I said, well, I'm not going to do that, that isn't the plan at all. Well he said, that's what they'll think. I thought, this has got to be a very good idea and I just can't abandon it because 2 or 3 people said it's not going to work. So I went out and put together a proposal and talked to as many companies as I knew in the industry at that time. And it was very, very difficult because it had never been done before, people were sceptical, they didn't know whether we had the finances to be able to do it.

#032 NM: So you were really a pioneer.

WR: Yes. So it was the first time. It had never been done in the States or in Canada. But I kept

on working with it and we finally got 6 companies. We wanted 10 companies so that we would get our normal cost out of the work and make a modest profit but we ended up with 6 companies. They underwrote this and as we shot it and delivered the data to them, then they paid us for the information. Well, I was struggling because 60% of the cost was very, very thin and it meant we had to come up with some of the money ourselves. I had to go to the banks and talk to them. They were very unsympathetic in those days. But I did get them to give us the bridging capital that we needed and I had the drilling contractors to go along with the same idea, as we got paid, they would get paid. And it was a good deal for them because they were able to keep their crews working. And our total cash outlay, if we had not had any work and had to pay for these people that were sitting idly by would have cost us as much money as we had to put into it anyway. So we rationalized, this is okay to go ahead and do it then. So we did it. And it turned out to be quite successful. Part way through doing this we had Bud Coote, we made this deal with Bud Coote. Bud, he didn't want to have anything to do with this at all. He wouldn't pick up his share of the cost that we had in this.

NM: He was not interested?

WR: No, he didn't think it would be a very successful idea.

NM: So you were really out on your own for that.

WR: That's right. And I had another junior partner with me, a fellow by the name of Bill Ogilvy and he and I had put the plan together. So we ended up owning about 3/4 of this survey and then when Bud came in, because he was part of our company and the company was still doing this, then he ended up with a small part in the residual that we still had to do. But it was a very interesting thing because Bud was not that enthused about it but because we had it going he would go along and carry on but he didn't want to take part of the original investment that we had in it. But we became very busy as it turned out and we had to hire a crew to finish off doing some of the work for us. So we contact Lorne Reid, who had Universal Exploration at that time. Lorne had had a very bad summer and he was about to go into receivership and when we came along, why, it was sort of a salvation for him. Now he . . .

#063 NM: You rescued him.

WR: He would get enough money out of this to keep his operation going and again, that was the first time that one contractor had ever hired another contractor in the industry. So we had a number of firsts in that particular project. But one of the interesting stories that came out of this was that we had a geophysicist that worked for us, a fellow by the name of Moose Arden???, and he had been with Seaboard. We had him doing the interpretation on part of this survey but we also had insisted that Universal, Lorne Reid's company, do the interpretation because Lorne was an excellent interpreter. He had very good credentials, he had been with the Gulf group prior to starting his own company. I remember towards the end we had a very difficult time getting Lorne to get this interpretation done because he, after he finished the field work, he got very busy and he didn't have time to do the interpretation so we were coercing him to get it done because we wanted to get it out to our clients so that we could get paid for this. Anyway, we kept

after him and finally he brought the interpretation over and brought it over and we were quite amazed of the type of interpretation it was. Because it didn't really fit the geology that we knew the area, which he knew as well. But when we were talking with Moose Arden, who was following this crew he thought it was very good. Well, it turned out that Moose Arden was moonlighting and doing the work for Lorne Reid at night and then coming back into our office and saying that he was doing the interpretation on the thing, so it was one and the same interpretation we were getting and he was getting paid twice for it. It didn't take us long to part company with Moose, that finished him right there as far as I was concerned because we had no further need of his services when he was . . . But that was a funny incident. And Lorne Reid, of course, he was chuckling because here we were disagreeing with the interpretation yet he knew that the interpretation was being made by our man. So these are some of the funny stories that take place. But just to carry on in that, it cost us money to do the survey but we had the survey and we sold it a number of times after that. And we made very good money because it was like a shelf item and every time we sold it why, all the money that came in just was all clear profit. And it became a very, not a sore point but a very envious point on Bud Coote's part because when it came in why, Bill Ogilvy and I shared a big chunk of this revenue and Bud just got a very small part of it.

NM: He missed the boat then.

WR: It was good fun but I've often rubbed it in to him on the fact that we had done this survey and as it turned out, that was sort of the beginning of doing what we call proprietary surveys owned by the contractor and sold, the rights to use the data sold to the oil companies. I can remember Charlie Moore, who was the manager of GSI, he'd quiz me on that every time he could see me because he realized that this was a big break through for the contractor. After that time why, GSI started to do these things in a very small way. But they were so large in the industry that they were afraid that if they had started that they would have lost a lot of their clients. But once they saw that we could do it and there weren't any repercussions and that we weren't going to go and use the data against the oil companies by bidding on lands or picking up lands on it, then they became quite comfortable with it. And as it turns out it's an excellent way for the smaller companies to get data. The majors could afford to pick up this type of information and pay for it and keep it exclusive to themselves whereas the smaller company they could only. . .

#115 NM: They could not do it.

WR: They couldn't do it. So it was a big break through for the smaller independents to be able to get regional type information at a very nominal cost that put them into a relatively better competitive position than they would have been with the major companies who could afford to do this on their own. So a number of companies tried to do this after. . .

NM: Tried to copy you.

WR: To copy what we had done. And some of them did it and did it successfully. But we were the pioneers and we sort of had a knack for doing it and we did a number of those surveys following that time. And of course, it's a standard thing in the industry today but at that time it was something new and different.

NM: You kept this company for 8 years. What happened during this time.

WR: Well, we worked for a number of companies, as I mentioned. When we put the company together with Bud Coote we changed the name from Accurate Geophysical to Accurate Exploration. Bud's company was named West Provincial and we thought that Accurate was a little more appropriate name than West Provincial. So we did a lot of work all over western Canada and we had quite good success. The ups and downs of the geophysical industry were as prevalent then as they are today. It sort of followed the fortunes of the industry and you had good years and you had bad years. But we were very fortunate because we had good people and good quality work and Imperial Oil wanted to use us but there was always a reluctance on their part for any people who had worked for Imperial, that they didn't want to hire them back and maybe give encouragement to other people to go out and leave their company. I don't agree with that philosophy but that was their philosophy. And the one chap who was very persistent on that was a fellow by the name of Ray Walters, who was moved to South America. Then when Ray moved why, there was a different attitude and the people in Imperial realized that we were an established company and we're going to be in business whether they hired us or not. Then they realized that we had good expertise and good quality work that our crews had done that they should be using our services, if and when they could. Well, it turned out that they had a project that they wanted to do in the west of Edmonton, in the Whitecourt area. It was a very large block. They had decided to put 4 crews in there for 3 years. Only the larger contractors could bid on it or people who had the expertise to handle it. We were selected as one of the companies to bid on this and fortunately we were successful in getting it, providing we had the financial capabilities of doing this. So they said, we'll give you 60 days to get all your finances together and to buy these 4 crews. Because it meant buying all track equipment, having portable camps and being able to do this work both in the summer and the winter because it was going to be 4 crews working 12 months of the year for 3 years. So we went to the IDB, Industrial Development Bank and told them what we wanted to do and I've forgotten the total amount of money but I think it was up in the \$3, \$4 million range. I think our assets at that time might have been in the order of less than a million dollars so they said we didn't have enough equity for them to loan us this large amount of money. Well, this was pretty disconcerting. We went to the banks and the banks wouldn't loan us any money. Here we were, a Canadian company with top quality people and they wouldn't give us the money that was necessary to make this thing go, even though Imperial were going to give us the contract.

#170 NM: The banks were pretty tough in that time.

WR: They really were. They really gave us lots of song and dance and lots of stories of why they couldn't do it and why they should be doing it but they wouldn't do it. So we thought well, okay, what we can do then is to find another company who has good financial backing and there was an English company here at that time called Geophysical Prospecting Company. They used the name GeoProscro. So we talked to them with the idea that we would do this as a joint venture. They would put up the capital and we would put up the know-how because they had some good equipment but they didn't have very

good people and they didn't have a very good technical representation in the industry but they had good financial backing.

NM: They came from England and ??? in Alberta?

WR: In Alberta, yes. So we talked to them about maybe going on a 50-50 split with them putting up some money. Well, they wouldn't go for that, they wanted to buy us out and they wanted to have the whole thing to themselves. We weren't very excited about that prospect and we thought, we'll talk to other people and see if we can't raise the money. Well, we couldn't raise the money so we finally had to go back to them and say, yes, okay, what kind of a deal can we make. So we worked out a deal where we sold them our company and then we had a net profit's interest in what they did. So we sold the company out to GeoProscos. GeoProscos immediately turned around, went down to the IDB, and with no assets in Canada, borrowed the \$3 million that they needed to do this because the parent company had this tremendous reputation in Britain. And that just flabbergasted us, we just couldn't believe.

NM: That's incredible.

WR: It really was. Anyway, they had less security with those people than they had with us as Canadians because we had to stay here and face the music. They could have, if it had not been a successful thing they could have just packed it up and gone back to Britain and said, tough beans. But anyway, that's kind of the pioneering. In those days the banks were very, very conservative and not helpful at all to the industry.

NM: It changed later on.

WR: Oh yes, it really did but that was our experience. That was in 1956 and it was kind of interesting because the equipment that we needed on here was going to require portable camps and I remember, the Atco people, Don and Ron Southern, they were getting into manufacturing these camps for well sites and for rigs and crews. We called Don up and said, Don, we've got to have a specialized type of camp, one that we can move over muskeg and yet can accommodate up to 40 men. I remember them coming down to our office, both Don and Ron and we worked on that on a number of occasions to try to figure out ways of doing it. We did come up with a very unique scheme where the walls, you had your standard camp which was about 10' wide and about 25' long. What we did then was to have walls that would expand on the outside, they would just fold up against the side of the camp but they'd fold out and the floor would go down and then you'd have a canvas over the top of that for both the roof and the far outsides. That gave us like 3 units then instead of just the one unit. We put them on tracks and we were trying to tow them and then we finally ended up having to put motors in them so that they would go but that was the beginning of the portable camp business that Southern started. So that was all an outgrowth of the contract from Imperial Oil. Similarly on the equipment that we were using, the track equipment was all being developed right here in Calgary and that was a breakthrough for those people to be able to get these 4 crews equipped with it. We used some Bombardier equipped crews and we also used the . . .oh, the people in north Calgary here, they're still in business, I can't remember their name right now. But that was the beginning of their company, in developing the track type equipment. They had these articulated tractor type of things at that time but they weren't too successful but when

they got into the track, that became their. . . So it was a very interesting period. In order for us to have more people there was another ex-Imperial employee, Marty Dewis had started a contract company and we felt that we wanted to get Marty as the field supervisor for this job up in the Whitecourt area. So we bought out his company and got him into the organization so he could be the supervisor.

#252 NM: So you were expanding.

WR: So we expanded, so we bought another company at that time. I think they called it Geo Craft.

NM: Was it in '56 or '57.

WR: That would have been in '56, yes. So Marty Dewis came to work on that for us. So it was very exciting time.

NM: This is the end of the second interview with Wes Rabey.

Tape 3 Side 1

NM: This is Nadine Mackenzie speaking. This is the third interview with Wes Rabey.

WR: I think where we finished off last Nadine, we were talking about the 4 crew operation with Imperial Oil in the Whitecourt. I stayed on and managed the Accurate Explorations at that time till 1958 and then I went over to England with the parent company, the GeoProsco organization and managed all their eastern hemisphere operations for a number of years. That was very interesting in that I wasn't really that anxious to go because I knew the Canadian and the North American operations far more intimately but when we got over there I found that it was very exciting with going to different countries, Libya and Morocco, all over north Africa and east Africa and out to the Middle East to Tehran and as far. . .

NM: So you were travelling a lot.

WR: Quite a bit yes. Actually I found I was travelling more back to New York than I was overseas because all of the contracts were arranged through the major oil companies that were located in the United States. So I travelled back and forth across the Atlantic more times than I did going further out to look at the crews. But I stayed there until 1963 and then came back and did some consulting work for a couple of years, then I started my own company again here in Calgary called Sigma Explorations. We had some interesting times. Prior to that I was looking at various opportunities and a number of companies wanted me to go to work for them in the exploration departments but I decided just to do my own consulting things until such time as I could launch another company. Things were depressed in those days, very much like they are now really.

NM: Which year was this, '64?

WR: '63, '64, '65. Then with the advent of the Rainbow discovery in northern Alberta, geophysics picked up again and I came back into the industry and started, as I mentioned, Sigma Explorations and we got into the data trading business. Up till that time the oil industry wouldn't sell their seismic information, they would only trade it with other companies. So if you had 5 miles of data that you wanted, why, you would trade with

Imperial Oil for 5 miles of data that they had for what you had. But the big problem with that scene was that the majors had so much data that when the little independent tried to make their trade with the major oil company they found that the major already had the data so they wouldn't trade for the data that the little oil company wanted. So when I came back I looked at this scenario and I said, well, I think we have to put a value on this data. I was able to do that because of the excitement with the Rainbow Zama period, people were doing a lot of spec surveys and it was easy to get a value for data based on those surveys. What we were able to do then was to, say the small independent company could go to Imperial and say, I'll buy 5 miles of your data at \$500 a mile so that's \$2,500 and I'll put it with this broker, which is what I acted, as a broker. So I kept the \$2,500 and took a commission for doing that, then Imperial, when they wanted some data then they had \$2,500 or less their commission, to put towards some other data that they might like.

#047 NM: So you were acting as a resource person.

WR: As a sort of a broker between the buyer and the seller. So some people had. . . everybody had some data that they were ready to sell and other people had data that they wanted to buy so it was just a matter of marrying those up and then keeping the money in between. Most of the companies said that this wouldn't work because when you sold the data, why, it was income to the companies and they didn't want further income. But they soon found that they were spending that money as fast as they were getting it and it wasn't income where they had to pay tax on it and I got a ruling from the tax department, I went and talked to them and they said, you can keep it for a period of time and then if it stays there too long then we would insist that the company took it into income if they didn't use up this sort of credit that they had with you. So that turned out to be the breakthrough in the data brokerage industry. No one had ever done it before, no one in the States or in Canada and today it's probably one of the bigger businesses in the geophysical industry. What it really accomplished was it took a lot of the old data that sat as surplus to these companies needs in their basement and made it available to the smaller independents who were able to take it and work and become competitive in certain areas with the majors who had all this data. At the same time the majors were able to convert that old unused data to be able to get other data in areas that they were interested in. So they became quite enchanted with the idea and it's just grown from strength to strength since that time. It was quite a breakthrough in the geophysical industry. As a matter of fact, in the early days when they wrote up an exploration contract the geophysical data was never, ever discussed in the contract because it didn't really have any significance. But today every contract that's written up, it's who owns what data and what percentage because there's a very large dollar value attributed to the after sales on this seismic data. And it was very, very fortunate that private enterprise did this as it turned because when we got into the difficulties in the 70's, the provincial governments were demanding more royalties and took more from the oil companies and it put the oil industry into the real doldrums, even worse than it is today. One of the ways that the governments were trying to stimulate activity was to say, maybe we can make more information available to the companies. They hadn't realized how large a percentage of the seismic data was being traded back

and forth between the companies because they wanted to have control of all this data so that after a period of time it became public information much like the well logs and that type of information is made available. The oil companies didn't want to do this because it meant maybe hundreds of millions of dollars that they had spent through the years which was proprietary information to them would have been put on to the market for other people to use. Had the oil companies not been trading and making it available to other companies on some reasonable basis, I'm sure the governments would have stepped in and have forced them to give up that data or make it available at some nominal terms or make. . . what they really wanted to do was to have copies of every bit of data given to the government and this was the Alberta government that was trying to do this at that time. Which would have meant a fantastic cost to the oil companies just to have to reproduce all this data and give copies to the Alberta government. And then the Alberta government would have gone to a tremendous expense of trying to handle all of this information and then feed it back out to industry if, as and when it was called for. So it would have been a terrible duplication of effort at great expense to the tax payer to do that. So again, it's a good example of the free enterprise system does work and where there's a need people will find that need. Had I not done it I'm sure somebody else would have done it sometime or another. But I felt it was a big breakthrough for the industry at that time. So these were very exciting times in the Rainbow Zama period and one of the interesting companies who took the idea that I had developed in participation surveys, Roger Angus, he went out and did a lot of surveys and was selling it at very nominal price and was making fantastic sales and making tremendous profits. But they only made one mistake, they thought that because they were selling data at such a low price, I think it was around \$200 a mile in those days, that regardless of where you shot the data, they would be able to sell it. But they went out and contracted, I think they must have had 6 or 7 crews under contract and then they got into areas where the data, they shot this data and they had no buyers for it. So pretty soon they used up all of their profits that they had made and then they went into receivership.

#113 NM: That was too bad.

WR: Well, it really was but it's a good example that even though you've got a good idea, you still have to have a market for what you're going to do. You've got to be sure that where you're going in your shooting programs is where the oil companies are interested in investing their money for data. It was too bad and a very good example on that, Sigma had only been going just for 3 or 4 years and we bought all of the Angus library from the receiver for \$60,000 in those days. And he must have spent \$10-15 million on acquiring that data. But strange as it may seem, I don't think we ever did get our money back out of that thing after all that. Even though we paid a very nominal amount for it, they had made all the sales that could have possibly been made. But it kept the data available to the industry and it was not lost in the shuffle. We went along in some very good years for awhile until about 1972, '73, when the Alberta government realized that the industry was getting a very good deal on the royalties that they were paying on oil in Canada. They were trying to figure out a way that they could extract more money from the oil

companies. When Peter Lougheed got into action why he was trying to levy a tax on the oil that was in the ground. This would have been a very onerous deal for the oil companies, trying to evaluate the value of this oil in the ground each year. Something like you have a building, you would have an assessment on your building and you would pay taxes. He was trying to get an assessment on the product that they had in the ground and be given a tax on that each year. So they talked over different things and in the discussions why, it came out that maybe the oil industry should be paying a little higher royalty. As soon as they opened that door Peter Lougheed just jumped right in with both feet and levied a very high royalty at that time. Of course, that siphoned off a lot of the money that would have accrued to the oil companies, which the federal government would have been getting their tax on the profits that the oil companies would have made from this. So that put the feds at odds with the provincial government here in Alberta. Because the provincial government were now siphoning off monies that would have been taxed prior to the oil companies getting it and made the feds very unhappy. So we had a very difficult time between the feds and the provinces.

NM: The oil industry here was caught between the two.

WR: That's right. And I was very vociferous because I tried to arrange numbers of groups of people together so that we could show what the impact would have been on the oil industry the way they were going, if it became shut down or even slowed down in the way they were going. I made my point very clearly, I was President of the Canadian Society of Exploration Geophysicists that year and in my speech to the group I was very harsh on the provincial government for unilaterally changing the contracts that they had with the oil industry. I felt that that was the crack in the door that allowed all the governments to step in and do what they wanted to, on any industry. Our industry was one that was being hit at the time. I tried to get a lot of groups together to try to explain. . .

#166 NM: Did you get a lot of support from people here?

WR: Yes we did, it was very, very interesting. People sent letters of encouragement and we were trying to get all the different societies lined up as non-participants in it, in other words we were groups of people really that were working in the oil industry but we weren't like an oil company and we weren't like CPA and we weren't like IPAC. We were trying to be like the groups of geologists and geophysicists and engineers and log analysts and all those types of people, to get together and express their opinions of what was going to happen to their professions. And that this was a people problem as well as just a tax and revenue problem for the province. This went along very well until we got a group in there and all of a sudden I could see that they were trying to organize this as a political deal to have everybody organized as a political party or a union of some sort and then I backed right off. I said, what my intent is, is to get people to express their opinions but not to organize a union or another political party to go into this. So what my idea was and what people were trying to change it to soon made me back off and change my approach. So at that time the Alberta government, in their great wisdom I guess, once they saw that they were going to get these huge amounts of money decided to put in drilling incentives to get the drilling industry stimulated. And they would pay a portion of

the drilling costs on the wells that were drilled. I organized a group, through the CSEG and what we did there was to go and make a case for the geophysical companies that if they were given some incentives, that they could do the geophysics at a cheaper price and thereby allow the smaller companies to be able to continue to actively look at the new exploration plays. This was they could be developing new oil and gas prospects that could be drilled. It turned out to be very good but again, all of these things don't always turn out the way you expect them to. You wanted the smaller oil companies to have the advantage to get cheap geophysics, that keeps the crews going because our fear at that time was that if the industry shut right down there wouldn't be any nucleus to build back up again to have your geophysical societies and people to be able to gear up when times change. And it did exactly that but we did find that there were people that took advantage of it and shot some very poor quality geophysics at a very low price and collected the incentives. So you always have someone that takes advantage of a situation. So with subsequent legislation and changes to the rules I think they've covered most of the big abuses of that type of programs that we're on. So we've come a long way in the industry in many ways, only to see the government become more and more involved in everything that we're doing. One of the things that distresses me is that western Canada and all of Canada and all of the United States was built up on the free enterprise system, where you give the private businessman the opportunity to develop a business and it will grow and flourish and create employment. As soon as you get the government involved it just seems to be all closed in and. . .

#226 NM: Everything changes.

WR: Yes. It gets turned into a very dull and stagnant type of operation, there's no real incentive to get out and grow. I for one, would like to see less government intervention in these things and more free enterprise so that we can get the economy going the way our forefathers and leaders had laid out the plans in the first place. I hope that future generations of Canadians will continue to think this way because that is the only way this country is going to be great. We have the best people, the best educated people, we have the largest land mass with tremendous resources that are untouched and instead of being an also ran country like we have today, I'd like to see us to be leaders, where we take advantage of our people and their education and our resources and see us back in the leaders of the world, where our dollar isn't at 75 cents to the American dollar. I think that we should have the very strong economy and make something for our grandchildren and great-grandchildren to be proud of. I don't think I have much. . . I've got lots more to say Nadine really, but I think the key things are more the policy things and the interesting things that have happened. Maybe I should go back just a little bit, after we had the big problems in '74, Sigma Exploration continued to be quite a successful company in the geophysical industry because we were in a position where we were helping the smaller companies get seismic information at a nominal price and it kept the industry moving along at a fairly good clip. Then in 1979, December '78 actually, I sold the company out to the employees, I sold Sigma Explorations to the employees and I went off and started an oil company called Petro Ventures Resources Ltd. I didn't really plan to get too

involved in the oil industry, I wanted something to keep me active and to keep abreast of what was going on in the oil industry. And I was very deathly afraid of the high inflation rates that we had at that time. Although I had made modest amount of money in my life, I had enough to retire on, I could see all of my savings just probably disappearing with the erosion of inflation. So I felt that the best thing I could do, because I knew a little bit about the industry, was to get those assets that I had converted over into resource assets that would stay abreast of inflation. That's why I started Petro Ventures. I also had access to quite a large seismic library and I felt that that was a good nucleus to develop some prospects and maybe find some oil and gas of my own. But I wasn't going to get very aggressive. But like anything, whatever you do, you start off small, and you can't stay small. You either seem to quit altogether or you've got to get bigger. Well, we got bigger. We got into some of these drilling funds and we built the staff up to about 15 technical people and we were going along great guns and then we all know what happened with the National Energy Policy. It came along, which was supposed to help all the Canadian companies, next thing all of our financing dried up so we had to just contract back down to the cash flow that we were able to generate ourselves because there was no other input of capital. And we've just gone along and done our own thing in Canada. We did go down and invest in some oil prospects in the U.S. and we were fortunate to find some oil down there. So my horizons expanded a little bit to include the U.S. and Canada, so we have a little operation where it's generating some cash flow in the U.S. as well as our operations in Canada. And I think we'll just continue doing that and trying to encourage younger people to participate in the natural resource industry as geologists and geophysicists and engineers and that's going to be my goal from here on.

#312 NM: You have been a witness to the ups and downs of the oil business, can you comment on that?

WR: Yes. I remember when I left Imperial Oil away back in 1950 the industry was really booming and you could put every drill to work and every seismic crew and everybody was going along great guns. Then by about 1953 I guess, '52-'53, we had saturated the Canadian market with oil. There was a big push on at that time to build a pipeline to Montreal and Toronto. You've probably heard this from other people but our great Canadian government wouldn't do anything to assist the western producer in finding markets for our oil so we had a big downturn in about '52 and '53.

NM: This is the end of the tape.

Tape 3 Side 2

WR: So we had this big downturn in '52 and '53 and everybody was trying to figure out what other industry they could get into and a lot of people, in the geophysical industry for instance, we were up to I think, I can only go from memory but I think we were up to about 140 or 50 crews. And by '53, '54, in that point, we were down to about 40 or 50 crews. So it was a dramatic change and only the enterprising ones were able to keep

going. I think I mentioned to you way back, it was through necessity that I started doing participation surveys, where we could generate our own work and sell the work that we got to the oil companies. That was the beginning of the participation surveys. That kept us going until things started picking up again and then of course, I went overseas and we had another big downturn just in the 60's, which made seismic crews surplus to everybody's needs so we saw another mass exodus of geophysicists and key people in the industry, either going into school teaching or going to the States and working in aircraft industry, like Boeing. A lot of fellows went to Boeing because they were all mathematicians and very, very key people in the space programs that were going. Then a lot of them just got out of the business completely and went into something else and never did stay in Canada. Or got into real estate sales or, it was amazing where everybody disappeared. Then we got back with the advent of the Rainbow, Zama, things really picked up again and we saw the crew numbers get again, up to about 130, 140 crews. Then they went right down to about 30 or 40 crews by 1973, '74, when we had the confrontation between the provinces and the feds. Then we saw it build up again when we had all of the influx of new capital into the industry in the late 70's and the early 80's where everybody felt that they were an oil entrepreneur and all they had to do was set up a sign that they were an oil company and people flocked in and gave them money. It was unbelievable to see some of the people who got started in the oil industry. So now we're back down on the other side of the slope where we've got rid of all these fast buck artists and we're back down to the nucleus of oil people who understand the industry and know what it takes to make a dollar in the industry. We're gradually weeding out all of these weaker ones who get into big debt situations. And I can see now, I think we're definitely at the bottom and starting back up the other side. The seismic industry hasn't been quite as badly hit as some of the other industries in that there were some incentive programs that I mentioned about getting started at the end of '74. This was a way of evening out the amount of seismic that was going on throughout all of that period. So companies could never have gotten the seismic done at any cheaper price at any time by using these incentives. So it was a way of smoothing out the programs at the time. Now again, I'm not a great advocate of the governments getting involved in the free enterprise system but when they are involved then they must do something to keep the industry as stable as they can. Had we seen another big exodus of geophysicists and geologists and technical people like we did back in the 60's and the late 50's, then I don't think you'd see these people coming back into the industry the way it is today. Because you'd be treated more like the mining industry. The mining industry is sort of a sometimes thing, there are a few old timers in it but the younger people, they're not trying to get into mining because it's not stable enough. It has too many peaks and booms, there are very many peaks and very many booms. So for a person trying to get started in the early stages of that, there are too many other industries they can go into where they can have a steady income instead of peaks and busts like you get in the mining game. And I'm afraid the oil industry would have gone if we hadn't had some way to smooth it out. I'd have far rather have seen us go through these general trends where we're able to match the supply and demand and the prices seek their own level. But whenever you start to control prices, you try to control who you can sell your

product to, who can you have as a partner, you can't have a U.S. partner, you can't do this, you can't do that, all of a sudden we become regulated like a utility here. This isn't really an industry as it should be.

#063 NM: So what do you think of that National Energy Program?

WR: Well, the National Energy Program, I think I referred to it a little bit how it came in and just devastated the industry as we knew it prior to that time. Because it discriminated against all the foreign owned companies, the majority of which were U.S. But they were trying to be nationalistic in their approach and give the smaller company some extra boost but really, what they did was decimate practically all the industry and only those companies who had a reasonably good cash flow or who were very good managers and weren't trying to lever all of their assets to the greatest extent were the ones that were able to survive. The National Energy Policy didn't really work the way they had anticipated. Of course, their biggest mistake was to assume that the prices of energy were going to go right on up forever. Well, nothing like that has ever gone on in history and there was no reason to assume that it was going to happen then but everybody panicked, in the government circles primarily. That was, I can remember, Gillespie getting on a plane and flying out of Ottawa and going down and negotiating a contract with the Mexicans so that we could get, I think he was trying to get 100,000 barrels a day or something. When it all turned out he knew nothing about the oil industry and we ended up, as I understand it, with commitments to taking some very low gravity crude which we could have provided very easily from western Canada with no problems at all. But here it was a case of the big saviour going down and saving the great eastern Canadian populace, that he was doing great things so that he would be reelected for further terms I'm sure. But there was no sense, no rhyme nor reason and no consultation with the experts in the oil industry as to what was going on.

NM: So there was really a lack of communication.

WR: That's right, yes. So the National Energy Policy was a very ill conceived plan that was put together on a very short notice with no consultation of industry. In theory it probably looked as though it would be quite a great boon for Canada, based on escalating energy prices. But as we know, nothing goes straight up and there's always a correction, there's going to be something happen. We're left with a terrible mess. And the sad thing about that is that the people who instituted it are now out of office and they just walk away and they don't have to answer to anybody. And the industry is left with this kind of mess. I think there should be some way of forcing the individuals, who are instrumental in doing that to pay for this somehow or other. They should be made to make some kind of amends and I don't know what it is. Maybe it has to be like Argentina, when you have the army or the military running it and now the military are out, now they've got all these military people on trial. Maybe we could do that with some of these great strategic plans that have been made for us. I don't know. I think there's something wrong when they can so drastically change and influence a country the way they have and then walk away and have no responsibility.

NM: Nothing at all.

WR: That's right. I'm really . . . I think there should be some thought given to that problem.

#110 NM: So how do you foresee the future of the oil industry?

WR: Canada is a great country and I've always been a very, very staunch supporter of Canada. I haven't been a staunch supporter of the governments that we've had here but I still believe in Canada. I think I mentioned earlier that we have a very high degree of education in the population that we have and I think they're very capable people. We have a very large land mass and the majority of which, the area hasn't been touched. I think we have great future of trying to figure out what we can do with this land and utilize it and certainly to review it in search of other resource areas, in the mining and in the oil and gas, in the energy field. I think that we're going to see Canadians here have a great future ahead of them in the oil industry. You just have to look at the tar sands and where we've got reserves up there of hundreds of billions of barrels of oil and it's just a mechanical process to get it available. So Canada will never be in short supply of energy. Now it may cost us more money but we will never be in short supply of energy. So from the oil industry point of view, we can be exporters of energy to help the United States and the North American continent particularly and I think we've got to stick together as a group here in North America.

NM: Can you comment on the contribution of Alberta to the development of the Canadian oil industry?

WR: Alberta of course, you go way back and talk to the pioneers prior to my getting involved in the industry and of course, we know the oil seeps that were found up in Norman Wells and of course, the big Turner Valley gas field that as they found in the early days and then eventually the oil. Alberta has always had a strategic place in where all of the sediments have been deposited in the geologic time. So we've always been strategically placed to find oil and gas in Alberta. We've got to go back and actually give thanks to some people who had the foresight to come in here and spend the money to find these resources and that was our American friends who had the know how and came up here and were able to spend the money. Not knowing whether they'd ever get a nickle back or not. Of course, they have all benefited because they took these great risks but we wouldn't have found any Canadian government or Alberta government or anybody else putting their money in to try and find reserves here in Canada and particularly Alberta. So Alberta, with its vast geologic sedimentary section has tremendous reserves of oil and gas. Now we're not going to find them in the large accumulations like we did in terms of Redwater, which I was very instrumental in finding. Those type of things I don't expect they will find those anymore but in the conventional type oil, we're going to find a lot of oil here because we're in the real early stages of exploration compared to what you see in the United States. We're operating in Texas and Kansas and mid continent area and you look at a map there and gosh, it's unbelievable the number of wells that have been drilled. And they're still finding oil down there and here we are, we can look at almost townships of land where there's no wells at all or 1 or 2 wells. So we have a lot of potential for finding a lot more oil and gas and Alberta will be supplying it for the rest of Canada and probably a good portion of North America for the next foreseeable generations here.

#165 NM: What is your opinion on nationalized oil companies? I'm thinking like Petro Canada.

WR: Yes, well, I have no problem with having a national oil company. They're just another player in the field and as long as they have to abide by the same rules as the private enterprise has to abide by. I don't see any advantage to them coming in and buying out other companies and saying, now we've nationalized that company. All they have done is paid for the oil that's in the ground and they have taken the money across the border or wherever they're taking it to. And all they're doing is extracting that oil in the name of Petro Canada but they haven't found it. Now I don't think that is the way, I don't like to see Petro Canada doing those sort of things. I think they should get out and find oil and gas on the same basis as any other company does. I don't think they should be given any special treatment as long as they're a player. Because if they keep taking over other companies, theoretically, they could take over all the companies and then we're left with one company to try to find the oil and gas for Canada and we know that doesn't work. Because in Mexico, where they did that way back in the 30's, today they're just finding some oil right across the border from the United States that was found 25-30 years ago, they're just now finding it. So you're limiting the competition to just what one company thinks you're going to find in an area. And what makes the oil industry so great, it's highly competitive, regardless of what people think, you don't talk about your ideas. You come up with a new sort of theory on where you might find some oil and gas, you don't tell anybody else about that.

NM: In case somebody will steal your idea.

WR: That's right. So it's very competitive and every time there's a well drilled there's more information comes to light and that gives the next company or the company that's working in there a little more information to maybe drill more wells. And if they leave the area then they left behind a legacy of information that the next oil company comes along and looks at it and says, well, but they didn't do this and didn't do that so we'll drill one here and lo and behold they find some oil and gas. And that's what makes the industry great is the competitive spirit between the various companies. And the new ideas that come out because people look at these areas from different lights, where if you only had 1 or 2 companies why, it'll take us forever to try to find the remaining reserves of oil and gas. So I don't have any objection to Petro Canada as another oil company that comes in and they put their money up and they spend it and they hire good people to do the job. Then they're just another player in the field and the more players we have in the field, the more oil we're going to find. But I do take great objection to them buying out companies like . . .

NM: Petrofina. . .

WR: Petrofina and Pacific and companies like that. All they have done is taken 2 players out of the field who were making a big contribution to finding more oil and gas and replaced it with one company who haven't had the same track record as those people. As a matter of fact, when Petro Canada came into the game, in order for them to get people they had to pay them higher prices and they destroyed the salary structure that was set up by the industry for all levels of people. And again, this was another game played by the

politicians because once they got the salaries up in Petro Canada then the politicians said, look at all our civil servants down here, they're not being paid on the same basis. So they turned around and raised that, so that's really cost the taxpayer more money than if we had not had them in the picture in the first place. But that's again, as I say, I don't object to them being here but I think they've got to play the game by the rules that everybody else has to play by.

#225 NM: Let us go back to your career. Who were the most influential persons in your career?

WR: In the very early stages I started off with Imperial Oil and they put me on a training program down to the U.S. and I started off in Louisiana and a fellow there by the name of Harold Stoneman, he was the geophysicist and had been an interpreter for the geophysical work. He had been in Canada on these summer crews. Harold took a lot of time to explain to me how to interpret records and what you could expect to do and he made me realize that geophysics was a very, very good career to follow. So after he made me work for the first 4 or 5 months on a field crew where I was carrying these geophones and loading dynamite in the holes and doing all these manual labours and I thought, boy, that wasn't what I went to university for 4 years to do all this manual labour. But that was a way of finding out whether some of these people were going to stick to this business and if you stuck to that and did all the hard work, why, eventually the rewards came through. So once I got into the interpretation side I realized that it gave a lot of scope to the imagination and your own intuitive nature, to be able to give sort of answers to these problems that you had. And that of course, intrigued me very much. Then when I came back, actually Harold Stoneman did come up to Canada as chief geophysicist and I worked for Harold here in Canada with Imperial Oil. But one of the other influencing things in Imperial Oil was a fellow by the name of Cam Sproule. Cam and I had a lot of talks together. When we worked in Saskatchewan, he was one of the pioneers and one of the far seeing geologists that I have ever met. Cam had ideas that would never stop. You'd sit with Cam and he'd talk with you for hours and it was never boring, it was never the same thing over. I found that very stimulating and again, showing what a tremendous opportunity there was for trying to solve these problems. So he made me even more convinced that I wanted to be in geophysics or in the exploration. One sort of a negative thing that I found, when I was with a big oil company, some of the things that I felt were important, I realized that other people didn't think were so important. When I had the opportunity then to go out into business on my own where I could do things on a smaller scale I took advantage of it because I felt I could always go back and work for a big company because geophysicists were scarce at that time. That was sort of a negative reaction to the big oil company that was very structured, being able to get out and do things and of course, I've been very lucky I guess in my career and I've gone from strength to strength in the things that I have done and I've enjoyed that very much. Some other people that influenced me, after I did get out into the oil and gas service industry and the geophysical industry particularly, was a fellow by the name of Les Clark. He used to be a geologist at one time with the Shell company and when I met him he was the

exploration manager for a U.S. company here, I can't remember the name right at the moment. But we did a lot of work for this company as a geophysical contracting company and I found him extremely stimulating because he would give the geological problem and then I would try to match it with the geophysical things that I saw on the records and doing the interpretation. So Les and I spent many, many hours together trying to sort out these problems. And there were a number of other people in the same way, when you're in the contracting business that would get you to think and they wanted you to sort out things. Another fellow was Don Axford with Mobil, we did quite a bit of work for Mobil and Don was one of these inquiring types and he would say, we see this and this and this, now what do you see. And then I'd go back to the sections and try to figure out what I could see and we found them some very interesting structures. I think we found them a lot of oil, or they found the oil based on sort of a combination of efforts in that. So they were some favourite people that I had in the industry. And I know there's a lot more that I should comment on like Doug Layer and Bill Hancock and a lot of fellows in Imperial that I had great rapport with. Hank Kuntz and a lot of my associates in the geophysical side that really influenced me in things that I did. So I really couldn't give you a complete answer on that because there were just so many people that were influential in my career. So give me another interview some time and I'll come up with more Nadine.

#315 NM: What were the most exciting experiences in your career?

WR: I guess the first one was when I was able to make an interpretation on some seismic data in the Redwater area that everybody else wouldn't believe. I had to prove it to them by exceeding my limits of authority and proving that that structure was there, as we thought it was a structure. That had to be the most influential thing in my thinking because all of a sudden I established myself, I can do this and I'm not just another one of these guys. So that proved to me that my ideas were as good as the next fellows and in some cases, better than the next fellows. So that was very, very. . . And I guess the next most important thing was the discovery of oil at Leduc. Because while I did the preliminary geophysics on that, I wasn't really involved with the detail.

NM: This is the end of the tape.

Tape 4 Side 1

WR: The discovery of Leduc was so exciting for everybody in Imperial Oil. I can remember just about that time, because I had done a good job in doing interpretations they offered me a job to go foreign, with the international petroleum that's part of the Exxon organization. I was thinking of it very seriously because I liked to travel and I thought, this would be a great way to see it. But when Leduc came in they said, do you still want to go and I said, no, I don't want to go, we're going to find more oil here in Alberta than I'm going to find in Columbia or wherever they're going to send me, I've forgotten now. But I said, no, I don't want to go now and I'm certainly glad I did. Because then we drilled Redwater and of course, that turned out to be a great success and that was another exciting part of my career. Then after I left Imperial, I think one of the rewarding things

was to be able to do these participation surveys that no one had done before and was a way of keeping my company going because I could see it just withering on the vine. I thought gee, I've got all these good people and I just hate to see this. So I had to be a little ingenious in my approach and develop these new approach to doing seismic work where you did the work and then sold the results to the oil companies. That was very rewarding. Then I guess the next big thing was when we got this large contract with Imperial Oil where Imperial wouldn't hire us for a number of years and all of a sudden we had the inside track to get 4 crews for 3 years. We were really excited. But we had the disappointment too, in that the bankers wouldn't give us any money to finance it and we had to sell our company out to an international group who had the necessary wherewithal to finance it. But that was also exciting. And also of course, when I came back and started off Sigma Exploration, was able to develop a new approach to trading seismic data using the dollar as the medium then that revolutionized that. I've had a lot of very exciting things in my life. Talking about my own personal experience but I know in things that I have done with the Society where many other people were involved. We made the Canadian Society of Exploration Geophysicists, we put in a government affairs committee when the governments got so involved and we put in the idea, gave the idea to the government to give incentives to the geophysical industry that sort of kept the industry going. I think the other rewarding thing is to see a lot of the younger geophysicists and geologists that you talk to as a contractor of a service supply company and you see them become budding young engineers and geologists and they're asking a lot of questions. You can just see, they're just trying to get as much knowledge as they can as quickly as they can. For them to blossom forth and do their own thing with their own company where they become senior people, that's extremely exciting and rewarding. And I've always said that the geophysicist is the unsung hero of the oil industry and I might as well say it here to you that I think that the geophysicist is one of the kingpins in finding oil and gas in the industry. As long as he will realize that it's a joint effort between he and the geologist. If he takes all the geologists findings and applies it to his geophysical knowledge why, he has to be the leader in the oil company to find them more reserves. Because everything is so hidden and so camouflaged by Mother Nature that you've got to use your ingenuity and the only way we have today is really through the geophysicist to be able to find this and try to unlock these secrets. So I think you're going to see more geophysicists as the head of these oil companies than we've ever seen in the past. And of course, in my own life why, the rewarding things was when I got married and had a very super wife who put up with all the problems of field work. I was home just a portion of the time and she was trying to raise a family and keep the household going. So that was very rewarding and of course, I have 3 super children that have turned out to be extremely capable individuals and no problems and that has to be one of my highlights too is having a very happy group in our family that. . .

#059 NM: This is very important.

WR: That they're all going to be making their contribution to the world when I'm long forgotten.

NM: Looking back at your career, what do you think of it?

WR: I think it's been extremely interesting. And I don't regret any of the things I did. I think if I had to do it all over again though, I think I would have got into the oil industry side earlier than say, 5 or 6 years ago, when I did. Because the big rewards come in finding the reserves in the ground and as a service company I think you have great rewards but it's sort of a boom or bust type industry. So when things are going great, why you're working like mad to try and keep all the crews going and when things are not going so great then you've got to really get out there and work hard to try to find new contracts to keep them going. So that's a boom or bust type of business and I think in retrospect if, about the time I left Imperial Oil, I would have probably been way ahead of the game had I gone into the oil and gas exploration side, looking for oil and gas for myself or other people, than being in the service side. But of course, I think that's . . . I have no regrets from what I've done because I've seen a lot of interesting situations. I've seen a lot of parts of the world I'd have never seen before and met some very, very interesting people, many of whom I still keep contact with. So I have no regrets with what I did.

NM: That's a very good, positive attitude.

WR: It is. And I encourage young people to get into the natural resource industry, in Canada particularly because we haven't even scratched the surface of what can be done here in the total compliment of the land area that we have. We've got all kinds of things to be opened up here yet. So I recommend it very highly to young people.

NM: Do you have any plans for retirement?

WR: I've been such an active person all my life that . . .

NM: That's something I've noticed with oilmen ??? slow down.

WR: Yes, well that's what I want to do. As a matter of fact right now I'm trying to slow down. I'm 62 right now and I feel that I've got a lot of good experience behind me, I've seen so many things and I just hate to walk away from that and say, hey, I'm not going to utilize this anymore. So my approach is to slow down and let the younger fellows do the day to day work and I help them with their policy and board meetings and executive meetings and take on special programs that they don't have time to do and things like that. But keeping abreast of what they're doing and helping them. So I would like to think that I can go on and do this for the rest of my life. I might be working half time or 2/3 of the time and retired the other third or half the time, doing the things that we like to do in retirement. But I could never stay retired very long. Put it this way, if it was a choice between retiring and working, and I retired and did nothing well then I'd work. I'd rather work than be retired.

NM: It's better for the health.

WR: I think that's right. I've, touch wood, I've enjoyed good health and I think that also contributes to your. . .

NM: Attitude.

WR: Yes, you have a positive attitude then. You're not thinking about your own problems and ailments, you're thinking about the problems that are at hand and you're trying to solve them. I think that's what makes life interesting for anyone, is to try to get a handle on the problems and solve them and go on to the next one. That's the way I've always been.

NM: And this is the last question. On the whole, what do you think of the oil industry, would you recommend it to young people nowadays?

WR: Oh yes, very much. The industry is a very small industry really, although it makes a tremendous contribution to our gross national product, the number of people that are involved it are relatively few as opposed to a manufacturing type business like car manufacturing or steel manufacturing or something like that. But the oil industry is a very small group and very high integrity. When you talk to people in the oil industry and I've done this through my career and it's changing a little bit now with the recent boom where we have a lot of new people come in and they weren't trained in the ways of the oil industry. I've done contracts where people say we want to put a seismic crew to work in some area and it may involve several million dollars and you haven't even signed a contract on it yet and you have the crew out there working but you know it's going to be signed and it's going to be done. And you do things on a handshake if the old established people in the oil industry, when they say they're going to do something, they do it. And there's no welching, there's none of this. . .we're seeing a little bit of that happening now with some of the newer people coming into the industry because they're trying to go by the book, they're using the agreements and they're reading them and they're screaming and squirming and trying to extract the last little bit of advantage to themselves out of these. But we have never had that as a rule in the industry. Most everybody is, if you have a problem, you sit down and discuss it and there's a solution to it. You may be right or you may be wrong but there's generally a compromise in place that's going to come out. So the oil industry as a place to work and associate with people, I don't think there's a better place in the world than the oil industry. For opportunities, when you think that we go out and we drill a well that may cost, well, some are up to \$50 million but say you're going to drill a well for a million dollars. You drill a well and the information you have, while it's the best that you've got, when you analyze it, it's very, very minute. We should have far more information to base a million dollar well because you wouldn't build a building on the kind of information that we have that's costing a million dollars. Of course, the other difference, if you build a building for a million dollars, you may not be able to rent it but at least you've got a building that's worth a million dollars. You drill a well for a million dollars and it has no hydrocarbons in it, forget it, it's just a dry hole and you've just lost a million dollars. So there's a lot of risk in the oil industry. . .

#143 NM: There's a lot of gambles.

WR: Oh highly gambling type of business. It takes a lot of intestinal fortitude to drill some of these wells because you do not have all of the factual information that you should have. But that's what makes the industry great is that you have this opportunity. And it leaves great latitude for the technical people to be able to extract more information than has been known about an area before, to be able to project what they think is the place you should drill and the reasons for doing it. It just calls on every bit of ingenuity that the people have. That is a challenge, that to me is what life's about. So you serve hamburgers at a Macdonald's restaurant, well, you're just serving the same old hamburger over and over and over. Millions of different customers come in but it's just so routine and I just hate. . .

NM: Not very creative.

WR: That's right. Whereas the oil industry, everybody, that's the landman, the geologist, the geophysicist, the engineer, the technician, everybody has a chance to make a contribution in the oil industry. All they have to do is look around. I should go on to the accounting people, the tax people, everybody is involved to try to . . .

NM: Real team work.

WR: It is. It's extremely detailed and needs everybody's input to make it a successful venture. So I think that it's the great, and I think that it'll be here, as I mentioned before, for years to come because we have such a vast area of untapped reserves and certainly our reserves of tar sands alone is enough to keep everybody here in North America warm and heated and with some light. Whoever invented that slogan, let them freeze to death in the dark should be allowed to do that for about a couple of weeks himself, he should never have ever coined that phrase, that's not the type of thing that's going to make western Canada or anybody else proud. I was ashamed and I hated to hear that. That just made me cringe. I couldn't believe that people would say those sort of things and do it because that's not the way Canadians think and do things. We're far more progressive and compassionate on other people's of the world. So whoever thought that up and whoever perpetuated it, I haven't any sort of sympathy for that person at all.

NM: Mr. Rabey I have really enjoyed interviewing you. Thank you very much for this very interesting interview.

WR: Thank you.