

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: George Longphee

INTERVIEWER: David Finch

DATE: November 24, 1999

DF: And we're with Mr. George Longphee at his home, at 2040 Windmeadow Place in Sidney, British Columbia. Mr. Longphee, could you start by telling us where you were born.

GL: I was born in a very small town called Souris, Prince Edward Island.

DF: And what year was that?

GL: 1924.

DF: What were your folks doing?

GL: Well, my parents had returned to Prince Edward Island from Saskatchewan, I think eastern Saskatchewan, where they had been in agriculture and I think my father went back to fishing there but mother didn't like it so they returned to the Prairies and became farmers.

DF: Your father's name?

GL: Daniel.

DF: And your mother?

GL: Margaret.

DF: Tell us about your education? What got you interested in the sciences?

GL: Heaven only knows. I ended up in high school in Oak Lake, Manitoba, where I took my grade 12. And I got interested in the sciences primarily I think, because of the principal, Mr. Clarence Heapy, who is quite well known. Anyway he encouraged me to write for a scholarship which I did and I ended up with a scholarship at Brandon College which is Brandon University now. Being very young I didn't know what I really wanted to do so I took equal amounts of all sciences. I took maths, physics and geology, which led to this geophysical business I guess, the combination of those three.

#021 DF: How did it lead to you getting into geophysics?

GL: Well, I joined Imperial Oil.

DF: How did that come about?

GL: Rather interestingly. After graduation I was in the Canadian Armed Forces for a short period of time. They finally decided that my eyesight didn't justify my commission so I was discharged.

DF: Which part of the Forces were you in?

GL: Royal Canadian Electrical Mechanical Engineers. That's a mouthful isn't it. Anyway there was an organization known as the Wartime Bureau of Technical Personnel. Its purpose was to use the technical people of Canada where they were best used in the war

effort. The man in charge of it in Winnipeg, which is where this was all happening, wanted me to go to work for a sugar refinery because of my chemistry, on shift work. That didn't turn on this youngster at the time, so I said, may I see what's available. So I started looking for a book of jobs that were available, quite different than today's university students I might add, and lo and behold, there was one there from Imperial Oil. Which was offering a good rate of pay and said that it needed students who had taken the subjects I had mentioned, maths, physics and geology. So I took the address, went back to the YMCA where I was staying and sent Imperial Oil a night letter applying for a job. It's the only job I ever applied for and I applied by night letter. In the morning I had a telegram from Imperial Oil, if you can pass the medical, you're hired. There was a shortage of university graduates, shall we say.

#040 DF: What year was this?

GL: 1944.

DF: So it was still in the war, you'd been discharged early?

GL: Yes.

DF: So that's why the shortage.

GL: That's true.

DF: Who hired you?

GL: Well, I was told to report to their western Head Office, which at that time was in Moose Jaw, Saskatchewan, not Calgary and I reported to a gentleman who's very well known, Dr. Cameron Sproule, who sent me for the medical, which I passed. Then I reported back in early January to Imperial Oil, that would be 1945.

DF: So what did you start doing for imperial, what was your first work?

GL: I think my first work was in their office in Moose Jaw, colouring geological maps, while we were waiting for Carter Oil Company seismic crew to return to Saskatchewan to do geophysical surveys.

DF: So Carter was a seismic company wasn't it?

GL: Carter was an oil company, a subsidiary of Standard Oil, New Jersey.

DF: But they were going to do your geophysical work for you the next summer?

GL: They had been doing it for Imperial Oil, and I was assigned to them. And I met them in Moose Jaw and we went to Davidson, Saskatchewan, where we did a survey and from Davidson we went to Elbow, I guess and finally ended up in Kerrobert.

#061 DF: What kind of seismic were you using at this time?

GL: We had 12 amplifiers and we were doing correlation work. We would do shot points about two miles apart in a pattern and then correlate the recordings, which were 12 trace, one to the other. And basically from there, they constructed the maps. Now I didn't do it, I was a real greenhorn at this stage.

DF: So what were you doing?

GL: Passing the jugs to the cables.

DF: Oh, you were, were you, right at the very bottom of the totem pole.

GL: By the time we got to Kerrobert, I worked as a rodman for the surveyor on the crew. Now

we left Kerrobert in a very big hurry. This was in 1945, the government had changed in Saskatchewan, enough to disturb Imperial and one day we came in from work to find the Party Chief telling us we were moving to Alberta. So he hauled out a map and picked the town of Provost which was large enough to take a seismic crew and which was truly in Alberta but just over the border. So we went to Provost. Are you sure you want all this?

#075 DF: I do, this is exactly what I want, this is great?

GL: Well, the work that we did there was significant I guess in two ways. Number one, the interpretation, which was done by others, not myself at the time, led to the drilling of a well, which found some oil. Not enough apparently to be commercial at the time but as we well know now, the Provost-Hardisty area is surrounded with oil and gas wells. So that was the first bucket of oil that Imperial had found in western Canada, I guess you might say. From there we did a survey all the way around Provost and eventually we were assigned to move to Wainwright, Alberta. So the crew packed up and moved to Wainwright and it was then that I went into the computing office and started my, shall we say, career as an interpretive geophysicist.

DF: What year was that?

GL: 1946.

DF: And where was the office?

GL: With the crew in Wainwright. Now we worked down there all. . . in Provost it was significant because it was the first time a seismic crew had worked through a Western Canadian winter. And it was in the spring when I went to Wainwright. Then break-up came and our heavy equipment was not very popular with the municipality of Wainwright. So they called and threatened to put a road ban on. Whether or not a road ban had ever been placed before in Alberta, I don't know, but they threatened. So the Party Chief, who was from Louisiana, a Mr. Frank Roberts, called Calgary, what do we do now, they're going to shut us down. He was informed to move to the general Edmonton area, but not to Edmonton, the city would be too big for a seismic crew. So he looked at a map and chose Leduc. So we moved from Wainwright to Leduc. We got to Leduc and the municipality of Leduc looked at all these heavy trucks and all the muddy roads and they decided enough is enough, we won't even let them start. So they placed a road ban. They were ahead of the provincial government who did not place a road ban on the highways. So we had to do something, so we started doing some surveys, correlation I guess, up and down the highways leading from Leduc. Well, fortuitously one of them crossed the Leduc oil field.

#105 DF: Wow, you were involved with that?

GL: Yes. But in a minor way. I was just learning to make the corrections to the paper records so that they could be interpreted by others. And we were able to come up with an anomaly to the northwest of Leduc, which was later shot in detail by Heiland Exploration under contract to Imperial Oil. So this may be one time that some form of government interference, even though it's municipal, led to a significant discovery. The reason we were in the Edmonton area of course, was Dr. Ted Link of Imperial Oil had polled all of the geologists that he could find, who knew something of Alberta and asked them, where

would they look if they were looking. And the general consensus of opinion was the Edmonton area. So when we made that phone call from Wainwright to Calgary, I assume that decision to move to Leduc was very much influenced by Dr. Link's poll and by Imperial's regional thinking. So I don't want to contribute the discovery of Leduc to the counselors of the municipality of Leduc. There's more to it than that. I've seen all sorts of government interference in my lifetime, this one helped.

#120 DF: If only by accident eh? Was Imperial Leduc #1 drilled on the basis of your work?

GL: It was drilled on the basis of, I think I mentioned they hired Heiland Geophysical to do a detailed survey, which was interpreted by Imperial's people in Calgary and that led directly to the discovery of Leduc. The geophysical survey, otherwise there was no clue.

DF: So you came into geophysics then, through geology and through the maths and so on. So no specific training in geophysics?

GL: At that time, say in 1944, one might have been able to get a degree in something called geophysics at the University of Toronto but I'm not sure. You know, it wasn't a very widely used phrase. I've spent most of my life spelling the word.

DF: Yes. Well, certainly you could have gotten some kind of a degree from an American university but nothing in the Canadian west.

GL: Yes. Certainly the Colorado School of Mines.

DF: What was your next step in your work as a geophysicist?

GL: Well, from this business of being a learning computer, you understand that phrase, what I mean by that, just learning to do the mathematics, the computations. I was transferred to Calgary.

DF: What year?

GL: 1946. During the Stampede. It wasn't the easiest time to get a hotel room but I managed to get by. Where I was taught some more refinements in the art of interpretation but the staff in Calgary. And of course, I was completely aware and saw the data coming in from this Heiland contract crew at Leduc that we spoke of earlier, but I did not do any of the interpretation.

#142 DF: okay, explain to me. So you were on an Imperial geophysical crew, why did they bring in Heiland separately?

GL: Well, I think it was because Carter Oil Company, which is a wholly owned and a sister company of Imperial, shall we say, did not have another crew available immediately at the time. And I think that's why they brought in Heiland. There was a Canadian contractor available. What I mean by that, in existence. Whether he had equipment or not is another question but I believe the Canadian Exploration Company was in existence at the time but I think their crews were all busy and it was a matter of Imperial wanting to do it now and finding a contractor.

DF: Okay, but I'm still trying to get to the root of the question as to why. . . or maybe I'm misunderstanding you, were you not on a geophysical crew, didn't Imperial have it's own geophysical crews?

GL: No. They were Carter's. But in later years, Imperial had their own geophysical crews but

not then, we were a Carter Oil crew.

#155 DF: Okay. So you were attached to a Carter crew before. And then you were, by this point, when Heiland came up to do this specific work. . .

GL: I moved to Imperial's head office in Calgary where I continued my learning.

DF: Sure. And who did you work with in Calgary?

GL: Well, the name that pops up most rapidly is Ray Walters who was the Chief Geophysicist and an American and we won't hold that against him because he was the only one in the office with a lot of experience so if you're going to learn, that's where you learn. He was a very good man.

DF: No had Cam Sproule moved on to his own company by this point?

GL: No.

DF: He was still with Imperial.

GL: Yes.

DF: Stan Harding, did you know him?

GL: Yes, I knew Stan Harding. He was with Imperial too. I don't know when Dr. Sproule started his consulting company. I have no idea but I don't think it was as early as 1946 and this is where we are.

#168 DF: No, probably the 50's yes. So Ray Walters was, he was the man who taught you a lot.

GL: Yes, he was the Chief Geophysicist at Imperial Oil.

DF: So once you hit Calgary, how did your duties change?

GL: Well, I became involved in the interpretation of the computed records, which was a new field to me. I had never done that before, I had computed the records so that somebody who could interpret, could interpret. So I started out basically there.

DF: And how did that learning come about, obviously working with people who had done it, but were there books on it, articles, different things like that, that you could read.

GL: No, not really. Mostly it was working with the people who knew what they were doing. There was a textbook which everybody carried around, it happened to be written by Dr. Heiland whose name was mentioned earlier, Heiland Exploration. I believe he was the head of the geophysical department at the Colorado School of Mines but I'm not sure.

DF: Do you know what his first name was?

GL: No.

#183 DF: Because that's how I always hear him referred to as well is Dr. Heiland. Okay, so you're in Calgary working for Mr. Walters, what happened next?

GL: Imperial started another crew which was being assembled in either December of '46 or January of '47 and it was a crew by a man known as Laby Laberge and I was to be transferred from Calgary to that crew, which were en route to begin operations. Their very first operations would be in Grande Prairie, Alberta. So I happened to be on the way there to meet this crew and I happened to be in Edmonton when it became necessary for Imperial to do a velocity survey on the then drilling well, Leduc #1.

DF: Can you explain a velocity survey to me?

GL: Well, the principal of it is, you drill a shot hole near the well, not too close, put some explosive in it, lower a geophone down the well, fire the shot, time it, and therefore you can compute the velocity through that. And you know where that geophone is because you placed it there and you have the geological log of the well. So it's used for accurate identification of reflections is basically what it's used for and that's how you do it. Now in December too, without the wind blowing it could be 35 below which it happened to be the day that we were there. I was to join a crew, another seismic crew, not the one I was heading with to Grande Prairie, when another one came in to do the velocity survey and I joined them. I later went, of course, almost immediately, from Leduc velocity survey to join this crew and we took off in January 1947 to Grande Prairie. And of course, in those days you had to get to Grande Prairie by going through Athabasca, there was no Whitecourt cut-off. So I was in Grande Prairie for quite a long time, from January '47 until Imperial decided, sometime in late '47 to do all their interpretation of their geophysics in one central office in Calgary. Previous to that it had been done on the various seismic crew around the country. So I was transferred to Calgary along with most of the other junior geophysicists, who were learning to compute also. And we were being placed in one central area. Perhaps better to teach us I would think. Because I would say that we needed it although I was struggling away making interpretation. Perhaps not really knowing what I was doing but nevertheless doing it. Laby Laberge, the Party Chief was a qualified interpreter, he was teaching me how to do it in Grande Prairie.

#224 DF: In retrospect, how reliable do you think those records, were or how accurate were your predictions?

GL: Well, the records themselves were exceedingly accurate, the paper records. That's all we were getting, we were recording on paper, Kodak paper. They were very accurate, now as to our predictions, with respect to depths, we would probably be out a certain factor, that was always the question. Once we knew what the reflection was, from the velocity survey or something, and we would say, it would be 8,137 feet deep, that was probably + or - 100 or so. We couldn't really. . . .

DF: That's good though.

GL: Yes, that's really good. But it was all relative, what we predicted. At one place if we predicted a 100 foot drop-off, that was likely quite correct. So they were really very accurate, far more accurate than people realize. Because we've done some things to improve our ability to record and to interpret and we've done some things that have hampered in my opinion.

#240 DF: Such as?

GL: Well, I think the wide use of long spread in central and CDP shooting, common depth point shooting could lead to problems. Because you've got a shot and you've got a trace, say 400 feet away, and you add that along with various distances, all the way up to and including perhaps a mile. And when you get around to that mile, if you're dealing with a shallow reflector, you're probably just adding noise and not reflections. And therefore any

attempt to make a serious interpretation of this shallow part of the geological section may be hampered by some of our practices. I think there's a rule, I'm not familiar with it, but I've heard it referred to as, Poisson's Ratio, which says that if you get your source of your energy, the shotpoint, and you get the receiver too far away, the angle will be such that you will get no reflected energy over at that receiver. But you will have noise on it. You add that to the true reflected energy, what do you have now. I don't know. So if I were back in the business, I'd sure be looking at how . . . I wouldn't just indiscriminately add everything, which I think has been done. For speed. . . and then we do all sorts of sophisticated bright spot analysis, which may be that noisy one mile trace and not at all what we're looking for.

#263 DF: Very interesting. What was the next change?

GL: Well, I guess that the next change was I got married on June 1, 1948. My wife would say that was the most important change. Meanwhile I think if we look at what I've just said, we were in Calgary at the time, all interpretationists having been moved there. What I haven't mentioned up to date was that the way we were paid by Imperial Oil was a base salary plus \$2 a day, cost of living allowance, which is supposed to compensate for the fact that we're moving all over the damn place. I just went from Kerrobert to Provost to Wainwright, to Leduc. But things were such that when we moved to Calgary, they didn't pay that, Calgary didn't qualify as being out in the boondocks. Even though in those days, it was less than 100,000 people. So they promised to do one of two things, either restore the \$2 a day, or adjust the salary. They were not in the business of trying to take advantage of us. But it went on and on and on and we were getting nowhere with this thing. So some of us got a little bit disgruntled and it led us to think of other things, such as watching the Heiland Geophysical crew, under contract for Imperial Oil. So some wise guy said, I don't know who it was, it might have even been me, why don't we start our own contracting company. Well lo and behold, five of us did. We left Imperial Oil and we started our own contracting company.

#287 DF: What year was that?

GL: 1948. So I became an entrepreneur at the age of 24.

DF: That's even better than starting a union isn't it, become your own boss.

GL: The company was called Beaver Geophysical Services.

DF: And who was in that with you?

GL: There was a chap by the name of Percy Beebe, who ended up in the well servicing business and construction. Greg Haines, later a geophysicist consultant, Ken Travis, who actually converted Beaver to Turbo Resources and became quite well known. Another chap was Stan Mauritsen, a geophysicist in Calgary. So we were an interesting group.

DF: Where did you get the money to start up?

GL: That was a good question. That was really touch and go as to whether we would ever do it. Stan Mauritsen's brother had promised financial help but we didn't know him and when we called on it, it wasn't there. So here we were, out of a job, struggling around Calgary, trying to find somebody to finance a seismic crew, when there were probably

only a dozen people in Calgary who knew what a seismic crew was. But to make a long story short, my associates followed down every lead in potential financing, and ended up with two very well known Calgarians, who decided to take a chance. Their names were Jack Singer and Abraham Belzberg and they listened to the story of my partners. And when I first met these two gentlemen, the deal was struck and they financed that first crew. They did it by taking us to the Canadian Imperial Bank of Commerce and guaranteeing a loan for the cost of the crew, which was by the way, about \$30,000, which won't get you very far today.

#324 DF: It won't buy a truck today.

GL: Yes. But the entire crew was \$30,000.

DF: So the recording equipment, geophones, cables, the works.

GL: A survey pick-up, a Party Chief's car, a shooting truck, a magazine for dynamite, the cables, geophones, the whole works.

DF: A drill?

GL: No drills, no. We used contract drills. So we got our first contract and we were off and running.

DF: Were you the first Canadian Geophysical Company then?

GL: No. One of the first. I spoke of Canadian Exploration Company may have had a crew available at the time they hired Heiland, I'm sure they were the first. And the gentleman's name was Cecil Cheshire.

DF: So you're in the consulting business. Did Imperial hire you then?

GL: No Imperial told us all, we were bad little boys and they wouldn't hire us. So we ended up working for I don't know, I think Barnsdal, which was a new arrival on the oil scene in Calgary from California. In Vulcan. From there I think we went to the big town of Flatbush. It's 100 miles north of Edmonton. And from there we went up and spent a winter. I think we were one of the first crews to work during the winter in a camp at Wabasca. Very cold I might add and our camp was like a granary.

#358 DF: A lot of work to keep that warm.

GL: Yes. We had a full time night man going around putting wood in.

DF: Were you in tents or what?

GL: No we were in, what one might call a Western Canadian granary. In other words, if you were inside the room, in a hut you could see the 2X4's. There was just ship lap??? on the outside, which had been, I think the lumber was sawn by the Father's at the Wabasca Mission and constructed there too.

DF: So these would be very similar to the little oil man's shacks down in Turner Valley. So no insulation on the inside. So just 2x4's and sheeting. Now were these moved around with you or they were in one place?

GL: Well, we didn't move them often enough that's for sure.

DF: But they were moveable, you could put them up on a truck?

GL: No, the way we did it, we would hook a cat on it an pull. They were on skids in other words. I guess you could have loaded them on a low boy but there wasn't anyone

anywhere near around. It isn't often I stop and think about all that stuff. But we started at Beaver. . .in the spring we started another crew. This one went to work for Tidewater Associated Oil Company in Saskatchewan and I was the Party Chief.

#383 DF: Any stories about that, being a Party Chief?

GL: No, there's nothing unusual about that. The only thing unusual I guess is that my partners were back in Calgary and I was out there doing most of the work I would say. They were doing a lot of thinking. Anyway they decided they wanted to buy me out. So Travis and Mauritsen bought Beebe, Haines and Longphee out at that time, in 1950. So I sold out in 1950 to my partners. Perhaps I didn't keep them busy enough.

#393 DF: So what did you go on to do next?

GL: I didn't know I was well off. So I spent the winter in Calgary and then I started another contracting company, only this time I called it Subsurface Exploration with some people that I knew. And we had a seismic crew and I got a contract, the first contract for it was with Tidewater back in Saskatchewan. In the fall, this would be 1950, in the fall I started a second crew. By May of 1951 we had four.

DF: Now was Ted Rozsa around at this point. Did you know Ted Rozsa?

GL: I knew Ted Rozsa because the second Beaver crew as I recall went to work for Shell. And Greg Haines and I spent a great deal of time with Mr. Rozsa and Wilf Baillie in order to obtain that contract. It was so bad that Ted later said, in later years, every time I came out of the office one of you two guys were sitting there, I thought maybe you brought your lunch. But we got the contract.

DF: I interviewed him a few weeks ago.

GL: And it lasted many years with Shell, the Beaver contract. Now I said that I think that by May 1951, we had four crews and I would say by July 1953 I had none.

#423 DF: What happened?

GL: Well, the bottom just fell out of the geophysical market and we went bye-bye.

DF: So what happens. I mean, this is the story of geophysics, it goes up and down, doesn't it? What happened to you personally when this happened?

GL: Well, there was a bit of an earth shattering time. And then I went to work for Union Oil of California.

DF: Okay, but I'm trying to get you to give me a bit more detail. You're an owner of a company with several crews in the field and earth shattering, does this mean you went personally bankrupt? What happened?

GL: No, I didn't go personally bankrupt but the company did. It was placed, at the request of a finance company into receivership. My best know partner and associate in that thing would be A. E. Palister, Ernie Palister and Jack Anderson, both of whom did well in later years.

#443 DF: So you had enough of working for yourself for awhile?

GL: Yes, finally for awhile, so I went to work for Union Oil of California.

DF: What year?

GL: Well, I guess, it would be the fall of '53. And I worked in their interpretation office in Calgary and that's where I met a gentleman by the name of Sid Kahanoff. That turns out to be significant later I think. I worked with Union, I was quite happy with Union for some time, until one day, we were sitting around, all of us young geophysicists, who were all ambitious at the time, and we found out that Union Oil were advertising in the papers in the United States for a Chief Geophysicist in Montana. So some of us got to wondering why isn't somebody in this room being promoted down there, are they holding something against us Canadians. I don't think they were but anyway it annoyed me so I said something about it. A friend of mine with United Geophysical Company I guess, knew of my disgruntlement over this thing, so he said, why don't you join us and go on foreign service someplace and get rid of this politics. I said, isn't that getting into more politics, well I don't know, he said, but not with our company. So anyway I resigned and I joined United Geophysical and in very early 1956 I went to Tripoli, Libya, where I was the Manager for United Geophysical. We had two seismic crews and a gravity crew and I was there until they returned me to Calgary in mid '57. Now to clarify things, no I didn't find all the oil in Libya. When I left Libya it was not an oil producing nation.

#488 DF: But I'm sure all the work that you did while you were there made it so that somebody else found oil.

GL: Well, I don't know about that. You're being kind.

DF: What was it like to be in Libya in those days?

GL: Oh, it was delightful. The king was in power, this was before Ghadafi, I was never there after Ghadafi came into power so I can't say anything for or against him as far as living there. But it was a delightful climate right on the south shore of the Mediterranean and a very large city, 400,000 people. Perhaps with the outskirts as many as 700,000 they used to say. But it was different. It was a Muslim world. And one of the things I first got used to was the tolerance of everybody. The Muslims would close their businesses on Friday, the Jewish people on Saturday and the Christians on Sunday. So in other words every day of the week you could shop.

DF: Did your wife go with you there?

GL: Yes, my wife and family. Four children. They enjoyed it. They went to school in the British Army school and at Wheelus Air Force Base, which was a United States Air Force base.

#516 DF: Must have been quite an adventure for the family then eh?

GL: Yes, I think so.

DF: Did your wife have to cover up when she was out in public or was that only required of nationals.

GL: No. I don't know whether it was really required of the nationals or not. It depends on whether or not you are in a fundamental Arab world or not. I must admit that the women did wear something over their head but you could see their face. They weren't veiled.

DF: Any particular adventures while you were in Tripoli?

GL: No.

End of tape.

Side 2

DF: So we left you in Tripoli. What brought you back to Calgary?

GL: A transfer.

DF: With the same company?

GL: Yes. United Geophysical Corporation. I was transferred back to Calgary and almost immediately to Edmonton. They got a contract to do geophysical interpretation with Standard Oil in Indiana, Pan-American Petroleum. So I went up in charge of an office doing contract interpretation for Pan-American Petroleum. I'm sorry, that's not right, can we back up a little bit. I was assigned to a seismic crew, the United Geophysical crew to do the interpretation in the field for Pan-American Petroleum Corporation and we headed promptly for Trout Lake in the Northwest Territories.

#014 DF: I even know when that is.

GL: Up the Simpson Trail out of Fort Nelson eh?

DF: Yes, I've been up in that country.

GL: So I spent a winter up there with United Geophysical and then back to Edmonton on a contract interpretation basis for Pan-American.

DF: Did you know they found a bunch of gas up in that area, up by Fort Liard? Chevron found one good well and is drilling another one.

GL: Well, I hope somebody does because I think we're running out of natural petroleum products. We didn't find anything. There was a gas well on the way up there at Petitot River I believe it was called. I don't even recall who discovered it. I know we used to drive by the Petitot well, back and forth to Fort Nelson for supplies. Boy, it was cold up there. We had a good camp, thanks to Ron Southern of Atco Industries.

#025 DF: Yes. That's quite a story there too, isn't it?

GL: An amazing story. I'm proud of the young man. I think I can call him a young man.

DF: He doesn't look so young anymore.

GL: Well, he's had a rough time. I mean that's quite a conglomerate he's running eh. The power companies, the utility companies, pipelines and what have you, drilling company. He's done amazingly well. He's sure come a long way from the day he welded a hitch on the back of a car so I could buy a 20 foot trailer from his father and take it to Saskatchewan.

DF: He did that eh?

GL: Yes, he did it and I bought it from his father. And took it on that Tidewater contract I was referring to with Subsurface Exploration. Anyway now we're back in Edmonton with Amoco. In 1960

#035 DF: Amoco is what, Pan-American?

GL: Pan American Petroleum. In 1960 Pan American Petroleum transferred all this from

Edmonton, on the exploration side to Calgary. And I was with them in Calgary, in the Bentall Building. You don't know where that is, it's now the Amoco Building I think. And I stayed with Amoco until, I guess I resigned in 1966 to go into geophysical entrepreneuring I guess is the best word to put it. Because it wasn't intentionally to go to consulting, that was a fall back. What we intended to do was to shoot miles of seismic line, what I ended to do, on speculation and offer them for sale. Patterned after Roger Angus. Certainly not an original idea on my part.

DF: Roger Angus' company was?

GL: That's what he called it, Angus Consulting I guess, or Angus Geophysical or something. He was the first one to really do it. When Rainbow was discovered, everybody wanted to dig up there so he started drawing lines on a map and shooting it and selling it and he was selling it so cheaply that nearly every major company just had to buy it. You couldn't afford to have your competitors have it at that low price. Which was the intention I had too. However, I had one advantage over Roger Angus, a big one, I had worked for Amoco, Pan American, who are the, in my opinion, the most efficient employers of geophysics I have even known. Because their costs were so low relatively speaking, because a gentleman. . . Amoco had a system where they had Field Foremen. In other words they had some gentlemen whose job it was to go out and visit seismic crews and to help them become more efficient, not to improve record quality or interpret or things of that nature. That was more my ball park. And one of them by the name of Willie Carman persisted until he got what is now known as a fold-up portable camp. Have you heard of the fold-up portable camp?

#062 DF: So what's a fold-up portable camp?

GL: Well, it's a camp on a semi-trailer that's pulled by a truck, fifth wheel and the walls fold down and you fold them back up again and you've got a camp. You've got sleeping quarters, you've got a kitchen, you've got a utility room, showers, the whole ball of wax. The name of the game was to cut down the monotonous driving time associated with geophysics, which at times, many times I've known it to be 60% of the work day. I mean that's terribly inefficient, to spend 60% of the crew, 30% driving to work and 30% driving home. This camp, you could get up in the morning, have breakfast in it, go back with your roommates, fold the thing down again and they'd hook a truck on it and it would suddenly appear all set up that evening, where you finished shooting. They'd ask, what are you going to do, six miles, okay, so we'll move it six miles. Now those camps originally came out with trucks. The other thing that these field foremen achieved for Amoco was that the balance between. . . you can't shoot twenty holes a day if you're only drilling eight. And so they would get more drilling rigs out there. Then you'd get to the point where you've got so many holes, now can you lay the cables fast enough. No, so then you end up with more cables and a cable truck. As they kept at this, they got it to such a degree of efficiency that it was unbelievable. I remember one time being in a meeting with the executives of Amoco, of which I was a little wheel and one of the major oil companies wanted to shoot a mile at Zama Lake and we had a joint interest. So they told us they'd be glad to do it for \$8,000. Meanwhile we were shooting south of Grande

Prairie in the muskeg for \$750 a mile. Who's going to pay \$8,000? When I say efficient, I mean we were doing it at 10%. Now I took that skill and went into . . . entrepreneur. And we formed a crew and we would do turnkey work. In other words we would go up to you and you would say, I've got this 100 mile program here, it's 300% and charges are going to be 2 ½ pounds on a running average, how much will it cost. So we'd quote them our usual going price, which would be something like, for that, probably \$3,300 a mile and go out and proceed to do it for a third of it, thanks to Amoco.

#094 DF: Now did you take this foldable camp technology with you?

GL: No, it wasn't mine. Never was mine. There was such a, I think rat race is a good way to describe, going on, after the release of the information on the Rainbow discovery. They drilled the well and kept it tight for a year. There was all sorts of speculation. Meanwhile Roger Angus was doing some work, but all hell broke loose when the logs were released and people knew exactly what was there. Here we got another major discovery by the looks of things. At least if we can find more of these little rascals we'll have a major discovery. And it didn't take long to find more.

DF: So when you said, when you went to entrepreneurialship, the advantage you had was these tight costs?

GL: The advantage I had was all of these mumbling we've been talking about here, changing jobs and meeting people and being in Libya and all over the place. The advantage was in knowing pretty much what the heck I was doing and taking advantage of the Amoco system. Now, there was so few seismic crews in those days, Sid Canoff and I were partners in this geophysical entrepreneurialship, we had to start a contracting company. We started Canwest Geophysical with Mr. Joe Little and Ed Rutledge. Perhaps you've met one or the other.

DF: No.

GL: Well, you likely will meet Ed Rutledge. I know you know Jerry Sykes, who is a pal of Rutledge's. Jerry informed me that Ed Rutledge at the age of 79 is out in the field pushing the seismic crew a la the Amoco Field Foreman deal at Sylvan Lake as we speak. He and I have been friends for a long time.

#118 DF: That's amazing.

GL: Yes, it is. Now, when you think about it, in this modern day and age, they're still hiring an old timer like Rutledge, with respect, he really knows what he's doing, but the point is, all the youngsters can't be that damned efficient if they're hiring somebody 79 to go out there and get this extreme balance between all the pieces of equipment necessary to make an efficient operation, is really what it amounts to. And do it right. Now Ed is a geophysicist and I mean he's an interpreter. He's well rounded. There won't be any bad records coming in either as well as it being efficient it will be of high quality. And he's done that there. And he started out doing it on his own, consulting, in the Arctic Islands for Pan Arctic. But he's still doing it, which amazes me, I wouldn't want to do it. And I'm 4 years younger than he is. I still wouldn't want to do it.

#129 DF: So Canwest was a success?

GL: Oh yes very much so. They built it into more than one crew with time. But the first year, the first winter, we put out a second crew in the middle of the winter with Canwest. And I decided that if we were going to make a success of this business of charging a fixed price and having unfixed costs, we better know what we're doing. So we better encourage our people to work like hell. So I discussed it with Little and Rutledge and we put in a bonus system, where I'm sure that, that winter, the Canwest personnel were the highest paid by far in the industry. Because we paid a bonus to everybody on the crew including the cook's helper based on production. I remember we did one contract for Dome, it was 144 miles with 300% CDP. We did it in 12 days. Now I don't know how many people are doing that today. That was an average of 12 miles a day. Let's say the average price was \$3,000 a mile, the exact number I don't know. That would be \$36,000 a day for 12 days. What would our cost per day be, maybe \$1,200 but I can assure you we made \$2,000 a mile or \$24,000 a day. The Chief Geophysicist at Dome was a little mad that, here he thought it was this big winter program and boom, Joe and I shoot it in 12 days. But the cost was what he had anticipated. With many cases like that particular one, this little consulting company which we called Geocan Exploration and Development, what a big work eh. My wife says Geocan came from Geophysics and Canada, my friends say it came from George and Canoff, so we don't care. Well, with a few more instances like that. . . .

#157 DF: How is this related to Canwest?

FL: We owned at one point 25% of Canwest, which we sold in the spring to Rutledge. That was a pre-arranged deal. He got a good deal.

DF: So back to Geocan then, what were you going to say about that?

GL: Back to Geocan. With a few more instances like this 144 miles I spoke of, you can see that in January, February, March and April and a little bit in December. And we're faces with a big damn tax bill. So what did we do, went in the oil business.

DF: What year.

GL: Sometime in '67. No, I'm sorry '66

DF: What did you call your oil company?

GL: It eventually became Voyager Petroleum Ltd. Which turned out to be a pretty successful independent oil company. It was sold when Mr. Canoff was diagnosed with terminal cancer. Sold to NeWest Construction who you may recall. And in turn sold by NeWest to Freeport MacMoran out of New Orleans. And I've heard since I've been out here that Freeport MacMoran sold it to POCO Petroleum. All those wells drilled with the name Voyager on them I think, are now owned by POCO and there were a lot of wells.

#181 DF: And what was your responsibility in Voyager?

GL: Well, that's a good question. I acted as Exploration Manager for a long time and as a Director but most people would credit the success of Voyager to Mr. Canoff. And all I can say is, it takes a lot of people to build an oil company, not one. Some of the geologists that we hired were just absolutely superb. Sid and I had the disadvantage of

being geophysicists, so for awhile we were drilling these wells and we were doing pretty well. And we thought, hell we can do some seismic on them, that ought to really fix things good. Yes, it did, our dry hole ratio went way up. So we went back to our geologists and ????. It was a time that may not be easily repeated because these geologists had noticed, throughout their career that a lot of wells have been drilled in Central Alberta that tested 1,000,000 or so cubic feet of gas but were abandoned. And the reason they were abandoned was there was no pipeline anywhere nearby. So we decided let's have a look and see if there's any abandoned within reasonable distance of a pipeline and we started there acquiring acreage. And on and on it went. It got to a point where one year we drilled 309 wells, more footage than Amoco, which was a real feather in our cap. Amoco had been the big driller as you know. And of course, there has to be a good side to that 309 wells, 2/3 of them were successful, completed successfully.

#206 DF: What area was this?

GL: Well, if you take a quadrangle, you know where Viking is. . .that's not a very good description although some of them were called Viking. In that east central Alberta area out there, Stettler, out to the east, Coronation and through there. We never drilled any wells we called Coronation.

DF: Okay that's good enough. So in that general area. So your strategy was to. . .?

GL: Our strategy was, initially, although we had a big tax bill, as I referred to earlier, was to buy cheap acreage, as cheap as possible. So we hired a consultant land man and sent him through the area at \$1 and then back again at \$2 and maybe as high as \$5, a lease acre. I remember one time, Gulf were drilling in the same area. They had the idea they were drilling deep, they were looking for deep, they weren't interested in what we were. And we noticed that they had drilled four wells simultaneously into ????. There was a 60,000 acre reservation up. Our geologist came into my office and he said, you know George, if Gulf don't bid on that, if their holes are dry and they're rumoured to be dry, you can file on that 60,000 acres. I said, oh yes, there's got to be a catch. He said, yes, there is, it's \$1 an acre. So I said, let's do it. So he was at the proper office early the next morning so he filed on it and we got 60,000 acres for \$60,000. Of course, it's subject to the royalties and all the rest. But there may be. . . I don't know how many wells there would be on that 60,000 acres but there might be 50 or 60. It was right in the heart of what we were doing. Mr. Canoff, Sid was in Australia at the time. He'd been working over there for Union Oil of California and was involved in a discovery over there. And always had a big interest in Australia and a lot of friends. In fact, Voyager had acreage in Australia, not too far removed from the original Union Oil discovery. So I phoned him and told him that we'd spent \$60,000, he just about jumped all the way across over here. Because we weren't exactly so affluent that we wouldn't miss \$60,000. But it was a good move. I'm sorry we lost those geologists. I don't know where we would have gone. They went consulting.

#242 DF: So the strategy was to pick up that land, drill all those wells and then. . they were all gas well?

GL: Primarily. I think we stumbled into a little bit of shell oil but not enough to mention.

DF: But by this time there were pipelines close enough that they could be put into production?

GL: No. Well I guess originally we must have made some arrangements to get them over there. Which is twofold because they wouldn't be high enough pressure so we'd have to build a gas plant. But we drilled quite a few wells. The area in which we drilling, concentrating, had 10 or 12 potential producing horizons down to the Paleozoic and you never knew when you started to drill, which one was going to be your producer. It's when you started getting smart and chasing one that you got the dry holes. Just drill the hole, the odds were, drill through 10 potential producing horizons, maybe one will bail you out. And over and over and over again, they did. To the extent that 2/3 of them were economical and maybe for all I know some of the others have been placed on production by POCO. I wouldn't know. But we had so many of them that the distance between the pipeline kept getting shorter as you had more and more wells. You could afford more and more pipeline to get over there. I think at one time somebody told me we had 35 gas plants. Which were primarily building up pressure to enter a pipeline and removing water from the natural gas. Some of those plants were processing for others as well as for Voyager, although that wasn't our aim. We just made them available.

#266 DF: These gas plants were just taking off the water then?

GL: Mostly they were just drying the gas and building the pressure to the point that it would enter the pipeline.

DF: So adding compression. These were sweet then?

GL: Yes. If by that you mean we were not extracting sulphur, that's correct, we were not.

DF: Any liquids associated with them?

GL: Not to mention. We were never known as a producer of liquids or oil. We certainly drilled some wells that might have made us well known but it didn't work out.

DF: So what else happened in the late 60's?

GL: Not a great deal to me anyway.

DF: What led to your decision to retire?

GL: I don't know. Well, one thing I can say, in 1968 I was President of the CSEG. I was pretty well known. And I had started in the 60's in selling data, in other words, if you were Imperial Oil I'd go to you and say, do you want to sell some data from over here. I'd send out a map to my potential 100 customers and offer it for sale. And they'd say, well we can't do that, we'd have to pay tax on it. I'd say, no, my company is called Data Bank, the money comes in and sits there, you can use it for whatever you want, you want to drill a wildcat well, you want to buy some date, it goes into a trust account in a trust company in Calgary and stays there until you decide what to do. So in this buying and selling of data, I was involved in that pretty heavily for awhile too.

#293 DF: So you became a data trader then?

GL: Yes.

DF: And was that new at that time?

GL: No I think, a chap who lives out here, I think he lives out here, Wes Rabey was doing it. The one who became most successful at it over time would have been Ken Carey, you've

heard of Carey Consultants.

DF: Tell me about the year you were President of the CSEG, anything that stands out?

GL: Nothing startling happened I don't think. I met a lot of people of course and we just did our normal business which would be a scholarship here or there. But we did not in my term as I recall come up with anything new and startling. It's kind of hard to do in that sense. We didn't do it anyway. Others have done it since I guess. My wife was the President of the CSEG Auxiliary in '70. So we knew a lot of people.

DF: So she wasn't President the same year you were then?

GL: No.

#312 DF: What led to your decision to retire?

GL: The company was sold to NeWest and I was a figurehead Director I might say. Maybe that had something to do with it.

DF: Did you do anything else in the oil patch after that?

GL: No. I should have I guess. Oh, I dabbled around a little bit with some investments, all of which turned out badly. A little too much government help along the way.

DF: Which of your contributions do you consider most important, what have you enjoyed doing over the years?

GL: Now that's an awfully good question. I would think that one of the contributions to geophysics would be the utilization of Pan American's or Amoco's development of the portable camp and introducing it to the geophysical industry. Because it had to save millions of dollars in the long run. I even jerry-rigged one while I was in Libya. It worked like a charm.

DF: So this was just an idea, it wasn't something you bought kit built, it was just an idea you applied?

GL: That's right. But it wasn't my original idea, that's what I'm trying to emphasize.

#334 DF: Yes, I understand. But did Atco come up with a camp then that did that or did anyone else custom build them?

GL: Various people would build them. Nodwell would build them because some of them were on track, on big Nodwell's. They were most efficient. Anytime you can cut that. . . when you are paying the price you pay for a seismic crew and the drill crews and all that. Add it all up and you start saving 4 or 5 hours a day, you can pay for a lot of camp.

DF: Yes you can. So you even had these on tracks pulling them through the north?

GL: Oh yes. The tractor part in every case had a water tank. Again back to the efficiency of drilling, don't have the drill shut down because it's run out of water. The shot hole drill or whatever it is, the shot hole drill we're talking about. That I think must pretty well bring it up to date. I've been out here for 25 years and not associated with the oil industry. Other than for a few of those years, the very early part, at NeWest request I was a Director.

#358 DF: Any other contributions, any other things that you saw along the way that you really liked? Any regrets?

GL: Well perhaps the biggest regret. I don't have any real regrets, but I often wonder why I

didn't stay associated with the business I knew best, the oil business. You know instead of a 25 year gap here we're talking about. I don't think I was in a hurry to retire I don't know. 25 years ago is a long time. Perhaps I wasn't as ardent a golfer as the gentleman you were talking to yesterday.

DF: What did you enjoy most about the time that you were in the oil field, was it the science, the technology, the discovery, the peoples, the deal making, what was it?

GL: Well, one of the things I think, looking back, that I enjoyed the most was the ability to make a deal and document it later.

DF: Can you explain that for me?

GL: Well, I've been told that you can't do that now. Like a handshake deal and expect people to live up to it. All the time I was in the industry a man was as good as his word and I would like to thank them all for that, whoever they may be that I dealt with, they were all that way. And I'm not saying that they're not now but I've been warned now, don't do it. Like in the old days, we would drill a well and then send you the bill and you'd pay it. I wouldn't dare do that today. I don't think. I can't speak from personal experience of people not doing it. But of course, some of the things that I regret are the attempts to, I think, the politicians claim, Canadianize the oil industry or whatever the hell we were trying to do there. And I regret the days when I used to pick up the local paper in Calgary and read about the drilling rigs heading for the United States or Nickle's Daily Oil Bulletin. Sometimes you can get too much help.

#398 DF: But it's always been a cyclical industry hasn't it?

GL: It's always been cyclical but one of the strange things that happened was that when OPEC raised the price of oil to the high prices that it did, I think in . . . almost without exception, in other countries, it encouraged the oil industry. In this one it did not. It encouraged the government to put a price on the oil. You know, to cap the price of oil, which didn't encourage any ??? Somehow or other there seemed to be a constant fight between provincial and federal governments that didn't benefit anyone. I don't know. A lot of wells and things have been drilled that shouldn't have been because of incentives I think. After all, if there's something to take advantage of, somebody will. At Voyager when we drilled all those wells, there was no tax ??? involved that I spoke of in the early days. We were generating the funds internally. We didn't need to go to a whole bunch of investors who could take ??? of their tax and we didn't. Quite a change. Of course, some might say we had a better deal and maybe we did. Trans Canada pipelines didn't like us very much.

DF: Why is that?

GL: We had a take or pay gas contract with. . . . And we were bad mouthed at the top of the list. Other people had take or pay gas contracts too and it got to a point where Trans Canada were getting pretty financially shaky. I was just reading yesterday, all the producers agreed to cut back that take or pay deal 20% in order to assist Trans Canada. Mind you I think there was a time where we had taken money from Trans Canada and not yet delivered the gas to the extent of maybe \$60 million. So when I say we didn't need any tax relief, perhaps that's the relief we needed. But after all, they walked into those deals with their eyes wide open, those take or pay contracts.

#444 DF: That's an interesting story there too, with Nova and Trans Canada getting together.

GL: I don't know, what's that, a new one?

DF: Yes, well they're having troubles, it's not been a marriage made in heaven. Anything else you'd like to say about your career?

GL: No I don't think so. I've enjoyed and I'd like to say, along the way I've certainly enjoyed the hundreds and hundreds of people I've met, whether they've been from San Antonio, Texas or Brooks, Alberta.

DF: That's wonderful.

GL: There's sure an awful lot of nice people in the industry.

DF: That's great. I'd like to end the interview now and thank you on behalf of the Petroleum Industry Oral History Project for spending this time with us and telling us about your career. Thank you very much.