

## PETROLEUM INDUSTRY ORAL HISTORY PROJECT TRANSCRIPT

INTERVIEWEE: James Ziegler

INTERVIEWER: Aubrey Kerr

DATE: August 23, 1989

### Tape 1 Side 1 – 43:00

AK: This is Aubrey Kerr and today is Wednesday, August the 23<sup>rd</sup>, 1989 and I'm in the home of Mr. and Mrs. James Ziegler and the address is Number 1720 Laval Boulevard in Lethbridge, and I'm very glad to be here with you Jim after all these years and I would like us to have a conversation here about your early life and your career. So let's start with your father. Your father had a brilliant career. Could you outline that to us from when he first arrived in United States from Germany?

JZ: Yes, he came to the U.S. from Bremen, Germany in 1901 and entered Columbia University and received a Ph.D. in geology from Columbia. And he then moved to Iowa City, Iowa, where he, my mother lived there. She was born in Iowa City and they were married in Iowa City and he was the head of the geological department at the University there and then later on he took a job as head of the geological department at Colorado School of Mines in Golden, Colorado. And he was there in Colorado for about five years as head of the department. He wrote several books, one of which is still used as a partial text in some other courses there on Foothills geology.

AK: What impelled him to go to Colorado. Was there something that...

JZ: Well the schoolmarms had such a good reputation then and they offered him a better job, there were seeking somebody with a high degree to head up their department of geology and he received an offer from them and I don't know whether or not he solicited that offer but he taught there then, as I say, for about five years and then he started consulting and he traveled all over the world as a consultant, South America mainly, he was in the Arctic too but basically on the surface geology and exploring for a group of people out of New York City.

AK: What was this, hard rock or?

JZ: No, it was a combination. Basically, he was a petroleum geologist, but he did some hard rock work too, but actually in, later on he had discovered a field in Pennsylvania, a small one in which he put together from structural geology and then he went up to Wyoming and he did a lot of mapping around the Norwood structure and the Bighorn Basin. He actually did the field mapping with a plane table and alidade and mapped structure their which led to production in the Norwood structure from British American drilled a well there, and then the meantime English surveying some overturned rocks on the coast of the anticline that later became known as Bonanza, and he discovered a field there that he put together a number of drilling groups out of, I think North Dakota was where the basic money came from and some Spirit Lake, Iowa, they put together a drilling program there and they drilled a bonanza field and he later, the field later sold for about 25 million dollars and he only had a small part of it, but he had enough to be well off for a while, anyway. Then he started to drill some more, this was strictly based on a structure that the Geological Survey had mis-mapped. They had been down in the valley and

considered the valley a canoe shaped eroded anticline, but he had noticed that there was a complete overturn of one limb of it on the west side of the river, and that it was a double anticline which Geological Survey people had missed and the Norwood structure was based on the eastern fold, but the western fold had never been drilled and that's the one that became in the Bonanza oil field.

AK: Well all during this time, would you, would you have had some of this rub off on you, some of this...

JZ: No, because strangely enough Aubrey. I didn't have any contact with him except by letter from the time I was about six years old until the time I was 30. For 24 years, it was a blank in there that I received, we received letters from west of where but he didn't return to Golden, he did come back to Denver once or twice but... and my mother had been separated then...

AK: Oh, I see, yes, so that this was...

JZ: And I did have quite a bit to do with him after he got back to Bonanza and they drilled that, and I had contact with him then. He had phoned and come up to Calgary and we had to, by then I was stationed in Calgary, working out of Calgary.

AK: So the idea of your going into the Colorado School of Mines was not entirely influenced by your father.

JZ: No, strangely enough. I grew up just a few blocks from the campus. And after I finished high school, I had, I got a job at the brewery, Coors Brewery when the beer came back in 1932.

AK: Oh, that's right, the prohibition. Yes.

JZ: So of course Golden was humming and I had a quite a good job at the brewery, but I did want to do something about education and go a little further. In fact, I had an inkling, if I took geology or geophysics, I might get to see the world and get out of the small town of Golden. So I made arrangements with the people at Coors that I worked with that I was allowed to work overtime and save the overtime for winter, and I started in the Colorado School of Mines in, I've forgotten the exact date. It's in that little missive I gave you. Anyway, I went to school and worked at the brewery. Our work shift was a rather strange one, we were working 36 hours a week, six hours a day for six days a week was a standard work week and over that was overtime. Through to summer, it wasn't anything to go to work and work from 14 to 18 straight hours with just coffee breaks and lunch breaks, and to make up for the huge orders of brew that came in during the summer. And then the winter when the brewing business slacked off for the shipments of beer, I was actually in the bottling house and I was for six years, I was in charge of loading out everything in the afternoon, all the carloads and truckloads and kept track of everything and I was able to go to school, worked out one year in the mornings and the following year, I'd go in the afternoons. They let me split my shift that way and get my six hours in and whatever overtime I had I managed to save enough for, counting during the winter season.

AK: [00:08:37] Now when you graduated you went to work for Magnolia, which was a subsidiary of Mobile, in would that be Southern Illinois?

JZ: Yes, we were working at Mount Vernon and at first I think we went to Effingham and then Mount Vernon when we were doing seismic work up in that area there, found the Mount Vernon field. And of

course, it was a rather hot oil patch right then, so the crew I was assigned to, I was a jug hustler out on the crew...

AK: Sure, that's a good start.

JZ: As a matter of fact strangely enough, they had 2 B.Sc.'s and one Ph.D. out there hustling jugs that summer, variety of training in the field, which was a good idea, and we worked in Southern Illinois, then through the wintertime, and in the spring we moved to Texarcana.

AK: How did you get the job with Magnolia? What connection did you have?

JZ: Well, Colorado School of Mines in the old days, of course was just pre-war practically and they were interviewing very, very early in the year. In fact, I was disappointed because a gentleman came from Magnolia to interview on the class I was in, geophysical, the group of geophysical people, there were only 13 of us and I think the man's, I've forgotten his name, I believe his name was Dean J. Wolfe, was the interviewer and he made two of us offers and my offer was, our offer was \$297 a month which sounds a little peculiar today, but at that point it was the highest offer that the Colorado School of Mines graduates had four years. It continued on to Metallurgy and everything else, it wasn't just geophysical people, but here was a great search on and he came in February which disappointed me a little bit because I was not going to finish until August. I had to take a summer course, field course I had not been able to get time for, and here I am in February with a good offer and I was really looking for something a little more exotic than Illinois, but that's where I ended up.

AK: But you took it.

JZ: I took the offer, they advised us strongly to take that offer since it was so good.

AK: That's pretty good money for 1941.

JZ: It was a lot of money, I think their best offer prior to that have been around \$200 a year before for trainees.

AK: Now did that include your transportation and any allowance for expenses?

JZ: It included, in short-term assignments that did, on long-term assignments it didn't, in other words a crew was theoretically stationed in a town for two or three months well we didn't get a per diem, but if, and I did get car mileage of course and expenses to the job, to report to the job from Mines, and then the whole crew got per diem on a move and they also got, as you know, in those days we moved around a whole lot and if the crew assumed you were only going to be somewhere for a month, what they paid per diem was very low but apartments were very cheap at that point too.

AK: So what prompted you to go to Stanlon?

JZ: Well a couple of things, one, there was a feud on the Magnolia crew right at the time I arrived and the crew was split, husbands and wives of one group would not relate to the husbands and wives of the other group. One group was the observer, and his wife and had a fight with the party chief and his wife and so it was a very unhappy crew politically.

AK: So you...

JZ: What happened really was that a fellow of graduate mine, Harold Hitton, I'm sorry Howard Hitton was with Stanlon, when we moved to Texarkana, they were in the same town with a crew, Howard was on that crew. And Thanlon?? rather than, this was not an effort on my part to get out of the field, I rather enjoyed it, but Howard pointed out that that Thanlon had a promised him an office job within three months and he was already in this office job as a computer, learning more about the interpretation, which is really basically what all of us wanted to do. And so between those things and the fact they made me an offer about \$50 a month higher if I would come over to them, why, I moved over to the Thanlon group, gave notice at Mobil, Mobil were quite upset, but that didn't bother me too much because in those days you tried to do what you felt was going to advance your career the most.

AK: But during wartime, did you not have trouble moving from job to job because your job was essential, did you have to get permit to move?

JZ: No, not in the States as long as you stayed, and we were classified in essential industry, and it didn't matter as long as you were on one crew or the other. I had taken three years of Reserve Officer's Training at Colorado School of Mines and then when I lost the first two fingers off my left hand, I was deemed to not be officer's material since in the regulations if you had lost more than two joints off your digit finger on either hand, you were not considered for an officer. You could get in as an officer...

AK: Was that because you couldn't salute?

JZ: I have no idea because I pointed out it wasn't my trigger finger, I was a Captain of the Harvest International Trophy Match Rifle Team at that point and it wasn't bothering me to shoot at all. But ROTC was quite upset at the School of Mines because I had to drop the shooting in order to, since I didn't qualify as an officer anymore, I had to drop ROTC,

AK: Did that occur in, out doing seismic work?

JZ: No, this, when I was working at Coors one day, actually on a Sunday. And I lost it in a table saw they had set up without a guard on it, and ??? the boards for the rack, what we called dry racks to stand on to stay out of the beer in the bottling house at certain stations, and one board caught in the saw and jerked my hand back through the saw and that was...

AK: That was it, yeah. Then you stayed on with Stanlon and you were elevated to party chief and you were working quite a bit in the Gulf Coast. Down there, did you concentrate on salt domes or what was it?

JZ: Well perfectly, although part of the, quite a weird setup with Thanlon, I went to work with Dick Dana who was well known in Tulsa and Dick was a party chief on the crew up in Brownfield, Texas up in the Panhandle, and that's where I started working with Thanlon, and then I had expressed to them the fact that I didn't really like the Gulf Coast very much and I wanted, I was happy in Brownfield but it wasn't very long before I ended up being transferred to Goliad, Texas, where the famous battle was fought during the Mexican war, and I ended up in Goliad as a chief computer on a crew down there. And then from Goliad we moved up to Gonzalez, at Goliad we were shooting for some of the salt domes, ??? salt domes but then I ended up moving up to Thomas' crew, he had the highest production crew in the Gulf

Coast, landed up as a system party chief on his crew within a short time in order to speed up the office routines, and we were still, three of us were still working about 10 hours a day to keep up down there.

And in that area from Goliad North up to Gonzalez where we ended up the, we were looking for faulted structures in Gonzalez County. They had proven quite productive. But from there on I have trouble remembering some of these things in the duration of these job.

AK: Well at that's okay, we just wanted to kind of get the background, and you state in your write-up in here that you'd worked down in the, right down the wetlands.

JZ: Right. Well what happened there was there was a short stint that they had not been able to give the party Chiefs holidays and they had nine crews on the Gulf Coast so for nine months, I relieved all of the party chiefs and got a look at everything they were doing, I would go to a party for instance on Wednesday and drive Wednesday and Thursday and get there perhaps Friday and overlap with the party chief one day and try to become acquainted with what the crew was doing and meet the personnel and then taking over the crew Saturday or Sunday, I would relieve him for two weeks, and then I would have to stay and overlap with him the following two weeks from Monday and Tuesday and then drive to the next group. So for nine months, I was on the road, part of that time was involved in the interpretive office in in the Gulf building in Houston, Texas where they had their headquarters for Gulf Coast interpretation.

And there I worked with Bill Matthews who was later on in Calgary with them. And so I relieved two of the personnel there on interpretive duties which included some marine work in Galveston Bay, but I was getting a real insight and my head was kind of bulging with all of these things I was looking at, I got a little...

AK: Well you'd be looking at down to the coast faults.

JZ: Yeah, right.

AK: There's a lot of faulting down in there.

JZ: That's right, and we were doing, sometimes we had as many as 120 reflections to plot on one record. So it took several of us to keep going, you plotted every leg of everything that came through and we...

AK: You mean 120 events?

JZ: Events on one record. They were just a few milliseconds apart and we plotted them all, hand-plotted everything.

AK: But then you'd, you weren't sure probably that some of those weren't repeat.

JZ: No, you didn't know if you were getting multiples or not. The only way you could recognize a multiple on the shooting they were doing was sometimes you would see a stray come up that was double dip or something that was above it and by, with the dividers, you could determine that was probably a multiple. And this is true, whenever you shot a hundred percent until they got back data to eliminate multiples away, this was true almost everywhere you went in the hundred percent shooting but it was

the worst on the Gulf Coast in the water that I've ever seen. But after this stamped on the reserve, on the relief of all these party Chiefs, I was assigned then party 29, which was Stanlon's biggest party and they were at Houma, Louisiana at the time.

AK: That's H-O-U-M-A.

JZ: Yeah.

AK: Well that was right on the edge of the...

JZ: There a bayou goes through Houma and this we were stationed about 20 miles south of Houma with a big, we had a quarter boat, 120 feet long and 40 feet wide and it held 36 people on the crew. That was our headquarter and we lived on the quarter boat 10 days and then took 4 days off which was common practice of the Gulf Coast crews and in addition to that we had a National crew, the party Chief, it was kind of interesting, the party Chief was a chap named Fetzer, who later also turned up in Calgary, but I was supposed to supervise and oversee their work as well as look after this party 29. And we had small boats, we call the mud boats for shooting in shallow water and in all of the marshland, we had marsh buggies for where it was too dry for the boats to go and then we had a set of luggers that we could go on in deep water to shoot in the fairly deep water, five miles offshore something like that.

AK: Well, then were your geophones floating on the water or how did...

JZ: No, the geophones were on a string and put on the, laid on the bottom individually, not like they do today towed behind the boat, shoot, these were, actually we drilled holes with a drilling barge and that had a small derrick on it and spread the geophone between. It was fairly complicated maneuvers because we had so much equipment. We had a set of tractors as well and we could go on land with our recording truck and shoot, removed the instruments from a bateau onto the truck if we wanted to go on the lam to follow a line up a little ways.

AK: This would be, would you call this Cajun Country?

JZ: It was all Cajun Country, I loved those people, the Frenchmen.

AK: Yeah, they were former Canadians.

JZ: Yeah, they were...

AK: They were driven out of the...

JZ: No matter what hardships we encountered on the crew, they met them with a...

AK: Very hospitable.

JZ: Very hospitable people but with a sense of humor, you couldn't beat, they'd be working 14 or 15 hours a day and still playing practical jokes on each other and laughing, a happy bunch. I had a crew of 36 people and 6 of them spoke English, about half of the rest of them spoke a little bit of English and the rest of them, I had an interpreter or I learned a little French to get along with them at all...

AK: They were completely sealed off then.

JZ: Yeah.

AK: From the, you know, they were so insular in their... nobody's fault. But that was the way they were, they were...

JZ: They were just changing then, Aubrey, due to Huey Long who never gets credit, he should, he had come in with a law that they had to learn to speak English in school. They were also to speak French and take French lessons. But all the young children were, at that point six or seven years prior to that, they had all been required to start English in school. And so working with my rodman and surveyor several times to get permits on some of these little trappers cabins built out there on stilts, we'd pull into the yard with our boat and we couldn't talk to the older people because they spoke only French and my surveyor only spoke, his name was Ross, he only spoke English and so did I, with a little bit of French, but it was a little bit embarrassing to come up into somebody's yard and knock on the door and be greeted very jovially and invited in for Cajun coffee, and have some little kid eight or nine years old there do the interpretation. He could tell us what they were saying, of course and then he spoke good enough English to, and good French. So we got by that way.

AK: But that that came to a close when you started to think about other possibilities, did it, by that time the war was, the war was over wasn't it when you got this you got this word from Larry Freeman.

JZ: Yes. I'd been trying to get into the Armed Services for two years through Dr. Jim Boyd who was head of Strategic Minerals in Washington and also had been trying to get into the Navy on aerial reconnaissance photography. I had a friend and a fellow graduate again, had been sent to Alaska and I'd been trying to get into that, so I'll never forget the, I'd just received an assignment to a Navy pool of people that were unassigned at that point, and their letter from the Navy had been accepted and would be assigned as soon as an opening came up for, what they were looking for was aerial photograph interpretation and we of course had been doing that on the Gulf Coast because on the Gulf Coast we had Tobin aerial grid photography over all of this land we were shooting on, and as you know, Texas and Louisiana were all cut up into grants.

AK: Well, that's right. There's no grid,

JZ: There's no grid. And so I had been interpreting these things along with my surveyor on the crew all of this time, including some offshore stuff and that's exactly what the Navy wanted for some of the Pacific Islands they were flying photography on and wanted interpretation of the grid so they could have the photograph so they could prepare for landings and so on. But I just received the assignment and about three days later the war ended so that's as long as I was assigned.

AK: But it was at that time that that you and Larry Freeman came together and he offered you this job up in Canada.

JZ: That's right. Was kind of a coincidence and I don't know how Larry heard of me, except through Dr. Heiland possibly. But anyway, it so happened that Tommy Thompson, my supervisor down there had promised me that during the following summer, 1946, there were going to start a crew in the Rocky Mountain area and I was to be assigned the party chief on one of, two crews, they were actually going

to be starting two crews. Boyd Forbes, whom I had replaced on party 29 as party chief was going to run one crew and I was to run the other. And I was very disappointed in the summer when they, Tommy came down on a visit and told me they'd had to scrap the plan, that they weren't going to start the crews for another year and that Boyd was assigned to the Oklahoma division, would be Inland, and that I was probably going to remain where I was and keep on supervising National and doing water shooting. And I kind of rebelled at that and said well, I don't like this 10 days on and 4 days off, I'd like it back on a land crew. So Phil Garrison who also ended up in Calgary, was sent down to replace me, and they put me on a land crew over DeRidder, Louisiana and I was running a crew in Conroe, Texas and De Ridder and up in that area and then all of a sudden we were moved to Spindletop, Port Arthur and the very last job I did down there strangely enough was reshoot the Spindletop salt dome. They had found that there were shoulders on some of those domes that were not detected in the early shooting and we were doing fan shooting where the phone, instead of spread in a straight line and the shot on the end of the line, the phones were spread in a big fan and your shot, you interpreted the velocities to each one, and if you found a shoulder it showed up right away on the velocity of...

AK: About a 180-degree fan?

JZ: Yeah about a 180-degree fan and was shot point spaced several hundred feet in the center of the fan but on top of the dome. And it was tricky because there were tiny, tiny bits of leases in there that you had a...

AK: Oh, yeah, fractions.

JZ: It took two permit men to keep up with the crew and we did find a shoulder on Spindletop, which they drilled and got production. I think it turned out to be exactly, well something like 40 years after the original well blew in there.

AK: Right. So you said that you'd driven up to Shreveport to see Larry Freeman.

JZ: Yeah he phoned, he phoned the crew, how he found me, I'm still not sure, I didn't ask. I didn't solicit a job. That was a funny thing. But he phoned one day and asked me if I'd be interested in going to Canada. They had I think three crews running at the time up here, and he wanted to know if I'd like to go to Canada, and not even knowing what part of Canada Calgary was or anything else, I said, well, I'd like to come up and talk to you about it. So we arranged a weekend, I went up on a Sunday and met him in the office. I drove up from De Ridder, it wasn't very far, and I met him and had quite a visit. Larry was a Vice President in Shreveport, and Henry was in Canada at the time. He just, Henry and Margaret were up in Calgary. So he told me all about Calgary and what they were doing.

AK: Henry Medzger?

JZ: Medzger.

AK: Now is Metzger spelled M-E-D-G-S-E-R, or Z-E-R?

JZ: I think it's M-E-D-Z-G-E-R. I'm not sure.



AK: Right, well we have to be careful here. We use as you know, you know, you still use the Zee which is all right, and I use the Zed when we talk about the last letter of the alphabet.

JZ: Well, I'm thinking now of the U.S. ???

AK: Well sure, certainly. So it was so it was M-E-D-Z-G-E-R.

JZ: I think that's right, I haven't any...

AK: Yeah, well it's nice to have the spelling right? But it's all right...

JZ: I think we could trace the name back.

AK: Yeah. Well, I think I have it in my notes. So Medzger had come up into Calgary and he was kind of the honcho over the three crews.

JZ: Yeah, I think it was three that were here when I first came up, they varied because if the, contracts weren't that easy to come by in those days, but if you had a crew working on a continuous contract, why, you always had enough personnel trained on that to move up and start a second crew if you needed to, or third.

[00:32:32] AK: Well now do you know, I'm just jumping ahead a little bit but if there were crews up in Calgary at that time, who were they working for besides Imperial Oil.

JZ: I'm pretty sure one of them was with Shell but I'd hate to be quoted on that because we did work for Royalite, and I think the crew I was on worked basically for Imperial Oil when I came up here. And as a matter of fact, that's the only client we ever had except for the short job with Royalite during the breakup in 1946, spring.

AK: And they were a wholly owned subsidiary of Imperial anyway.

JZ: That's right.

AK: But the one thing I haven't asked you at all, about all this geophysical work up to now, is that was it all reflection seismic or did you do some refraction.

JZ: All of the Gulf Coast work was reflection, even the fan shooting although you used refraction breaks on that. Why, you still were doing basically reflection work.

AK: The reason I mention that is I would suspect that if a party was working for Shell that they would probably be doing refraction work up in the Foothills.

JZ: Well, I don't think...

AK: Because you know, that's where Gulf developed its refraction work in Pincher Creek and then Blundon perfected it, and it's in the blue book there, the whole story about how Blundon helped in finding Pincher Creek. But that was just a side question, but I know that all the work that you did that I

would remember would be reflection. So you decided to take the job but that that time what kind of a salary, were you making something that was going to be worthwhile your move.?

JZ: Well, it seems to me, I wouldn't remember for sure, but I do remember I got a \$50 raise and my agreement with Heiland was that I would to be paid in U.S. funds and kept on the U.S. payroll, although I would be working in Canada. So, and also they paid my expenses, they paid full expenses on my trip to Calgary. They paid all of the, mileage on the car, I took my own car, which was then about a 1939 Pontiac that I had, that had about a hundred and some thousand miles on it, and they paid mileage on that and hotel bills, reasonable meals, and they were reasonable in those days.

AK: And you drove and it says here you crossed the border on January the 6th, 1946, and it was real cold.

JZ: Strangely enough, I got to the border, Aubrey, and my permit which was, had been applied for in Ottawa; I had two things happen. I had a number of rifles and shotguns because I love hunting.

AK: Oh, that's right, you are a...

JZ: So I had written to Ottawa, in those days...

AK: Ahead of time...

JZ: ??? on account of the guns. And they were hunting rifles, I had no handguns, and I think I had two shotguns and three rifles, And when I got to the border, I had received the letter of permission from Ottawa to bring the guns in Well I got to the border and it turned out my papers had not come through that night, although they'd been applied for, so the border people were kind enough to phone the Calgary office, it was about four o'clock in the afternoon. They couldn't phone Ottawa because Ottawa was already closed. But they kindly said, now you can spend the night in Canada if you want, in Coumts. So I went across, I thought, this is great, I'll get to see the new country. So I went across and stayed in a hotel that was later called The Coyote I believe, I don't know what it was then. I went up, and it was kind of funny too, I went up and checked in this room and I had, these guns had been declared at the border and I asked for the RCMP and he was nowhere to be found. They said oh, well, you can take them in, we'll ??? in the morning, just go ahead. I went in and went upstairs to the room, and of course it was a familiar, in those days the wash basin and the pitcher with the toilet at the end of the hall. And I've forgotten the price, probably three dollars a night or something like that.

But anyway, I'd no sooner gotten settled down in the room, then a knock at the door and I opened the door and there's an RCMP in full uniform. And his name was Joe Ridley, Corporal Joe Ridley and he was in charge of the border and he said, I understand you've got some guns and I said, yes, would you like to see them? I have the letter here and I showed him the letter and he said no, I don't want to see them. He says you don't even need the letter anymore, but I just wanted to welcome you to Canada and I said, well fine, would you like a drink of scotch, and he said well, I just happen to be off duty but it is scotch, or is it real scotch or that rotgut the Americans sell? I said no, this is real scotch [tape cuts] from Louisiana ??? Whitehorse.

AK: Right.

JZ: And he said well, I'll be glad to have a drink with you and we'll talk about hunting. So we sat there and had a drink, finished it, and later on his son Tom here in Lethbridge became one of my best friends and I hunted with Tom for 34 years after that.

AK: Is that right.

JZ: So it was kind of a coincidence.

AK: Well that was a good welcome to Canada then.

JZ: Yeah, right, but as I say, Joe said, well, you don't even need the permit anymore. But he said I'm glad you have one because now we have record of the gun. So he kept it for file copy. I had about three copies of it, but I never heard any more from him.

AK: No. Then you then you cleared customs and drove up to Calgary. Now, where were your offices in Calgary?

JZ: I really don't remember, I would first off say the Bentall Building but I'm not even sure that...

AK: I don't think it existed then.

JZ: Whether it was even built then. Those things are so...

AK: Well everybody was just finding any place they could then.

JZ: Yeah. They had very small offices, I think Margaret, Henry's wife, worked in the office as I recall too.

AK: You know, it's odd that there would be that many crews up there prior to the big Discovery in February '47, you know, you'd wonder with the, shall we say the real lack of any enthusiasm or encouragement, why there would be those crews there and you'd also wonder about Shell having discovered Jumping Pound in '44 why they didn't carry on more, you know, but they may have been doing it. Do you have any thoughts on that?

JZ: My impression in those days, and I did meet with several of the oil finding people in the next, after Leduc there was of course a rush.

AK: Oh, well, yeah, the whole thing blew up and...

JZ: Prior to that there were a number of crews working, and I think there were a number of people that, even though they felt that perhaps no big discoveries had been made, I believe that the real oil funders are eternally optimistic and they were leading perhaps some of these accountants in the company and the Comptroller's by the nose and saying look, hang in there a little while and ??? a little more money and I really believe, Aubrey, that perhaps Imperial and drilling all the dry holes they did, people were feeling in the oil business that, were good geologists let's say and good oil finders, prior to this, would have the feeling that, they would have the feeling that ultimately somebody is going to get a discovery because there were a lot of shallow wells drilled that, for instance your Tabor...

AK: That's right, and Tempest, there was a good show at Tempest.

JZ: As I recall, Aubrey, were there not also a number of wells and shallow wells that found ??? River gas, and, things like that in Southern Alberta and...

AK: Gas was a bad word, you know, if, you know, we abandoned a lot of wells that showed gas.

JZ: I think one of the fears at this time, having been through the experience in the States, was that they would encounter a lot of heavy oil which they did later on, heavy Mississippian type stuff that they couldn't produce.

AK: Okay. I think we're just about the end of the tape here. So we'll stop it and turn the tape over. This is the end of side one tape one.

### **Tape 1 Side 2 – 45:00**

AK: You'd arrived in Calgary and you were only there a few days when Medzger sent you out to Lethbridge, is that right?

JZ: That's right, to take charge of...

AK: And where was the party, where was the crew, was the crew out here at Lethbridge?

JZ: The crew were living in Lethbridge and driving out from here, accommodations in the areas where we were shooting in, Stirling and Tempest, there really wasn't anything to live in to speak of.

AK: No, and Stirling is spelled S-T-I-R-L-I-N-G and it's just a few miles south of Lethbridge, and I'm trying to think that that was the first time that you and I met in around March or February of '46 when you were doing that shooting and we saw some normal faults, didn't we.

JZ: That's right.

AK: They were a couple of step faults there and I think we drilled a couple of holes on it. Imperial drilled a couple of holes.

JZ: I think so, but I wouldn't have known that until later, you know, because we were mostly...

AK: Well I think they were drilled, but they had to be drilled before I left because we left Tabor in July of '46. So the holes would have had to have been drilled because I was still here, and that was one of the last things that the rig did I think, but I can check that from my records. The other job that you did was you went over to Tempest ??? velocity shoot.

JZ: Yeah, in Tempest we were assigned a fair program, Aubrey, but the drilling was so bad in the gravel out there that we couldn't get more than one hole a day per drill and we were in terrible gravel where this assignment was, it was 50 and 60 feet and you just couldn't get it out of the hole.

AK: Well now was this just with one shot hole drill.

JZ: No, we had two shot hole drills and they sent a third one in, as a matter fact, they got mad and, Henry did, and fired one of the drillers because he felt he wasn't putting out and he wanted to fire my party manager, Gordon Gibson. I put my foot down on that. I said, there's no way, it's not his fault we're low production, but Imperial was pretty upset. But of course when they looked at the field they realized what was happening that you just couldn't drill that gravel and get a shot...

AK: Well they should have known about that because Carter had a crew up in the Taber area there for several summers, you know, they'd come up to the six months less a day, and that was where Malcolm Reese's crew was, and I told you about it, Harold Stoneman and Frank Spraggin and those people that you got to know later on, but they would have, they should have known about the conditions there, about poor shooting conditions. I don't remember that but...

JZ: I think they did because the assignment ran along south of Tempest and down toward Chim Coulee and of course Chim Coulee is noted for the amount of glacial gravel and till...

AK: Well that's what it is, it's an old lake.

JZ: Yeah, and we couldn't, of course obviously anyone in seismic know this, if you shoot in gravel, you don't get much of a response. You don't get any reflectant...

AK: Yeah and all your energy is...

JZ: Yeah, and to get through the gravel was damn near impossible. So we were pulled out...

AK: The holes would cave in.

JZ: Yeah, if you got the shot whole stable enough with mud chances are when you loaded the charge, why, you still couldn't get through the gravel, you drill one hole I think to 200 feet, fighting the gravel for two or three days and couldn't get into shale.

AK: But you said that you had come over to Taber to see me.

JZ: Yes, I think, I have forgotten how the word got there, but I remember I met you and you, and you very kindly invited me out to dinner to your home in Taber, and we had dinner out there.

AK: Yeah, a very modest place. And then our cat bit you, is that right?

JZ: That's right, I walked over to...

AK: Well I can't remember that but I'll have to check that back with Elsie.

JZ: The only reason I remember that, that was unique and I've been bitten by dogs, but I had never been bitten by a cat and never have since.

[00:04:33] AK: No. Well, one of the things that both Elsie and I, and I guess the townspeople in Taber who'd nod over was your new Buick which everybody envied and were very, very interested in wanting to get one. And at that time the regulations were that any cars over a certain price could not be

imported into Canada. Now you told me that as part of your Navy assignment that you have been given, I suppose what you might call a warrant or a requisition for a car, to permit you...

JZ: They called it a priority order.

AK: Priority order, that's nice. And even though you hadn't served in the Navy you were about to be possibly going to join the Navy but this priority order issued at Port Arthur, Texas and then when you got moved, when you knew you were going to get moved, you arranged to have that transferred to Great Falls, Montana.

JZ: Right I had to examine the map and that was the biggest U.S. town close to the border.

AK: That's right. And you'd gotten word that there were some cars in the showroom at Suhr, that's S-U-H-R dealer, and Mr. McDonald contacted you in Lethbridge.

JZ: Yes, when I came through Great Falls on the way up. I stopped and met Mr.. McDonald and Mr. Suhr, and I let Mr. McDonald know where I'd be so when they got a Buick in, I wanted it. So after I was posted back to Lethbridge after a couple of days at the Calgary office with people there, and was sent the Taber, or to Lethbridge on the crew, I phoned McDonald and a couple days later he phoned me back and he said, Jim we want to get rid of these three cars in the showroom, we've got... there had been a 90-day strike on production at General Motors. And he said we've got two carloads coming but we really don't want to sell these in town because everybody who's got an order and a deposit over here are going to be mad if they see the car with somebody else. So we've decided to sell these three out of town so you can have one of these if you'll come down and pick it up.

So I went down and was having dinner at the Rainbow and he phoned me and he said, no we want to get this car out of here tonight. So if you'll come over and sign the papers, you can pick it up tonight. And after that we don't care where it goes but the sooner you get out of town with it the better we're going to like it. So I went over and made the deal and about ten o'clock we moved the car into the hotel parking lot and the next morning early, I got up and came back to Canada and permitted it through the border and ended up with it in Lethbridge.

AK: Right. And you said that you traded your old '39 Pontiac in for \$400.

JZ: Yeah and the invoice on the new car was \$1733, had everything but air conditioning, it was automatic and all the amenities they put on a car in those days.

AK: Yeah. Well that is just part of the difference in how things operated between Canada and the U.S. and you probably noticed that in your first few months and year, how things differed, the sociological differences in Canada and the U.S.

JZ: Well, that's true. One of the things I couldn't get over were the, some of their fine restaurant meals and at a very low price, especially at the Buffalo Hotel in Red Deer of all places. Their big steak dinners I think were \$1.95 for a 16-ounce steak, and two other big differences I noticed right away. In the States, I was used to getting a salad with my lunch or my dinner, here instead, you got a bowl of soup, which I preferred but the customary thing was here a bowl of soup and your lunch or dinner and then a cup of tea. And in those days they made, it seemed to me they made, when you asked for coffee it was awfully

weak and the tea was awfully strong, so that took a little getting used to but those things have changed over the years of course. And the other thing I think was a strange thing, a phenomena in my mind was that almost everyone up here in those days wore black shoes, there were very few brown shoes and it was even at the point in one day crossing the border one of the Customs people said to me, I see you're from the States and I said, well, how do you know? And he said, well you've got on brown shoes. And I always thought that was a big joke and I'm sure there were just as many brown shoes on the market up here, but a lot of the people wore black shoes, it would just seem to be, and tweed, a lot of tweed you didn't see in the States, but here are the beautiful Harris Tweed coats and I remember getting here in a lovely wool and I was getting a 10% discount on my U.S. money so I immediately had to buy a Harris Tweed coat, which I didn't need in the field and hardly ever wore and a couple of fine wool shirts, which I, turned out to be almost too heavy for an old ????. I would just entranced with the prices and the fact that the dollar was worth a little more.

AK: Well now that was the English shop wasn't it, down near, I think it was on 8th Avenue.

JZ: 9th Avenue and...

AK: 1st Street East.

JZ: 9th Avenue and 1st Street.

AK: Yeah, well there were several stores but the English shop was one of them.

JZ: That's right. And I think the English, and then there was an English shoe store that sold really fine shoes and of course the Bay, the Hudson's Bay which on the corner of 1st and 8th, and the Eaton's store didn't have as much in the way of clothes in those days that, I bought the wool shirts and...

AK: Well, that's what attracted very many of your countrymen...

JZ: Gordon Edie was the name of the store that I found...

AK: That's it, Gordon Edie, that's right.

JZ: Glad for him.

AK: Yes. Well, he's long gone. I think he moved over onto 1st Street just near the Palliser there between 9th and 8th Avenue, on the west side of 1st Street.

JZ: yeah.

[00:11:31] AK: So when you got your shooting done at Tempest was this, incidentally at Tempest, was this, you were trying to do continuous reflection?

JZ: At Tempest, yes. We had an assignment of a couple of continuous lines, as I recall a program with H-shaped and it's a long time ago for me to remember that but, we were on the lower limb of it, the south limb of it and we just couldn't get any holes at all. So...

AK: Well now during this time that you did this shooting at tempest and Stirling, did you recall having received instructions at all from Ray Walters?

JZ: None at that point, no...

AK: Who were you receiving your instructions from Medzger?

JZ: Medzger.

AK: He'd need relay them through to you.

JZ: That's right. He talked to Ray quite often and then Medzger would phone me with program changes and personnel changes, transfers, and we had a fair contact with our Calgary office, but not much in, with Imperial at that point.

AK: No. So there was nobody apart from me, I suppose, there was nobody in the field that...

JZ: Nobody at all. We didn't see an Imperial man in the field until after we went up, finally on, well, I shouldn't say that because at the well survey we did on the Imperial, Shell Imperial Stolberg wasn't it?

AK: That's right, it was a joint project...

JZ: Survey that we did that spring, and we saw Imperial people there, Malcolm Reese notably, but we didn't have any visits from any Imperial people until later on after we were established at Ma-Ma-O Beach, they were up once or twice. Ray himself came up once and I don't remember too many contacts, there were phone contacts and the records, as long as they were good, we didn't hear much.

AK: Well you did you work the maps up in the field or did you just send in the raw records?

JZ: Depending on the... no, no, I worked all the map, all the records were worked in the field and maps made on the records here, where at Lethbridge...

AK: You had a little office here?

JZ: Yeah. We used part of my apartment for an office to keep the record worked up because I was so close to Calgary. We were reporting to Medzger and he was going over the records too. And on the Royalite, little Royalite job, we shot later in Turner Valley. We worked the records right in the Calgary office, that was a short job and very tough, and looking for another location out there for Royalite which Henry told me later, they did get a well on.

[00:14:21] AK: Now, your next assignment was up at Stolberg, and that was a velocity shoot on a very deep hole that Imperial and Shell had drilled.

JZ: That's correct.

AK: And just give us some of the background of how difficult it was to get in there and just a short sketch of Malcolm Reese.



JZ: Well, the, actually the Sixty Mile Road between Nordegg and to the east of Rocky Mountain House was almost impassable. There was a lot of muskeg on it but we shipped the drills, and the heavy equipment we knew we'd never get them through the muskeg. We shipped them in on flat cars, but Gordon Gibson, the party manager and I decided to take the dynamite in on the 4x4, and we had a big Dodge 4x4 truck that had belonged to the Army which was my company car on the crew. And we loaded the dynamite in Rocky Mountain House and started out on the road. And as far out as Farrier, which is a small whistle stop on the road, I think it's about 14 miles, the road was pretty good, and from there on it was one patch of muskeg after another, really deeply broken up in the cordierite, a lot of it was cordierite but the cordierite had been broken up by other trucks traveling it. So just before we got to Farrier, a chap came up behind us and honked the horn and we stopped and it turned out to be Malcolm Reese of Carter, and he had his company car and he wanted to get the car out to the well site.

AK: Well he was going to supervise the shoot, was he?

JZ: He was going to be one of the...

AK: Or one of the people there.

JZ: One of the people on the shoot. He was Imperial's representative on the shoot as a matter fact, along with the well site geologist.

AK: There'd be the Shell people there too.

JZ: The Shell people, Artie Younger was going out, he was out there already. Yeah, he went out and he was he'd gone out on the train, he didn't try to drive in. Anyway it took us 10 hours to make about 40 miles in there, it took about 10 hours for the 60, but the road on both ends was pretty good. It's the section in between, we, I think I pulled out about 200 miles of winch line that day. The procedure would be we'd get into the muskeg as far as we could go and then I would drag winch line to an appropriate tree and we'd winch ourselves on a little bit further and we might have to pull the line two or three times on each stretch of muskeg. In the meantime Reese would come in behind us and bounce as far as he could through the muskeg and then we'd turn the winch line around and hook him on and winch him through. So it took us a full 10-hour day to get out to the well by the time we did all this winching. And after we get to the well the tool pusher didn't have room for the seismic crew and he wouldn't feed them either. He said he was too crowded to feed the crew. So we, the crew went on into Nordegg and stayed in an old boarding house and they had a small, real small old café that was right at the forks of the road just before you get in to Nordegg. And there was a service station with a pump and a glass bowl and I think Chinaman had a cafe behind it, I don't recall exactly because I had a tent and sleeping bag and so did Gibson, and it turned out Arnie Younger from Shell also had brought a sleeping bag but no tent. And I ended up camping out on the Little Creek below the well and just about a half mile below the well in a nice little campground and I put my tent up and that's where I stayed. Gordon stayed there with me and then he went back and forth into town with the 4x4.

AK: But this business of tenting was just your bag because all you were a huntsman and a man of the woods and that would have been part of your life all through, and I imagine when you came to Canada, you were really in seventh heaven being able to go out and do the hunting that you ???

JZ: Oh, I thought it was great. As a matter of fact, I had a gun with me because theoretically Nordegg was a good area for bears and there was time for spring bear hunt, and I had taken a gun along in the truck and a case and didn't see any bears. But I remember camping out and cooking over the fire, at one point Arnie who joined me and stayed there with me, he said I made the best coffee he ever tasted and it was boiled in a big old tomato juice can over the coals of the fire.

AK: Those things taste really good when you're hungry. Was there anything particular about the shoot that we should record, or should we...

JZ: Well I was a little worried toward the end, the hole was very deep and, well-conditioned, the well crew had done a great job conditioning the hole but we got the geophone in and as we got nearer and nearer the bottom, which as I recall was below, around 12,000 feet or deeper.

AK: Yes, I believe it.

JZ: We had a heck of a time getting energy down to it, the drilling along the road on each side of the well, we were drilling as deep as we could but it was almost solid sandstone there, had to use rock bits to get into it and the energy returns were poor at, the shallow levels were good, but as it got deeper and deeper they got worse and worse. And of course everybody really wanted a shot on the bottom of the hole. So when we got to the bottom, I got a little worried and talked to Malcolm and Arnie, and I said, well, I think we better skip several hundred feet of this horizon shooting and get right to the bottom and try to get a shot before something happens to the geophone down there and make sure we can get it back out. So we got right on bottom and we took a couple of shots of 25 pounds and we were 600 feet from the well with the shot points and there were drilled about 25 or 30 or 40 feet apart. The, I think we had five or six holes drilled and pre-loaded and we'd load one while we shot another.

But, anyway, finally Malcolm Reese came back down to where we were shooting and he said, we're just not getting energy, I want to load all the powder you can get the hole, put in 350 pounds if you can.

AK: Now was this a Heiland recording truck or a Carter?

JZ: No, Heiland, it was Heiland's truck.

AK: Yeah. But Carter didn't have any equipment in there.

JZ: They didn't have anything in there.

AK: Except Malcolm.

JZ: Schlumberger was there.

AK: They were running the geophone.

JZ: That's right. They had the phone...

AK: And I should mention in here Carter was a wholly-owned research subsidiary of Standard, New Jersey, which in turn was a wholly-owned connection with Imperial. So Carter was always used in those early days before Imperial got its own crews.

JZ: In any event, we put, if I recall we put almost 200 pounds of powder in that hole and it, I was pretty scared of that, thinking it might just give enough of a shake to give us a lot of trouble in the hole. But anyway, when we shot the hole I, somewhere have a black and white picture of it, there was so much powder in the hole that in this fractured sandstone. we were shooting in, the next three holes on the line all blew at the same time, the charge not only blew out the hole it was in, it blew water out of the other three holes. We'd kept them full of water to tamp and we lost all the water out of all the holes on that one shot, so... Then we did keep the geophone without trouble. We started coming back up the hole and picked up a couple of the horizons above the bottom of the hole and the end result was that I do think that the final shot gave enough energy, enough of a break to give a good idea. By that time we were so deep that a little bit of air in the break wouldn't make much difference on the total velocity the bottom of the hole, so...

AK: And the hole was full of Might anyways,.

JZ: Right, oh, yeah. So we got the phone back, everything went well. Usually the procedure is you go to the bottom of the hole and shoot first but for some reason on this, and I think we started to do that and then started to shoot a few horizons on the way down just in case we couldn't get to the bottom and we wanted all the information we could get so it was generally agreed that we'd, you know, not go to the bottom and come up for fear we'd have trouble and not get anything. So we shot some tops on the way down.

[00:23:25] AK: So when did you get the word that you were to go up and do this confirmation shooting at Leduc.

JZ: Well, there was another job, quite a bit of time in between there, Aubrey, as I recall, coming out of Stolberg, we put all of the units on the flat cars and brought them back by rail, and I remember the great rush at the last minute because there was only a train every two or three days, and we just finished a shoot in time that, we held up the train as a matter of fact practically, to get everything on to get it out of there. Well, then it was spring break, by then the road bans were in effect, you couldn't do much of anything north of Calgary. So we went into Calgary for time off and implement and truck repairs and general cleaning everything up. And in the meantime Henry had picked up a short job with, on the Royalite that...

AK: Yeah that you'd mentioned...

JZ: In Turner Valley. And we were out there as I recall a couple of weeks drilling and shooting and using a small D2 to move the trucks and it was very, very muddy. And then we came back in to Calgary and by then, although the road bans were off south of Calgary, road bans were still in effect north of Calgary so it would be some time, I would guess at least in April, late April perhaps, that we, I don't have any records or any other recollection of that, but we did move up to, we were given an assignment to shoot over the reconnaissance pattern that had been shot the year before by Carter Imperial, and we decided on Ma-Me-O Beach is the closest point for the part of the program. There was a program east and south of the, what turned out to be the location, they'd assigned some right in there. So I moved to Ma-Me-O

Beach, there was lots of housing available. This is one reason I know it was fairly early because everybody found summer cabins there that they could rent. And so we established, Herbie Schmidt had just built a new store and replaced his old country store there at the beach, and we rented an office from him for interpretive work and I rented a summer cabin for the summer, I thought, turned out to be a winter cabin too. But in any event we started that program as soon as conditions permitted. We had a lot of early rain that year too, late spring rains, conditions in the field were pretty terrible. There weren't that many gravel roads, there were a lot of trails but they didn't go anywhere.

AK: Well, they were just road allowances and some of them even hadn't been cut out, some of the road allowances were grown over with trees weren't they?

JZ: Yeah. So a lot of the times we...

AK: Just couldn't even find...did you find, well you mentioned about the surveying bust but apart from that did you find it difficult to get your corners where you could get your pins to find your survey monuments?

JZ: It was almost impossible. There were hardly any survey monuments in the area that we could find, it was muddy and a lot of undergrowth. That's a very lush countryside up there. You could find markers of from Ma-Me-O Beach toward Wetaskiwin could find markers to tie and but we were basically tying with the old Imperial shot points, which had elevations, we'd been furnished with a list of elevations on the old Imperial shot holes which you can find in the spoil in the ditch where the holes were drilled along the side of the road.

AK: And then when you started this assignment from whom did you get your orders?

J: I think, I had met Ray Walters in the meantime, and I don't recall, I think there was a meeting between Ray and Metzger and I to discuss the program and also to discuss Carter's previous program, although we were not told at that time that they had found an anomaly, it just, the definition was that the general purpose of our program was to detail their program and to tie their one mile apart shot holes together with quarter mile spreads. So that was our understanding. We were not informed that they had turned up with one or two anomalous shot points or anything like that. It would just, we did a reconnaissance now we want a detailed pattern over this was the way Ray explained it and give us all the maps and all the things we needed like elevations and all of the help they could in the office that we needed to get started.

So after we moved up and got in the field and I'm sure that George Graham was a surveyor then and Gibson was also a surveyor, but he was also a permit and party manager. We needed Gordon more time than he could spare for surveying so I'm sure the George Graham was assigned to us at that time. Gordon had been able to keep up down here although I don't think Graham was surveying down here as I best remember.

AK: Is Gordon Gibson still alive?

JZ: I'm not sure the last I heard of Gordon, he was hired away from us by Mobil, and Mobil gave him a lot of training in the Calgary office and then they sent him to Paris to represent them in Paris. He was a college graduate. He was a very sharp guy. A strange thing that happened before, that the only thing he

couldn't do with balance his bank account. There's just no way he could make a bank account balance. So I took over that duty for him and helped him balance a bank account each month and reconcile it, because he handled Heiland's money on the crew There wasn't any problem...

AK: Did you did you pay the men out in the field in cash?

JZ: No, I think their cheques came up from Calgary at that point. I don't really remember. They never complained about not being paid. My cheque came up from Calgary because it was in U.S. funds. I my kept a U.S. account all the time.

AK: So as this shooting progressed, when was it that you first set up side by side with the Carter truck, to...?

JZ: As I recall, it was fairly early in the prospect. It seems to me we had, as I best remember we had done some shooting before that and of course, they didn't need to send anything. There was no big turmoil about them coming because all I did was send the truck. They tied into our phones and shot our shot holes. All we needed was a truck and two men to do the checking.

AK: The truck was probably somewhere nearby anyway.

JZ: I think so and all they were doing was checking our instruments against ours to make sure that the work we did was, shall I say compatible with the records they had shot on the reconnaissance survey.

AK: Now, you were saying that your instrumentation was quite a bit more advanced than their...

JZ: My feeling, and of course, I don't think Carter would admit to that but I think that the little squib in Roberts' letter in which refers to Frank Spraggins taking amplifiers back to Tulsa to get them to get another stage of amplification put in was one of the things that Keg Smith told me was happening in the field, and comparing the two sets of records the carbon estimates were not getting as much early amplitude and late amplitude on the deep section as the Heiland instruments were. Heiland had this automatic gain control system on his which he called a compounder which was simply a system that compressed the early waves so you can shoot a big charge and then the early waves after one second it tapered down in steps to amplify, increase the amplification as reflections got deeper. It was an instantaneous response type of gain control and set it to come in at various levels, and by holding down the amplitudes which everybody does now of course, state-of-the-art and has for years. Now suppress the original waves to hit them on the paper and then up, have the game control increasing as the as the reflections come in to give you as much amplitude as you can get on...

AK: So to put it in layman's language, you were getting to too large a swing on your oscillogram.

JZ: At first.

AK: At first and you'd damp that.

JZ: Yes, it was a ...

AK: A form of damping?

JZ: It was an attenuator that worked on the process that each successive reflection was damped less so that your full amplification of a hundred percent was reached out at the end. You might only be using, you could set them at the thing for say 20 percent at first and 30 at one second and so on down the line, but simply an automatic gain control.

AK: But you were getting, you were getting the same, you were picking up the same reflectors as...

JZ: As I recall between the, between the first breaks and reflection there was a tiny lag in our instruments. So ??? the best as I recall ??? and we were showing a little bit later arrival on some of the reflections in the Imperial set. By later, I mean a few milliseconds...

AK: But that lag was uniform, all your shooting. So it really didn't affect the total analysis of the structure. Everything was just moved on a millisecond or two.

JZ: Yeah, maybe 6 or 8 milliseconds, but that would not matter on the whole prospect as long as you left your filter settings the same because you understand that you have filters to a low, what they call a low-frequency bypass on the high frequency bypass and you record in between these in order to screen up some of the unwanted noise, and lows uses these filter settings on the amplifiers. And by increasing our low pass filter setting to a higher frequency, we could move our reflections back toward the shot point, the break, the first break. So it moved back a little bit that way and this is what Heiland did in order to compensate for this little bit of lag we had in there. I think they changed, I think Keg change the filters a little bit.

AK: Well six to eight milliseconds would mean how many feet?

JZ: About 30 feet of depth.

AK: Yeah, but everything was just moved down but...

JZ: That's right.

[00:35:33] AK: Now as you as you worked away you were carrying your maps at the same time in your Ma-Me-O Beach office.

JZ: That's right. What we did, I had one computer, one man, technician working with me all the time. We would time the records and compute all the time breaks and compute the up holes and check the velocities to be sure we were, the shot holes were deep enough to get a proper reflection there because if the shot holes were too shallow, you get nothing but weathering velocity, and we wanted to be sure they were deep enough and the spreads long enough. So we plotted all the breaks then we plotted all the reflections on a cross section including all random reflections. They were all marked and plotted by hand on cross-section paper and all of the, we went so far as to make end traced ties on all of the reflections that were uniform and would carry all these...

AK: These were 12 trace...

JZ: On each side, 24 traces.

AK: 24 traces, 12 on... and each of these geophones would be spread out how many feet apart?

J: They were 110 feet apart as I remember ??? per mile.

AK: Right, but there was no overlap. You'd shoot up to a point and then you'd pick the whole spread up.

JZ: That's right...

AK: And then start there, but there was no overlap...

JZ: On the subsurface-wise, it was called 100 percent shooting ??? trace on one set of subsurface data, met the end trace on the next set of subsurface data on the cross section, as I say we went so far as to compute the tie times on the end traces to draw the cross sections.

AK: So, necessary corrections...

JZ: Unless they match perfectly, if they match so that the character was the same and the breaks all look the same, sometimes we didn't bother to end trace the tie but in most cases if there was any doubt in my mind that they weren't tying we did end trace ties on them.

AK: When did you first notice that you were starting to see an anomaly?

JZ: Well in some of the longer cross-sections it was apparent that the shallow section was turning over and of course having had experience on all the salt domes and looking for fault, I began to notice that right away that if you shot one long line and you printed my three mile line and see that that you were getting a down-dip on the on the shallow beds and that the lower beds were dipping a little bit more if there were any random reflections down there, you began to suspect you were on a flank of a structure enough to say that we had one great long cross section that went across the whole feature, I don't think you could say that but you tied all these cross sections together and of course looking for dip on the south side, you'd notice it right away. So the next line you had to the north, and also we were plotting the map. So we plotted the maps in time, we did not at that point assume reflection velocities and plot them in depth, that little map you have is done in depth, but they're ??? on the shock points. So, although ??? the map we came up with, ours was plotted in terms of time only, one point something second.

AK: And all during this period Imperial were getting the records and they were working them up too.

JZ: No, from time to time to time they did but basically they checked our map and depended on our map to...

AK: Oh, they didn't sit down? I thought Carl Chapman had done an interpretation.

JZ: Now, I don't remember that. I remember that we were putting packages on the bus for Imperial and we were sending in cross sections from time to time. So it may be that Carl was, I didn't know about it if they were...

AK: Well of course they, that was part of the, kept it quiet sort of thing.

JZ: Great secrecy. But when we began to shoot on the north and east sides of what turned out finally to be the reef. [tape cuts] Thus the dips except we were worried that we were not getting as much dip as we would have liked on the east side and what we couldn't decide then was whether to do the velocity changes or go back over the records and they plotted out the same way, but on the north and east both we would have liked to have seen a little more ???

AK: Yeah, well as that map shows there was very little shooting over there, so...

JZ: There wasn't much we could up there, it was just bush, without cutting trails and bulldozing.

AK: So sometime on in the fall, then, you got a hurry up call to from Ray Walters, and you were at Ma-Me-O Beach still...

JZ: It was very nice of him because they wanted to have a meeting and would I please bring in my own... oh shoot, my microphone's laying in my lap, I hope it's recording....

AK: Now just to explain, our friend Ray Walters had come up sometime, either 1945 and '46 and I don't know why he was sent up. I guess they felt they needed a geophysicist in Canada. And alongside of him was Jack Webb who was the exploration manager and I believe Jack Webb at that time still had the reins but I think the reins were taken away from him and that's why Jack later on left, but that's another story. But tell me a little bit about Ray and his personality and what you thought of him.

JZ: Well Ray and I got along well enough, but he was quite officious and I didn't ever have an argument with him or anything like that. But in this case for instance, it was just an order to bring the maps up, like be here tomorrow and have your maps with you and we're going to look at the possibility of a location because we've got a drilling rig we want to move, that was the kind of an introduction I got, and I knew him well enough, I think at that point to argue a little bit and I said, well Ray, the maps aren't very pretty really, does it have to be this fast or can I have a day or so to clean them up? And his answer was no, he said, I need you here tomorrow afternoon for a meeting and we've got the meeting all set up so it doesn't matter too much about the cosmetics of your maps and cross sections. We've, we'd like to see just what you've got and right up to date. So drive on in tomorrow and we'll have a meeting and don't worry about the maps. I'll have them cleaned up here later on. So I took the maps and I went back to the office that night and worked on the maps a couple of hours and erased smudges and straightened out contour lines, and General had tried to make them presentable because I had met Jack Webb once before and he was a fine gentleman, but I wanted to make the best impression I could of course.

AK: Well certainly.

JZ: And I took all the records...

AK: So you worked directly with Imperial then, you didn't go through Medzger for this exercise.

JZ: Not on this meeting at all. I notified Henry I was in town, but I didn't bother to phone him from Ma-Me-O to tell him I was gonna be in town.

AK: Okay, I think we're just about at the end of this tape and I don't like to interrupt it so this is the end of side two tape one.



**Tape 2 Side 1 – 30:00**

AK: Okay. So this is tape 2, side 1, continuing with Jim Ziegler's interview. And we've got you down into Calgary at this meeting in the Imperial Oil office. Now you remember that was on 2nd Street, 606 2nd Street?

JZ: Yeah.

AK: Was there was there any sign at all or any indication of Link, Ted Link being around?

JZ: No, Ted wasn't there. I'm pretty sure of that at this point. I got to know Ted very, very well...

AK: I think he was in Toronto.

JZ: I think so and the only other person that might have been there and it kind of bugs me a little, I believe Doug Lair was at the meeting.

AK: Well, it could very well have been.

JZ: I think he was and they were very complimentary about the state of the work, not the draftsmanship, but they were very complimentary about the fact that the map was up to date and that the records were, they were happy with everything and...

AK: Were their eyes lighting up and, or do you remember that, was there an air of excitement or an air of anticipation or anything?

JZ: I think, I wouldn't, I wouldn't really say that. I think the thing that impressed me the most was it, I felt of course quite out of place with all these Imperial people if you know what I mean, especially the officious Mr. Walters, he tried to carry the whole meeting but Jack Webb succeeded in carrying the meeting pretty well, but I was very flattered in that they asked me where they should drill a well. They had already told me they had a rig loose, on the phone the day before and Jack Webb said to me, well Jim, you've done this work, about on this feature that you're showing us, where would you position the well, just out of curiosity kind of a thing, you know. Of course, I put my finger on the high point which, I said, well it would have to be somewhere here, dips are a little weaker on that side. So I might move it a little ways over this way toward the better dips. But as I say, considering myself quite an underling of all these high-powered people in this great company, I was a little flattered that I was even taken into their consultation to the point that the well was discussed. I, this was opposite to my usual feeling of secrecy within the company that we're not going to talk about these things with anybody outside of you know, ourselves, but that's the way it happened as I best recall my map. Now they sent me, they kept the map and they marked in pencil, pretty well coinciding with what I had said where they thought they would drill. Now I understood later that it was not on the Reservation they held so there was a lot of internal argument over that, I heard that later...

AK: Well, they had the land position tightened up. There was no question to that. They had completed their land acquisition in July of that year so I can assure you that their Crown land position was very good. But at the same time as they were getting ready to drill this hole they were out scrambling to get

the freehold parcels that they were working. Now they weren't working on those. They had a crew of doing that. You probably wouldn't know about that.

JZ: We didn't know about that.

AK: No, no, everything was kept separate, but now they drilled on Crown land. It was a Reservation that they had and there's a whole story behind that that you'll ultimately hear about, but they, that's where they spotted the hole.

JZ: Well in any event, we all pretty well agreed. I remember, I'm sure that Doug Lair was there and you would another one that said, yeah, right, right there and he put his finger on the general location, on what LSD?? or section line. We didn't, we were working with a map without section numbers.

AK: Did you ever hear them talk about a hinge line?

JZ: Never, no that was never mentioned.

AK: That was a concept, where the beds would start to break at a deeper, steeper depth. Okay, did they ever say anything at all about what they were, what the anomaly meant in terms of a structure.

JZ: No, they...

AK: Never heard the word reef.

JZ: Oh, no. No, I asked them directly what they thought we were mapping, thinking they had more information than I did. Perhaps another well, it turned out they had one at Bruderheim but, long long ways away and...

AK: Yeah, well the Bruderheim well the was the key to part in this.

JZ: Yeah. Anyway both Ray and Jack said no, they didn't really have any idea but whatever bed we were mapping was competent enough that they felt confident as I did that we were showing a feature with a fair amount of turnover in all directions except possibly the east side and that we were showing a channel coming up on the east side which was enough for them to locate a well on. They did mention to me that they were hoping this well would give us enough information to know what we could do in mapping, and enough velocity control to know where we were in the section, for instance whether or not there was Mississippi in there, whether it all disappeared, and this discussion came up and I think it was initiated by Lair after I asked this question - do you have any idea what we're mapping, so I can... the reason I asked that Aubrey, I said, I'd like to put a name on the map instead of just saying in the area of 1.2 seconds or whatever it was you know. What shall I call the map? What kind of a title do you want now? How do you want it drafted? And Ray's answer to that was, you don't need to worry about that. We're going to keep your map and we'll send you back a blue line or an oscillator, not ??? but some kind of a print of it so you can continue working because this was early in the game. We had a lot of program to shoot yet, a lot of assignment which carried well off of the feature you see. Over toward Battle Lake even, but he said I'll send you back, I want to keep the records and I want to keep the map and I'll get you back prints. And this they did. I can't remember, Aubrey, whether they sent me back prints or

whether they sent me back the original records after they'd worked them. I have an impression they sent me back prints because I don't think they'd want me to see their marks on the records.

AK: No, they, yeah...

JZ: They would want... to they did also have my cross-sections, but they were easy to print because they were on transparent cross-section paper, you know, not the film but the transparent paper that'll print.

AK: Then after that very, what I can see now is a very historic meeting, very historic, you then went back and resumed your work, and...

JZ: That's right, I think the meeting lasted perhaps an hour and a half or less than two hours and it was very congenial and we had coffee, they had coffee served. And for once I felt like part of the organization, for once I feel like well here I am really doing something for some people I now know.

AK: Well you were you were doing more than you ever thought.

JZ: I was very impressed with Jack Webb and also Doug Lair, I thought quite a bit of Doug, Ray was always standoffish and I just figured he was from Boston or somewhere in the East and they were all like that. I didn't know...

AK: Did you did you come into contact with Walker Taylor, who was the head ...

JZ: Once or twice? Yeah, he was a nice guy too I thought.

AK: And what about Vernon Taylor.

JZ: Yes, I met him but, casually again.

AK: Yeah, well they were in the upper echelon.

JZ: Yeah, I got to know them later on much better than I did, there were not at that meeting and I didn't know well...

AK: Yeah, well that wasn't their meeting. Then did they ever tell you, yes, we're going to spot the location here or as you said all you knew about was what you read in the papers.

JZ: No, no, about the well...

AK: Well yeah, but the location, did they come back and say yeah, we've used your...

JZ: Ray Walters phoned me and he said we're going to spot the well right in the vicinity of your location. That's what he told me on the phone. And I think that, we were transmitting, Herbie ??? was also the bus stop. We were transmitting things back and forth between Imperial and myself through the bus stop, and it was simple for me, but they had to go to the bus depot to pick them up. But whenever they sent me anything they phoned me to make sure I would be looking for it and pick it up to be sure that the bus didn't take it on to Wetaskiwin, or...

AK: Well that was very important, if they'd lost that stuff and then falling into the wrong hands.

JZ: Yeah. Well anyway, they, Ray phoned me later on to tell me that, he was quite cordial at this point, I think the meeting with Webb and with Lair had made a difference in his feeling toward me too. I guess maybe he felt at that point. I might just be competent enough to carry on. But anyway, he phoned me to tell me that the maps and the records were on the way back on the bus and that, thanked me for, courteously, for coming to the meeting and he said we're going drill your location. He didn't say when or any more than that. And of course your location could be anywhere within the mile, I'm sure because that was a broad feature.

AK: Well as it turned out anywhere within a mile would have been like shooting fish in a rain barrel. It was there.

JZ: Yeah, that's right.

AK: You weren't near the edge of anything. Well, but anyway, then as the well was drilling we heard about it, but it was a very roundabout way to go from where we were at that pointer on the back roads up to the well, and I went out a couple of times to look at the drilling but they're pretty secretive and nobody would talk to you, you know, you go in there as a country boy and there's all this machinery going and everybody running around with hard hats on and the first big sign says Hard Hat Area and all this. You didn't go up on there and knock on anybody's door and bother them, you just kind of stood around to see what they were doing and how deep they might be in the hole counting the drill stem or something you know. so but I didn't ever get any more information, Medzger, I'm sure was keeping up on it because he didn't say much about it, except he understood, I had gone to the Heiland's office after the meeting and I guess I was a little bit blown up over the fact I'd met with all these people, and it was successful, and I told him how well it went and he said well, that's just great, I'll kind of keep track of what's going on. So he must have called Ray right away and probably took him to dinner or lunch or something and got briefs.

AK: Yeah, so did you go up on February the 13th, 1947 when the well actually was officially brought into production?

JZ: No, no, we heard about it. The papers came in every day on the, from Edmonton on the bus too and we read about it in the paper and read all of the details and we were quite elated over the fact that was a discovery there.

AK: Did you have anything to do with the velocity shoot there?

JZ: Not a thing. I didn't even know that went on. There was another thing Aubrey, that is mentioned, and can I mention Frank Robert's letter?

AK: Oh, certainly. I want you to comment on that, please.

JZ: Well, one of the comments I would make, two comments, I would make on the letter, one was that Spraggins as I say rushed their instruments back to Tulsa and tried to get them more amplitude, more, a higher degree of amplification, which means to me that what I said earlier was not only what I thought or Keg Smith thought it's what Carter thought too. And the other thing I would mention in his letter, he

mentions them sending a crew back in there to shoot a cross over the top of that feature. Well, if that ever happened it was highly secretive too because we weren't constant, Keg Smith was in Wetaskiwin with a crew and he was our chief instrument man, and in that letter Frank mentions that they did this before the well was drilled. Well, if that was true it was during the time I was there and I was quite surprised to read that in his letter because I don't recall anybody, and as you can appreciate there were not that many people around, you were talking to everybody all the time practically. I was in Wetaskiwin about two or three times a week to pick things up or to see Keg or something, and I never heard a word about another crew in there. So I guess if they did shoot the short line, they must have sent shot holes in and drilled and pre-loaded holes and then slipped the crew in and out under cover of darkness or something because we didn't ever know it. We didn't know there were the crew in the country, beside us and Keg's crew.

AK: Do you, we talked a little bit last night about Paul Lyons, did you recall him having reworked the records?

JZ: No, not at all. I was never told that I don't think Imperial ever mentioned that...

AK: Well that would be their privy information. They weren't going to tell you everything.

JZ: I don't, yeah, I don't know if they came to Calgary to do that or whether they shipped everything to Tulsa or, I didn't know that until you told me, as a matter of fact that he had reworked the records. I wouldn't understand why they would have him do it because he's a competent man, but certainly no more competent than your own people were in your own office right there, then, you know, particularly Carl Chapman and those people.

AK: Yes, did you have much to do with Carl in those days?

JZ: No.

AK: Not till later on. I don't think I even met Carl in those days. I seemed to be kind of screened off of that department all together.

[00:15:34] AK: Yes. Well this this business that Roberts, I should put on the record here that Frank Roberts wrote Aubrey Kerr a letter, dated August the 2nd 1989 in reply to Aubrey's letter dated July the 24th where he asked several questions. And there's this point that Roberts mentions about having their own Carter or Imperial I guess it was Imperial crew by then, going back in to shoot a cross over a crest but you know, the, that little geophysical map doesn't show any indication of another line.

JZ: Well, you see though, that map is dated October 15th or something like that, the map you have, and they could have added fault points on another map which we don't know about but as I say, for instance dynamite salesmen. We saw them all the time when we compared powder up in Wetaskiwin, and normally they would mention if there was another crew in the country and, as I say, if they went in and shot, that it was probably only a two-day job or something like that, but we didn't know about it.

AK: Well, you see the well was sputtered?? as I said November the 20th. So the map was probably the end product of what you had given them and possibly some stuff that maybe Paul Lyons, because Paul

Lyons talked about his recollection of the structure being open to the east, well that could be possible because of the poor control on the east side, there were very few lines in there.

JZ: I think we had one open-ended line out there that gave you one low point which, one or two low points which gave you the drape over the east side and nothing, nothing to contour further than that you had to assume everything else.

AK: So after the well came in your contacts with Leduc and Heiland shooting over it, that was finished was it? Or did you continue to shoot over...

JZ: No, we continued our shooting even after the 13th because we were caught on there just about, there was an early breakup that year. It came early in March and it was not a normal break up at all. It was an awful breakup because I remember we had been asked to move into Edmonton with the crew, and this is probably early in March before the normal 15th breakup, and I took the car and moved some things into Edmonton and found the place to live and I was there about two days. We were getting ready to move out to Seba Beach on another Imperial Oil job and I drove back down one evening to go to the cabin and get some more things out of it, suitcases and so on and I couldn't get within two blocks of it, the snow was packed on the road to where it was about eight or ten inches deep and when the bottom went out it went right back to the muddy road and the car, the Buick just sank right down and I could feel, I tell right away I wasn't going to get there.

AK: It would take the bottom out of that car...

JZ: Yeah, I thought right then and there, and I walked to the cabin and made four or five trips to carry everything back to the car. Then I backed up to where I could get to a corner, I could turn around because I could, but that's how fast the breakup was, just in a couple of days the whole bottom went out, and I remember that, they had a bad time at the well too didn't they, on the breakup?

AK: Oh, yeah, they...

JZ: So that, our contacts after the well came in were very, of course everybody in the Imperial was too excited to do much else except throw a bunch more program on maps and get people shooting.

AK: Now at that time, did Heiland get requested to line up some more crews and bring up some more equipment from the States.

JZ: If they did I didn't know it. I didn't hear about that from Medzger, I was...

AK: You were out at Seba Beach.

JZ: Yeah, I was. It seems to me Aubrey, I'm not really sure but it seems to me we had an office in Edmonton for a very short time and would shoot a little bit of program west of Edmonton, and again got into gravel digging and I think it's where a couple of reefs were later just out there. But then we moved on to Seba Beach, that was the next large assignment for Imperial was out at Seba Beach., right?

[00:20:29] Right. Okay. We haven't mentioned the names of the people that were on this crew. You had a fella named Norman Jones?

JZ: Norman Jones was...

AK: Was the rodman?

JZ: He was the rodman originally...

AK: But then he'd, you set him up had you?

JZ: Actually I had a computer working with me on the crew by name of Marty Dous, who stayed in the business, but he was a new college graduate and he wanted to get ahead instantly and we, he was a very capable guy too...

AK: Well he went on, you know he's selling real estate now.

JZ: Is that what he's doing?

AK: I think so. Well, he was with them at 69, book?? he was with another exploration company, another seismic company, but I ran into trouble with Marty right away because he wanted to come to Calgary and paint his house, and it was just at a time we were finishing up some data and I said, well, I really can't spare you this weekend Marty, we're going to take next weekend off if you can put it off a week. And pretty soon. I couldn't find him and I went to the bus depot and up to Herbie's store and they said yeah, we saw him get on the bus. He went to Calgary. And I said well, that's too bad. So I got Norm Jones from the rod crew and started to train him right away. And when Marty came back, I said, well, Marty, I guess this is where we have to kind of part company. And he said well I already decided that, I took most of my stuff into town. I just want to go to the office and get my cheque down there and I'll do something else. And I said well fine. And I hated to lose him because I, he was a well-trained man at that point.

AK: Who else was there on your crew that you remember?

JZ: I'm sure that George Graham was a surveyor and I know he was later at Seba Beach, but I'm sure he was the one that was doing the surveying on the crew. He passed away later and under very tragic circumstances, which I won't go into.

AK: No, okay.

JZ: Gordon Gibson was the party manager and I can't for the life of me recall the observer's name. I've been studying over that one for quite a while and I can't remember who was the observer on the crew.

AK: Right.

JZ: I remember we did have occasional visits from Keg Smith, Heiland's instrument man, to check the instruments as we went along, it was close by so we saw him perhaps every two weeks. He'd come out and go out to the field.

[00:23:11] AK: So we're moving into the other stage of your career up in Canada. You gradually took over more and more responsibility with Heiland. Did you replace Medzger?

JZ: No, not at all. As a matter of fact, the opposite actually happened, Aubrey. He, I heard less and less from Henry because he had learned I could run a crew but in theory I was to be a supervisor but it didn't ever develop because they were never able to get out enough crews to really need... they never had a supervisor outside of Keg Smith, and no one to supervise interpretation. So when I moved to Seba Beach during the fall, early fall of that year we were shooting program for Imperial and doing really well at it, things had brightened up and the digging was not so bad and there were more roads and all that. But anyway, I had a call from Kenneth Byrd with Geophysical Services. I had known Ken when I was on the Gulf Coast and he wanted to know if I wasn't, jokingly, if I wasn't a little bit sick of being in the field and I said, well Ken, I kind of love it, I get to hunt and fish and it's kind of an outdoor life I like, but I admit I'd like to find a fixed pasture and he said well, we've got a job open in Calgary and we'd like you to go down and meet with Charlie Moore and I'll fly up and we'll have a meeting, because he said you have certain capabilities, we'd like to have with the company which of course was sheer flattery.

But anyway, he flew up and I drove down on the weekend and we met and it turned out what they had, they had a job inside of California Standard's office and they were looking for an interpreter and a geophysicist to work for California Standard because they had no one here. Francis Hale was not here yet, and they had some special projects they wanted to do and they had gone to GSI, and GSI said rather than saying, we know a man you can hire, which I'm glad they didn't, they said well, we'll find someone for you. So it ended up that I gave Heiland notice and I was replaced by one of their other party chiefs, and I moved on to Calgary and bought a house up on the North Hill for \$6,000, a brand-new one, two-bedroom bungalow, and I went to work for GSI in the California Standard's office, and this was in the fall, and during the spring my, I was assigned the job of, it was quite late in the fall, I guess when I went down there. But anyway, when the convention came up in the late fall and all the geophysical people were out of town including Charlie Moore, who was...

AK: That was the SEG convention..

JZ: SEG convention, it was either in Houston or Dallas that year. John Galloway called me in his office one day and he said Jim, oh I might add, at this point in time I was analyzing all the velocity control they had in Alberta and making maps of velocities and so on and all of their confidential data. And he called me in his office and he said well Jim, we'd, we are kind of looking at this GSI deal and we don't mind paying GSI, but he said we would far prefer it if you just came to work for us, you're handling highly confidential data and we'd like you to go to work for us. And I said well, Mr. Galloway, I don't really want to do that. I appreciate what you're saying, it is confidential information alright, but I'd like to wait till Charlie Moore gets back from down there and talk to him about it. And he said, well, we're really not willing to wait but I've, I'll prepare a contract and I'll show it to you tomorrow. So the next day I was called to his office again, he had a contract there in which I would continue working for GSI but handling all of their material, but I would not work anywhere else in the province of Alberta for three years after I left their office. And of course that made me a little mad, I said to John, well I really don't think you can do this John, you're really interfering with my career when you tell me that after I leave here, and I could be told to leave tomorrow, I'd have to leave Alberta to continue working and I'm not willing to sign that. So about two days later Charlie Moore got back and I explained this all to him and he said well, you know a funny thing Ken Byrd mentioned to me down there that he thought that was going to happen, and he asked me, Charlie said, and I said to him, what do you think will happen, Ken? And Ken says, I think you'll tell him to go to hell. I don't think he'll sign any contract or go to work for him, either one.

AK: So that was the end of your career with...



JZ: That was... by the time, when I refused to sign the contract, why, they took away all their velocity data, locked it up again and put me on something else. So at about the same time, I had a call very shortly after that, I had a call from Jack Handley in Tulsa and they'd gotten wind of me and they had a man up here supervising there, they had four crews running, and they had a man supervising them that was not quite satisfactory and they wanted to replace him, he was leaving for the States.

AK: Now this was Century?

JZ: Century.

AK: Century was another company similar to Heiland and GSI?

JZ: That's right, only they had built their own instruments. They had state-of-the-art instruments, a big lab, they were building sedilometers, had a manufacturing division, and they had a worldwide set-up, it was doing pretty well all over.

AK: Well. I think we're going to have to turn the tape over. This tape's really going fast. We're getting a lot of good stuff.

#### **Tape 2 Side 2 – 27:00**

AK: This is side 2 tape 2. Now the Century outfit that I understand had an office at 215A 8th Avenue Southeast.

JZ: Yeah, that was near the old Post Office.

AK: Yeah, that was right in there between the Burns Building.

JZ: It was up over a Chinese Cafe as a matter of fact.

AK: Right, and you agreed to go with them in what capacity .

JZ: Well actually I became Vice President of Canadian operations after about six months. I came in as manager of Canadian operations.

AK: And then you reported direct to Tulsa?

JZ: Directly to Tulsa, made trips back and forth quite often and Jack Handley and Opie Dimmick made trips up here.

AK: Yeah. Well, I've got Opie Dimmick here. What was he doing?

JZ: He was the president of the company. He had started the manufacturing division and also he had worked in the field for Carter. He had been a Carter man. And Jack Handley,, he was a brilliant kind of a guy, he'd come in as chief geophysicist and later became vice president. And he was a chap I worked for.

AK: White D.R. Whikurt?

JZ: Whikurt, he was a supervisor of implementation in Tulsa.

AK: Jack Quinn.

JZ: Jack Quinn was a party manager up here and I had to finally let him go, he hit the bottle pretty heavy and with everything...

AK: That was a common complaint right through the whole industry.

JZ: It still is. The guy that I replaced at Century had the same problem but he went to South America and dried up and the last time I saw him was in Denver and he hadn't had a drink for 20 years.

AK: So how many parties did you have out?

JZ: We had four to start and by the time I left we had nine parties working. That was between 19... let's see. I guess...

AK: It was around '51 or '52.

JZ: Yeah. I joined Century in 1948, I guess...

AK: Must have been that early...

JZ: I was with them a little over five years and when I left there to go to Petrofina in 1954.

AK: Yeah, it looked like around '54 and if you'd left to go to Petrofina.

JZ: Yeah, I became their chief geophysicist in 1954. There were only 30 people in the whole... it was then called Canadian Fina.

AK: That's right. Can we go back to the story about Pete Vediz, now that's spelled V-E-V-I-Z, and incidentally, I believe we have interviewed Pete but he is listed in 1952-53 with you in charge and Pete as chief geophysicist with Century. Now tell me the story about how Pete came to go to work. Now Pete is a Turk by...

JZ: That's right.

AK: Was he born in Turkey?

JZ: Yes. In fact, he came over here from Turkey go to Colorado School of Mines and he was in the class with me there. I know him quite well. Since I took eight years to go through Colorado School of Mines, I got to know a lot of people that were in my class because I was in each one about two years. But anyway Pete was looking for a job, he ended up back in Golden in 19, I guess about '52 and he phoned me from Golden. Now Ben Romerfield at that time was there in '52, I think he would associated with Century too as vice president, and then I'd heard that people was looking for a job. So I called Ben after I talked to Pete and said, Ben, I'd like to bring Pete up to Canada. I said, I've got nine crews and I just can't cover all the crews and all the paperwork and he agreed that it would be a real good idea.

So then when I left Century in 1954 to join the Canadian Fina, Pete Vediz replaced me as...

AK: Yeah, he took over, and in that period you had moved from 8th Avenue over to the Examiner Building. on 5th Street, Room 223, Examiner Building and that was just south between 8th Avenue and 9th Avenue.

JZ: That's right.

AK: Across from the, well not, the liquor store wasn't there then but, there was the old building and Harold Stevens had an office right near you.

JZ: Yeah, funny little story connected with that too. Before that particular time, Century were talking about building a building here. They'd built a very fancy manufacturing plant building in Tulsa, and we would have been able to buy the lot for \$25,000 right there on 8th Avenue, believe it or not.

AK: You mean the...

JZ: In Calgary.

AK: Where the Chinese cafe was?

JZ: Yeah, and I had called Opie and talked to him about it, and he said well, we just don't want to venture into Canada with building money, but couldn't imagine buying a lot on, right in that area, a 50-foot lot for \$25,000 or something like, some ridiculous price.

AK: There were two other names, Ernie Pallister, and a fellow named Tardozki.

JZ: Well Pallister, he worked with us for a very very short time and then he went on to start his own group.

AK: Yeah, that's true.

JZ: Tardozki, I got him into the country along with a fellow named Zaretzki. They were both Polish and they couldn't get in the country without a letter of employment. So I furnished them both with a letter of employment, Zaretzki worked for me as an interpreter and he was a real sharp guy, and both of them, both Zaretzki and Tardozki worked for me for me for several months. And then of course they were moving on to better pastures and Zaretzki went down to the Woods Oceanographic Institute. And Tardozki of course ended up over Pacific. He left and he went to Pacific. And now he is at Petrofina, the last I heard. No, is it? Yeah, I believe he is, or was, in the last couple of years.

AK: Well now the other matter of Interest was that after you'd gone to Fina, the Century moved to 1105 7th Avenue Southwest. Now, that was I think, you built that building didn't you?

JZ: They moved out to a building way down on South Macleod Trail later.

AK: No, but this was 7th Avenue Southwest and that's the building I remember, because I think I went over and I don't know whether you'd left, had left or not left.

JZ: I don't remember that very well either, Aubrey.

[00:07:37] AK: Well, it's something to do, but let's go on to how you and Fina got together. Can you explain how you got that job?

JZ: They were looking for a geophysicist, they didn't have one and I heard about it and matter of fact I was in Denver when I heard about it, and I phoned and I'd been down there on a short trip short, actually. I was looking at a job in Denver at the time with the group BNL Drilling Company. They wanted a supervisor and I thought well, I'd like to get into the drilling end once, and I went down and through a shirttail relative and talked to them, but they didn't have any money and nothing, no future.

AK: No prospects.

JZ: That was the Denver Julesburg Basin and they had a rig tied up, didn't have enough money to repair the engine on the damn thing. I came back up and went to see Clemis, and they hired me, and I had an offer from them and from another company right at the same time. I've forgotten now, who even the other company was. But in between I might have had something else. Do you remember Walter Wilson, the vice president of Sinclair?

AK: Oh, yes, the fellow that always wore the hat.

JZ: Yeah. Well Walter was a very very good friend of mine, and his good friend Fred from City Service, what was his last name... Anyway Walter wanted to hire me as a chief geologist for Sinclair in Egypt and this was all laid on, I mean salaries and everything were set out for me to go to Egypt, and this is one of the reasons I was a little loose at Century at that point. And it was well run and running well, so I felt I could leave. And this thing in Egypt carried on for about three weeks and it turned out that another consortium out of Tulsa got the concession that Sinclair was supposed to get, so that's when I went to Denver and looked at this PNL thing. And then anyway, when I came back, why, I went to work for Fina, Petrofina, I can't recall who the other company was, both were looking for chief geophysicists. There was only Bill Clements and Ted Ball and Trajan Nitescu, and Erik Bland, no he hadn't come yet as landman. Rod Morris was a geologist too, and myself, so that the staff the total staff was only 30 people.

AK: Now that that was before Western Leaseholds moved in, and Fina bought Western Leaseholds out.

JZ: Well, they bought Kalvan out.

AK: That's it, Kalvan Consolidated, that was Max Bell's outfit.

JZ: Yeah. So at one point after going in there with just a few people and really enjoying myself and being at all of the operational meetings every Tuesday with all these people I just mentioned, why, it ended up that all of a sudden we had two exploration managers. They couldn't make up their mind. They had both Farmlough?? and Clemis because they inherited the Western Leaseholds.

AK: That's right, Farmlough had come over with Western Leaseholds...

JZ: Well the next thing, you know, we then had three, because then Max Caplan came from Kalvan.

AK: Oh, yeah, that's where he came from.

JZ: We ended up at one point, I was chief geophysicist and assistant exploration manager, and one Clemis was away, I handled the affairs money was there he did, and we weren't doing, we were, during this period, it was very interesting, we shot Wildcat Hills. I was allowed them to hire a staff and with the geological leads, we shot Wildcat Hills and with a format system from Imperial, we got help on it and we drilled a Discovery Well out there so...

AK: Well that was kind of a...

JZ: Found one thing.

AK: But during that time with Fina wasn't there quite a number of connections with Great Plains, with Nick Nichols.

JZ: Yes. Yes, there was.

AK: I think Nick, you see Nick and Trajan were very good friends.

JZ: Well also with Canadian Superior, we were ???

AK: Well of course, that was where Nick used to work, with Canadian Superior.

JZ: Yeah.

AK: And I'm just wondering the connection there that that grew into the, the story I really want to get on tape before we finish is the Windfall story, but you see that Windfall acreage was acquired by Fina in the first instance and I think that was before you came on board.

JZ: It was, that's right.

AK: And then they went out looking for partners and they got Stanlon or Amoco or whatever you want to call them...

JZ: And Hudson Bay...

AK: Hud Bay, yeah. Hudson Bay Oil and Gas. And Fina remained operator, didn't they? Y

JZ: Yes, they did, with a 17 1/2 percent interest or something like that. It was very diluted interest but they were the operator.

AK: Yeah, they were the operator. And was some of this shooting at Windfall done before you got there?

JZ: Yes. Oh, yeah quite a bit of it had been done and the Sundance well was located and underway, the first well. But an interesting thing about that area, two interesting things Aubrey, I felt it was a good area because what I had rubbed off and at one point we took our company plane with Century and Walter Wilson and Fred, I can't recall his name, was manager for City Service up here at the time, for a

short time. We took them in the company plane and we flew them to Edmonton and spent the night. They wanted to look over some country and we flew the next day over Whitecourt and I was telling him, I said now if it was me, this is the area I would really look at, there are not too many Reservations in here, there's not too much taken up and it, believe me it is going to be one of the next Frontiers is up in this Mayerthorpe, Whitecourt, Edson area, and from there on to Grand Prairie. There's a lot of open area but there are some oil drilling out in the, toward Grand Prairie. We'd had a crew, two crews in Grand Prairie for two years. So we knew what was going on up there and what they were looking for.

Well, anyway, they didn't take their reservations. But another funny thing happened when I first was with Century, I was asked to a meeting and I don't understand why I was in this one, but Union Oil and a group of others were having a meeting and they had a chief geologist with British Petroleum's was over here, and at this meeting in this beautifully panelled board room, we were discussing possible areas and this, somebody mentioned this area North of Whitecourt, but their hand on the map, and said, now this area is virtually unexplored, it was a geologist from London, Ph.D., made the remark. He said, I wouldn't give you, I'll drink all the oil you can find in that Basin.

AK: Well, that was a way BP was, they knew better than, you see, they called us Colonials.

JZ: Yeah, well he went back to England the next day. I mean, something happened in the meantime because they were all hot to take this area and he got quite adamant and he was pounding the desk and saying, I'll drink all the oil you can find in that whole Basin. I often wished I'd had him here the day after Windfall came in.

AK: Right. Well tell us, just briefly the Windfall story. Now, were you responsible for helping locate the Windfall?

JZ: Well in a sense, if anybody who sits in on all the meetings, and contributes one third of the interpretation, Jake Swart and I did interpretation that was all compared with Dan Lund's?? and, we had lots of disagreements. But in general there were usually two out of the three of us agreed on the locations. And after the Sundance Reef was discovered by the dry hole or the saltwater rain down there, we began to trace it, porous reef edge along to the north and we traced it clear from there to Windfall and did a lot of shooting. I think we had four crews in the area based in Edson and Whitecourt, and we shot all that area in close detail and we were all satisfied with the thinning, velocity thinning, that was shows over there. The mapping secret there is a map that cretaceous and the, and one of the lowest beds you can map...

AK: Maybe granite wash?

JZ: Granite wash or something like that, and where the reef is, from on reef to off reef, you'll see 30 milliseconds of drop-off in your sections. Of course by then we were using computer sections. We were not manually cross sectioning, so we could go and pick these, pick statics on the record, could re-correct statics on the section and re-correct. And then we see this 30 milliseconds when it came off reef. That of course was a clue to the discovery of the original reef at Sundance and then the, tracing it on North. So I sat on the Whitecourt Committee then for 14 years. Also incidentally sat on a committee with the forestry people in Edmonton and Jim Kidder, and ???

AK: Jim Kidder with Mobil.

JZ: Mobil. And the three of us were instrumental in drawing up the new regulations during those years on road launch shooting and all of this...

AK: Oh, environmental and cleaning up. Did you work with Hubert Somerville on that?

JZ: Yes, Somerville was, he had an assistant on most of the meetings, but when it came to nitty-gritties of the actual wording of the regulations as they exist now, and really I don't think they've been changed very much since those days of development. It took us almost seven years to get them refined to the point they were all accepted by everybody. He came into the big meetings.

AK: What was your impression of him? Very briefly.

JZ: Well, he was very officious again and in a way, but I liked him very much because in a meeting there was no, shall I say, wielding a big stick. If you said that this is the width to bulldoze trail ought to be, to let our trucks go through, he might argue for just a minute along with his subordinate and then he would say, okay, that's the width we'll put in the regulations then, if that's what you tell me that you three agree we've got to have. And he was this way all the way through, permits, flowing holes, barrow ditch plugging holes, all of this was pre-arranged before he came to the meeting, but he had the final say and he said it, and he took our points and I never did get well acquainted with him, but I had one of his, two of his subordinates were very, very good friend of mine. One with Tom Drinkwater and the other one was Arnie Arnfronson, geophysical coordinator and investigator. So I kind of had an inside track on the way he was thinking.

[00:19:17] AK: Well, look, we're just about finished here now, Jim, this has been a wonderful morning and I wondered if you could maybe in two or three minutes or more, kind of give me a little, we haven't finished up your career. I mean we haven't taken you today because there were many other things that you did back and forth between here and Denver and all that. But could you kind of capsule your philosophy of the Canadian oil industry, and some of your philosophies or some of the things that you see now and compare it to this tremendous experience that you've had.

JZ: Well, I think one of the first things I would say would go back to my little story about 'I'll drink all the oil you can find there', I don't think that any sedimentary basin is ever a write-off, it would be rare I think to find one that's a total write-off as far as gas and oil ??? is providing. Studying the deep geology that you'd, would agree that there was a proper sediments in the Basin for the creation of oil in the first place, or petroleum products, and second, I just, I've always stayed optimistic, I have a philosophy that if I find a feature on geophysical data and there are two options to show it, one is an open feature and one is a closed feature, my own philosophy is you should always show it as a closed feature because the men upstairs will, when they drill that hole, if it's a dry hole and the future proves out to be structurally high or stratigraphically high, it's been a success, and if they, even if they get a dry hole or a saltwater hole, it's still a success. But if you show it as an open contour and say well, I don't think we, and another company comes along and drills the well, you were forever forgotten. I mean, you'll be forever blamed for having missed something that could have been a dry hole or a producer. So all you need to get a bad name in the business is to map a whole bunch of, not a whole bunch of dry holes because there are usually stratigraphically high or structurally high, so to speak, if the work is good. It may only be a ridge or hinge line or a fault or something like that you're mapping, but you let somebody else trail behind you and get a big producer on what you said, like I will drink all the oil out of that basin.

AK: Yeah right. I think one of the things, Jim, that I should have mentioned at the very beginning is that you graduated from School of Mines as a geological engineer it says here, and I think you're probably one of the unique people that have taken up geophysics that have had a good grounding in geology. And as a result you've been able to, you haven't the tunnel vision, many geophysicists, I'm sorry to say it but a lot of them are, got such narrow tunnel vision that you know, they couldn't see anything. And of course that was aggravated by the fact that in the early days the geologists, geophysicists were kept in separate parts of the building and they weren't allowed to speak. So I imagine, would you say that was one of the things that aided you, the fact that you had a good grounding in your university?

JZ: Well, it really pays off, Aubrey. I can cite two examples, as you say not too much about my career to go on but there are some things. I was in Greece for a year and shooting for a group of companies, two different groups of companies, and one of the things we did, we crossed the Thasos Delta with several lines looking for faulting in a structure like, Oceanic got production on the... they were out in deep water though. But all the structures came on shore and in this one case, we're shooting on one side of the Nestos River and getting lovely reflections, but very shallow and they kept climbing, we managed to get around on the other side of the Nestos River on the Delta and we couldn't get a damn thing. Not a reflection to save your life. And I said, well the answer is easy, the, we run into an area where the lime stones we're mapping have come up through the surface. So sure enough, we took a drive out the road toward Turkey and we found exposures of these beds we'd been mapping were right out on the surface. Well I phoned Denver and instantly stopped the crew because we could have gone over there and shot two weeks and never gotten a reflection, but our structure had come right up, right at the river, there must have been a fault which we couldn't locate because we could not get a reflection on that side.

Another thing that happened. We were at Chalkidiki and Philip Anschutz came over, I was shooting for Anschutz Oil and Philip came over to visit me.

AK: Where was this?

JZ: In Greece, Chalkidiki up on the north end, on the beaches at the Trident near, our headquarters were in Thessaloniki, it's Saloniki on the map.

AK: Yeah, right.

JZ: And Philip came over to visit me and he wanted to see some of the area we were shooting, we were shooting right along the seacoast and I said, well Philip, this was around dinnertime the evening, but it was summer, I said, well Philip, let's get in the car and I'll take you out and show you some of the area we shot and I'll show you a stretch coming right on the shore. So we went out, right on the beach where we were and I showed him as you drove up around the beach, you could see the turnover on this fold coming right up out of the DNC. These kind of things can save you a lot of time when you're doing geophysics. I mean...

AK: What company were you with when you were with, in...

JZ: I had my own crew over there. I immobilized a crew and took it to Greece for Anschutz Corporation.

AK: Oh. And you, and they were your client.



JZ: I was a, yeah, Hal Bowman in Calgary was a client at the time. I mean, he was a representative but Philip himself came over, although he's one of the most wealthiest men in the United States today and reportedly very privately has the most money and he'll talk about it, he's a regular guy when he comes to see you...I loved it.

AK: I think that was the other thing, probably the fact that you got along with so many people out in the field and why I've always kept memories of you and I'm very glad that we've had this opportunity and it's by no means ended because I'm going to have to get back at you with some other things and we'll have to regroup. So I'll say that we'll sign off now and thanks very much, Jim, for the privilege of having talked to you and been in your home here today.

JZ: Well, thank you very much for coming. It's been a real pleasure to reminisce and been a pleasure to talk about the old time.

AK: Right. Well, this is it and it's now 12:03 and we're shutting it down. Thanks.

End of Interview