

PETROLEUM INDUSTRY ORAL HISTORY PROJECT TRANSCRIPT

INTERVIEWEE: Arie van der Lee

INTERVIEWER: Aubrey Kerr

DATE: November 20, 1992

Side 1 [00:44:31]

[00:00:06] AK: Today is Friday November the 20th. I'm Aubrey Kerr, and I'm in the offices of Arie van der Lee. And Arie is the Vice President of marketing, right, Alternative Fuel Systems Inc. And the office is #610 and the address is 1207 11 Ave SW. And I'm very pleased to be able to catch up with you because you have a varied story about the early days of the oil patch. And let's start off by asking where you were born and what year?

AVDL: Aubrey I was born in 1924. East of the village of Chipman. Chipman isn't too far east of Redwater. So if your story is about Redwater I was nearly from someplace close to that.

AK: Right, and that was... had your parent immigrated from Holland?

AVDL: My mother came to Canada in 1906 when she was 13 years old. She is still alive living in Edmonton. Had lived in her own home until last year. They had lived out at Chipman from about 1912-1948. My father came to Canada, separately, he came in 1910 at the age of 24. And he lived until he was 90, and in his 91st year having retired to Edmonton.

AK: And where did your mother and father meet?

AVDL: They met in Edmonton. Didn't know each other. They came from different parts of Holland. My father came from near Amsterdam, small village south of Amsterdam. And my mother came from east of Rotterdam in a town called Bodegraven which is quite near to Gouda.

AK: Oh where the cheese...

AVDL: The Gouda cheese country.

AK: Right, and that's Bodegraven? That's near the G-O-U-D-A, where the famous cheese comes from.

AVDL: Exactly. My father had been in the cheese business. He was a cheese exporter and he got the cheese and exported most of it to Germany and France.

AK: Right. What did... did they ever tell you what impelled either or both of them to come to Canada?

AVDL: My father had spent 2 years in the Dutch army, was the oldest of a large family, and didn't see much future in staying in Holland and was an adventurous type, so he left to the new country. It was a toss up whether he would go to South Africa, Canada, or Australia, but he ended up coming to Western Canada.

AK: And what were his jobs?

AVDL: When he came to Canada he first worked on the Grand Trunk Railroad in northern Ontario. And then he got a job in Edmonton. He worked hauling gravel out of the river bottom onto the streets of Jasper Avenue and so on. And worked there for enough time until he could go out and start farming which had been his aspiration.

AK: And did he homestead?

AVDL: He bought some CPR land and bought some land from another settler. As a matter of fact, his land was about 2 miles from the first Ukrainian who had settled in Canada (name)??? was another half mile east of our place in Chipman.

AK: Right. So you were in a settlement of mixed different origins there.

AVDL: There were quite a few... strangely enough there were quite a few Dutch families. Several families had come in from Eastern Canada, from parts of Ontario. There were Ukrainians, Poles, Germans. It was a real mixture, hodgepodge.

[00:05:00] AK: Right. And you started off attending school?

AVDL: Went to school in Chipman. It was a 4-room school, 3 grades to a room, from 1-12. And when I finished school in Chipman I went to the University of Alberta.

AK: Right.

AVDL: Rejected from the Canadian Army, so I thought the next best thing to do was go to University.

AK: Right. Now when you were attending school before you went to Edmonton to University, what were your summer jobs?

AVDL: My summer jobs were working on the farm, whatever work it took. Generally when I went to school, I never would go to school until sometime near the end of November until the thrashing was finished, and then I'd start school after I was about 14 years old.

AK: Can we imply that you caught up very easily with the grades?

AVDL: I never seemed to have too much trouble. But I was kind of a lazy student, took the easy way generally and got along quite well.

AK: Right. When was it that you first decided that you should go to university?

AVDL: In 1943, I thought I would be going into the army or the navy, but I was rejected on health reasons so I thought the next best bet would be going to university.

AK: Right. Did you have any idea what discipline you wanted to head into?

AVDL: I thought I would take math and physics, and when I first enrolled I was going to enroll in math and physics, and after talking it over with the people at the University I thought I would go into first year engineering.

AK: And who was the head of the engineering then?

AVDL: The dean was... Dean Wilson.

[00:07:08] AK: Wilson. I see. And so when you enrolled there, what was your first summer job after you spent one year in your studies? What summer job did you have? Did you go back to the farm, or did you find a job in industry?

AVDL: I found a job in industry, and I got a job on a gravity meter crew working for... which was called at that time Standard of British Columbia.

AK: Oh that was Chevron.

AVDL: Chevron.

AK: Yes, Cal Standard. That's right, Standard Oil Company of British Company Ltd. Great big long title. Who was your party chief?

AVDL: Bob Augenthaler.

AK: Augenthaler, I think that's A-U-G-E-N-T-H-A-L-E-R.

AVDL: I believe that's right. You have a good memory.

AK: Yes, I recall. And what area did you shoot?

AVDL: All through the southern part of Alberta. We stayed in Lethbridge on weekends. But we worked the Milk River Ridge and all the way across to Pakowki Lake country and Foremost and through there.

AK: Did you work as far north as Taber?

AVDL: Yes, we were up as far north as Taber.

AK: Well that's where Chevron had some production there.

AVDL: Right, exactly. Right.

AK: Well did you ever interface with some of the Hands there?

AVDL: Not too much, no, because we were scattered so far, you know we'd... our job was to find the section corners and measure the elevation near the section corner for the gravity meter operator, and then stake it and flag it so the gravity operator could come and take his readings.

AK: Did you use a plane table?

AVDL: We used a plane table in the rough country where we couldn't find the section corners like in the coolies and along the rivers. And elsewhere we'd use levels, because if we could find the section corners. It saved us from locating ourselves...

AK: Well of course it was from a gravity meter standpoint, it was pretty essential that you have a pretty accurate elevation.

AVDL: Exactly. It was. In the coolies and along the rivers it was quite necessary to also locate ourselves.

AK: Oh yes. Finding where your... your witness posts or whatever.

AVDL: Exactly. And it??? you know, through a lot of that country the original ??? and the original wooden posts were still there with the location burned into them in many cases.

[00:09:56] AK: Well then you went back to school in the fall, and did you get any idea then that you'd like to get more interested in geophysics?

AVDL: Not particularly, but it was a reasonably good paying job because we could rough it and live outside and get our living allowance and get so much a month, so the main urgency was to make some money so we could go back to school the next year.

AK: Do you remember what you got? Do you remember your salary?

AVDL: Yes, it was \$70 a month and \$90 living allowance.

AK: Right. Well that's not far from what I was getting.

AVDL: I guess.

AK: Right. So, then you returned to university. And then what about your second summer? What did you do then?

AVDL: Second summer I went back with California Standard. And this time we spent part of the summer out at Lethbridge and the rest of the summer out at Medicine Hat. And we went through the Cypress Hills all the way to Township 1, Range 1 and then up north, up to as far as the Suffield block.

AK: Right. Now was this still with Gravity?

AVDL: It was still with Gravity. Still surveying.

AK: Did you ever have any contact with the seismic crews?

AVDL: Not at that time. We never ran into them, no.

AK: Did you ever remember old Johnny Galloway coming out to see you?

AVDL: There was a Mr. Kirby that came out to see us once.

AK: Oh yeah, Jim Kirby. Yes, he was the chief geologist.

AVDL: Right. He came out and we had a big BBQ one summer in Medicine Hat, and he was out. I think he came out a few times. And Galloway... I remember the name, but I think he was out once...

AK: He was the big chief in Calgary. Well then what about your third year?

AVDL: Third year I was planning... I had a job lined up, I wanted to do something a little different and I was going to be up north and work on a surface party. However it was a very late breakup. Time was slipping away, and I got a call to come and work on a highway project. So I became the highway engineer on the road between McCleod and Cardston. The surveyor I guess, on the project, that was my summer job. We lived in the American Hotel on Macleod.

AK: And what kind of money were you making then?

AVDL: I was up to about \$175 a month, and the expenses were paid for. We lived in the American Hotel and had allowance for expenses.

AK: Well by this time the war must have been just nearly about at an end then.

AVDL: It was coming to a close yes.

[00:12:49] AK: And what about your... when you graduated, what were you looking for?

AVDL: I wasn't... you know, I wasn't quite sure. In those days, thinking back, we were awfully fortunate because we had interviews with several companies, people were hiring, it was a seller's market you know. We could get... had a variety of jobs and really, I was kind of attracted to what Imperial had to offer. And the idea was that I'd work for so long in Canada and then have a chance to go overseas. And that's what sort of attracted me.

AK: And at that time, this was before Leduc was hit.

AVDL: When we were interviewing it was, because it was... Leduc was something, '47. February '47.

AK: And of course the whole ball game changed. So who interviewed you at Imperial? Do you remember?

AVDL: It must have been Ray Walters.

AK: Well Ray had just barely come up.

AVDL: I don't quite remember Aubrey.

AK: It was Carl Chapman maybe.

AVDL: Could have been one of their... it was one their exploration people.

AK: And then did you accept their...?

AVDL: I accepted the Imperial offer, went to work May, I believe it was May the 1st, 1947. And with Frank Roberts, Party Number 47.

AK: But you hadn't... what about the summer of '46?

AVDL: That's the summer I spent with the highway.

AK: Oh the highway, I see. The war was over.

AVDL: Two summers with Cal Standard, and one with the highway.

AK: So this was... well this was... by the time you got hired of course, the boom was right on.

AVDL: Oh it was the peak. And there were good jobs. We thought we were getting pretty good money, I forget what it was, \$250 a month or something like that plus expenses.

AK: And where did they send you?

AVDL: We worked out of Edmonton for the first few weeks, then they moved the trailer camp to set up a trailer camp in the town of Leduc right near the highway. There was a lot, and we were in the town of Leduc until, through the summer of '47. And then we went up to Barrhead. And we had a trailer camp in Barrhead through the winter and sometime about January or February we moved to Dapp, which is north of Westcott. And we lived in the camp at Dapp.

[00:15:34] AK: But at this time you... you see what happened in '46 was that Frank Roberts ran that long reconnaissance line. So you would have had no opportunity to shoot near Redwater, then would you?

AVDL: The first surveying I did, when I first got there May the 1st, they were doing some checking on the levels, doing some repeat surveying on part of that line. I think they had a few what they called bad busts on the survey of the lines. I went out to...

AK: So you went out to clean that up, eh?

AVDL: I went out to clean it up and we were doing some patch-up work on that., and they had already probably been through with the gravity meter, you're right.

AK: Yes. But you were on seismic when you went?

AVDL: I was seismic, yes.

AK: Yes, when you went with...

AVDL: With Imperial, I started with seismic. Then came along the spring, the breakup of '48. And we were interviewed for jobs to go to Peru.

AK: Is that right? Even at the height of what was going on all around you?

AVDL: Yes. So they needed some crews in eastern Peru. And we had... I'd signed up to go to Peru, but then that was deferred because of some political problems in Peru at that time. So I didn't go to Peru. So as a result of that, they said well you've had your training program and now you were supposed to go to Peru but we need some drilling engineers. Do you want to be a drilling engineer? I said okay, I will be a drilling engineer. And then in the fall of '48, no, actually I was on a gravity meter crew for the summer with Imperial, we worked out at places like Mameo Beach, and all through Buck Lake, and Breton and north and covered a lot of territory. And worked with a fellow by the name of Mickey Hiesh???

AK: Oh, I have heard of him, yes, right.

AVDL: He went overseas, and spent a lot of international time with ???

AK: And you'd have run into Harold Atchison, because he was the big gravity man with Imperial Oil.

AVDL: Yes, I remember him.

AK: He is still around.

AVDL: I never did know him much.

AK: No, well he was more theoretical.

AVDL: And we... after it came to about October, no September, then I went to Devon as a drilling engineer.

AK: That's where we first met, yeah, that's right.

AVDL: And the first assignment I had, I get to Devon and they said go and test this well. And I never even been close to a well, you know, just to go look at it.

AK: Yes, sure.

AVDL: So when I go to the ??? to do the drill stem test on this well. And I worked with... they teamed us green engineers with some of the old experienced tool pushers. And I bunked in the same room with Bill Henderson in the bachelor's quarters.

AK: That would be Jim wouldn't it?

AVDL: No, his dad. Jim's dad.

AK: Oh, his dad.

AVDL: Yes, he was a tool push.

AK: Yes, but you see Bill lived right next door to us in Devon.

AVDL: Before his house was built.

AK: Before his house was ready.

AVDL: Yes. Right. So he lived in the bachelor's quarters. And I guess they had started to build these houses in '48 sometime. And then the fellow I was working with while I was there was Jack McKay. He and I were a pair. I'd do the dumb work and he would be there to make sure it went right.

AK: Well at that time Morris Paulsen was there with me.

AVDL: Yes, he was the fellow I'd reported to.

AK: Yes, right. Do you remember Harry Simpson up there?

AVDL: Remember Harry Simpson, Bob Teskie, Hugh Nolgrad, you know...

AK: Hank... I think Hank Bonet was up there.

AVDL: Hank Bonet was up there, Hank was a very good card player. We used to gather and play cards once or so. He was put in the bachelor's quarters.

AK: Well that was Friday nights. By this time you hadn't married yet.

AVDL: Yes, I was married. And I was living... because we worked around the clock pretty well, so I was living in... Got married before I went out there and spent most of the time in Devon.

AK: Right. Yes. So you were in the batch.

AVDL: In the batch.

AK: Okay, so you stayed how long with that section of Imperial Oil? Until what year?

AVDL: I stayed with Imperial until '49, then I went to work for National Tank.

AK: What impelled you to switch over to National Tank?

AVDL: You know, it could be a very interesting part of the business, being in the production end and ??? manufacturing and supply ??? It sort of appealed to me.

AK: Well who hired you at National?

AVDL: Jack Godwin.

AK: Right, yes. Jack and Barbara, was it?

AVDL: Jack and Barbara, yes.

AK: They lived on Elbow Drive, do you remember just off...

AVDL: Oh I remember very well, their house is still there, sure. But he'd first lived in Edmonton for the first year or two.

AK: Oh did he?

AVDL: Oh yes, and he moved shortly... about, let's see, he must have moved to Calgary in about '51 or something like that.

AK: Right, yeah. Because I remember going down in that basement. I don't know whether you ever got down into his basement.

AVDL: He was raising birds, and worms for fishing, tackle, and fishing lures. And he had a basement full of budgie birds at one time.

AK: I don't remember that, but I do remember one of those old Virginia hams hanging there.

AVDL: Oh okay.

AK: Do you remember that? With the rags?

AVDL: He used to bring them up with the tanks.

AK: Well he'd ship them up...

AVDL: He'd ship them up with the tanks.

AK: Yes. And they were the real salty Virginia hams.

AVDL: Right.

AK: I guess the other thing that Jack was very famous for was his barbeques.

AVDL: Aubrey, you know one summer we must have looked after putting on 35-40 barbeques.

AK: That many?

AVDL: It got to be quite a deal.

AK: Well it was maybe the main part of the business.

AVDL: We put them on for people up to groups of 500.

AK: Is that right? Well you were competing with Cody Spencer then?

AVDL: Yeah, maybe.

AK: Well that's all right so, well Jack had all the equipment, didn't he?

AVDL: We built the equipment, we built all these fire pits and warming closets, you know, all this gear. We had welders in that back of our yard in Edmonton hammering that stuff together, and Jack had drawn the designs and I will tell you one thing, they were ??? for stout, you know. It took a pretty good-sized truck to move them around.

AK: Oh yes, they'd be... but you had that all that rigged up. That was part of Jack's promotion wasn't it?

AVDL: Exactly.

AK: Yeah, nobody would ever forget Jack.

AVDL: He did it in quite a different way, you know, it was quite a... what would you say... not like the professionals do with their professional equipment. This was, with the pitch forks where you were turning the steaks and the ribs and slopping the BBQ sauce on with forks with wiping rags tied to them, sort of thing. It was kind of in the rough.

AK: Right. Well he'd do the... he'd do a half of a steer wouldn't he? Or did he do that large a piece of meat?

AVDL: No never did the large pieces. The ribs and slabs, you know, and generally marinate the steaks and generally the steak he'd prefer would be the round steaks and marinated well for a day, so they'd come out really tender.

AK: Tender, yes.

AVDL: And pretty tasty.

AK: Yes, a lot of flavor to them.

AVDL: Made his own BBQ sauce in 8-gallon cream cans with ??? BBQ sauce and it was plenty hot. The other people who'd worked with us, like the Don Wilkins, and the Frank Burly and so on. They'd always be trying to hide the Tabasco and...

AK: To keep it cooled down.

AVDL: To keep her down a little bit you know.

AK: Jack really socked it to it.

AVDL: He would get her pretty hot.

AK: Well then, that sounded like it was one of your jobs.

AVDL: Actually it was mainly, you know, mainly Jack's. I had to keep the store running most of the time, but when he'd get too committed then I'd get sucked into doing these barbeques. So we had to do quite a few.

[00:24:59] AK: And you were working out of Edmonton most of the time?

AVDL: Worked out of Edmonton until 1958 then moved to Calgary in '58. But out of Edmonton we looked after the field operations, and in those early days we set up branches in Drayton Valley and Valleyview and Fort St. John, Red Deer, Swift Current, Estevan, and Burden, Kindersley. So we had... and a person in Regina, so we had quite a network of branches which today is not the case anymore.

AK: Oh no.... branches. Did you have a store at Redwater did you say?

AL Well we did, it was close enough that we could be there. At times we nearly needed one because the roads were so terrible. Remember in the early days, we used to have hell getting there. I was thinking when you were telling me you were coming over, I was trying to remember some of the things about Redwater, and I can remember fighting those roads. Often they were nearly impassible you know.

AK: Yes. Well now whereabouts in Edmonton was your store, or your yard?

AVDL: On 104th Street and 66th Avenue.

AK: Right, you were on the Calgary Trail. So you were just south of... there was that park I think, it was on the right... on the west side.

AVDL: There was the AMA motor court up a little ways.

AK: That's what I meant, yes.

AVDL: And Frankie's Café. If you remember Frankie's Café where everybody used to congregate.

AK: Right. Well then what was your main, shall we say, stock and trade there? Was it tanks per say, or was it treaters? What was it that you...?

AVDL: It was... we were big in all the production equipment. In those days, most of the production was oil, the gas was still kind of in its infancy. So it was tanks, bolted tanks, welded tanks, gas oil separators, and emulsion treaters, crude oil dehydrators, everything that was used to produce oil and gas. And we kept a very large stock of treaters and tanks and separators so that if somebody felt that they were getting a well and their... the indication that they had a well, by the time that well was completed it was our job to have that production battery ready so that they could immediately start producing. One day lost and everything hit the fan.

AK: Well that's right.

AVDL: There was no wait, I am amazed in this day and age I understand that after a well is drilled, by the time all the formalities have gone through it might take quite a few months before there is permission to produce this well.

AK: None of that nonsense in those days, no.

AVDL: We felt supreme... it was a very serious matter, if hose tanks went up, and the separator and treater weren't hooked up and a guy was ready to produce.

AK: Well that would be close liaison between the production manager out there, the foreman, and your office.

AVDL: Exactly.

AK: And of course some of that went through Calgary.

AVDL: Quite a bit of it.

AK: Yes, it would be...

AVDL: You see Aubrey, in those days most of the time we would never make our quotation, or we would never get a purchase order until we provided the customer with the invoice. Because the reasoning was how would he know how to give us a purchase order if he doesn't know what it's going to be for. There was that kind of trust in those days, it would be a matter of a phone call and our crews would be headed for the guy's lease.

AK: So there was none of this AFE stuff running around

AVDL: Very very seldom. It was mainly a phone call. Or you'd run into somebody during the course of the day and you might have lunch with them, and a passing word, he'd say well you better haul some tanks and a treater out to such and such a place tomorrow. And the job would start. That would be about what it would take to get the job.

[00:29:19] AK: Yes. Did... a lot of this equipment, was it fabricated in the U.S.?

AVDL: Everything was pretty well fabricated in the U.S. And gradually... and we'd start doing some work, we did it on a small scale in our own yard and shop. And it took until about 1960 before we got into business in manufacturing. And that's one reason I moved down to Calgary, to help build the shop on 58th Avenue. We ended up with the first shop for National Tank in Canada in 1960.

AK: It was 58th Avenue and what?

AVDL: 6th Street East.

AK: Oh yes, near the tracks there.

AVDL: It's occupied now by LeGrand. There is about an acre and a half ???.

AK: Oh yes, Legrand.

AVDL: Built that shop in 3 stages. And had about up to about 200 employees.

AK: Yes, well getting back to the tanks. Now would those segments come up, would they be shipped up too?

AVDL: The complete tank would come up, and they were like...

AK: But they would be in the pieces.

AVDL: Yes, they would be in sections. Each stave, or each side sheet of...

AK: Stave, that's the word I was trying to think of.

AVDL: 5 feet by 8 feet. Weighed approximately 190-200 pounds depending on whether it was galvanized or planed or 12-gauge or 10-gauge steel. And the boys that were building the tanks, most of them had been recruited from around Edmonton and most of them originated on farms in New Sarepta and Calmar areas like them. And a crew of 4 men could build a 1000-barrelled bolted steel tank in 1 day. They were 28-210 lb staves and 10,700 1/2-inch bolts. And all these bolts had to be washered. And these guys, some of them would carry 2 of these staves on their back at a time. Nowadays to build a 1000-barrel tank, to build it so it would leak, I would dare say it would take a crew of 6-10 men for a week compared to how those guys used to work. With no doubt.

AK: Those farm boys were, I think, one of the main reasons why the industry forged ahead so well, don't you think?

AVDL: I think exactly. They were pretty innovative, hard workers.

AK: And they never even thought about... well what is it... you know, stop for a break...

AVDL: They seemed to have more spending money those days because you could buy beer I think for 10 cents a glass.

AK: Oh yes sure.

AVDL: And they got a \$1.10 an hour, and you know, everything being relative they didn't seem to do too badly.

AK: No. Now these tanks, was there a preference between the bolted or the welded?

AVDL: In those days they were pretty well all bolted. I'll explain, for instance in Redwater, the bolted were far better than using a welded tank in those days because the bolted could come up galvanized and Redwater's pretty corrosive water and oil, and gas. So in Redwater we built galvanized steel tanks. And then we introduced a new item, a new concept, we put aluminum decks on them because hydrogen sulfide and moisture wouldn't attack the aluminum, or else it would eventually eat up the steel.

AK: When you say the word deck, you mean the top.

AVDL: The top of the tank, yes.

AK: So that was aluminum.

AVDL: We made those aluminum. And the first aluminum decks we introduced, or our company did, in the tanks at Redwater, most of the tanks in Redwater, and a lot of them are still there, and they have these aluminum decks on them. And then we went a little step further, we built them with comb bottoms with a sump so that the corrosive water could be easily drained off.

AK: Oh so it wasn't a flat bottom.

AVDL: No, most of the tanks in Redwater had a comb bottom, had a sump. And the purpose to keep the water from puddling and lying on the bottom of the tank and corroding it out.

AK: Yes, so you could drain that water off.

AVDL: Yes, there was...

AK: Well there was quite a bit of water production there.

[00:33:36] AVDL: And that's where the methods of production changed drastically. In Leduc and Turner Valley and the older fields, most of the batteries would have steam boilers to keep them heated as you recall, Aubrey.

AK: Yes, that was the big thing.

AVDL: In Redwater we could claim a contribution to this new method of production. We knew that the wells would have to... would be producing water, and we knew that the water would have to be removed from the oil. So it required emulsion treaters. So we would install emulsion treaters and tanks and separators and have a circulating system to keep hot oil pumped in the tank if necessary and avoid the necessity of extra cost of steam boilers. So from then on it was pretty... the idea of using steam boilers at every battery was pretty well dropped.

AK: That was an old tradition wasn't it?

AVDL: It went way back...

AK: And you had to have a boiler...

AVDL: And I know that some of the people at Imperial, it took a lot of convincing before they would get out of the idea of using a boiler, but they could see the advantages since we had to treat... treaters were a fairly new concept. Well they go back quite a ways, but one thing that really made National Tank a successful company was their design of emulsion treaters, an integral treater. For instance, at one stage, I remember Leigh Constable calling me in and I was running the branch at Edmonton and he said, can you deliver 27 treaters before breakup? And of course, trying to be a salesman I answered, well I should

be able to do this. But it proved to be quite a problem because the breakup came quite early, and we were running out of Edmonton with these treaters on every back road we could find for awhile to get these treaters delivered.

AK: Was this to avoid road ban roads?

AVDL: To avoid road ban and ??? beat them...

AK: And also to prevent yourself from going in the ditch.

AVDL: That's about right. Yes.

AK: Now how heavy were these treaters? How much weight were they?

AVDL: I think they weighed about 10 tonnes, 15 tonnes.

AK: And they'd come up in one piece from the States?

AVDL: Come up in one piece. They were in sizes, there was 4-foot, 6-foot, 8-foot, and 10-foot. So you'd have these nominal sizes, all of them approximately 30 feet high.

AK: Yes. And they would stand vertically?

AVDL: They'd stand vertically.

AK: You didn't have the horizontal treaters?

AVDL: No. Not in those days, they were all vertical. And the advantage of having vertical, because in those days instruments and controls weren't really as reliable as you might find them nowadays, and if the vessel lost its pressure the head of the vessel was still sufficient to gravity into the stock tank, and that's the reason for having them 30 feet high. So it could operate at atmospheric pressure if you lost the pressure off the vessel, whereas with a horizontal treater you need to hold the pressure on it, or you'll flood and go to the flare pit.

AK: Right. Now these came from what part of the States?

AVDL: Tulsa, our head office was in Tulsa.

AK: And they were fabricated there?

AVDL: They were fabricated there until we started building some in Edmonton at the old Standard Iron Shop. We built about 100 treaters at Standard Iron I think it was. A big batch.

AK: Now was there any problem with bringing these in from a duty standpoint? Were they duty-free?

AVDL: There was... if they were used in the production oil and gas, I believe they were duty-free.

AK: Right.

AVDL: But if they were used for storing water, there would be duty on them. Because some people used tanks for storing water, and I remember a case where the drilling contractor up at Savannah Creek claimed duty on some tanks that had blown off the mountain and ended up having to pay duty because he had brought them in duty-free.

AK: Right. Well now, these vertical treaters, did you pump in, or did the oil and water flow in at the bottom of the treater?

AVDL: The oil and gas flowed in at the... we dumped it into the top of the treater and it came down inside to be preheated and then flowed back up. So went in through a heat exchanger and then into the bottom of the treater to flow up. Went into the top of the treater to de-gasify because the gas separator is built into the top of the treater.

AK: Right, so then you'd burn that gas as a fuel.

AVDL: You'd burn the gas as fuel.

[00:38:36] AK: Yes. All right, now there was a picture that I saw. And it was quite an odd shaped treater, but it had a lot of sacrificial anodes on it. Do you remember having to put those in?

AVDL: Aubrey, the first treater we put in at Redwater was for Imperial Oil. It was north of the town of Redwater, forget which lease. It was an 8-foot treater, and it operated for 6 weeks. We got a panic call, treater is leaking. We went out there, and my God it was, the fire tube had corroded out.

AK: The which tube?

AVDL: The fire tube.

AK: The fire tube.

AVDL: The furnace. Had corroded...

AK: Eaten right out.

AVDL: Eaten right out. So we get a hold of all our good engineers, Imperial engineers and sit down and figure out what we should do. And we felt the answer would be to put in the sacrificial anodes. So probably the picture you saw was the first fire tube with sort of washers.

AK: Yes, they looked like...

AVDL: Looked like a sow's belly in a way. And big washers... we welded bolts onto the fire tube, put these big washers on it, stuck it in, and my God that prevented the tube from corroding out. And those were the first anodes that had been used in treaters and there are some of those vertical treaters still standing there using anodes. They all use anodes.

AK: Right, and how long did those anodes last?

AVDL: They last... we checked I think about every 6 months. What we tried to do on some of them, we'd go to several types of anodes., you can use magnesium, but we found when we used magnesium that they'd eat up in a matter of a few days. And when we used zinc it doesn't act quite as fast...

AK: The electrolytic action was delayed.

AVDL: Much slower than with magnesium, so zinc seems to be about the right answer. The other means you could have carbon anodes, graphite anodes which induced current. But that means a lot of adjusting and tinkering, and that's not... wasn't designed for the average battery operator to look after. So the answer was really to put in zinc anodes without any measurement or any resistors and periodically check the fire tube. So one big service job now is periodically pulling the fire tubes and checking the tubes and replacing the zinc anodes and servicing the vessel.

AK: The other thing about the treaters was that with the increasing water, did you have to redesign the treaters?

AVDL: We'd... in the standard treater has a large pre-water knockout compartment in the bottom of the treater that could handle a considerable amount of water. But when we'd get into real large volumes like big field gate treating station that's in Redwater now, we'd put in large flow splitters, free-water knockouts, very large vessels with a big surface area., big horizontal surface area for allowing separation of the water and the oil. Before we'd go into the treaters, and those large treaters that are used, the big central batteries are horizontal, using the chem-electric grid system, the alternating current helps excite the little particles of water and helps coalesce the water and form big enough droplets so it can separate more readily.

AK: Is that something new?

AVDL: The chem-electric treaters were developed in the National Tank Company in about 1960. They were much later than the original vertical treaters.

[00:42:43] AK: Right. And Leigh Constable is spelled L-E-I-G-H Constable. But what about some of the other people that you ran into, like the BA people, or the old Gulf people, or...

AVDL: One guy I should mention too is Bud Kelly. You remember he was out there.

AK: Yes, he was the drilling superintendent.

AVDL: He became the superintendent at Redwater, was it after Leigh probably, was it?

AK: Maybe yes, could have been. I didn't follow that, no.

AVDL: Oh there was Orville Wall with BA.

AK: Yes.

AVDL: And one service we used to provide, Aubrey, is, in those days there weren't all of the various services available, so our company provided well testing services, where we would drag out a heater and separators to test wild cat wells, you know.

AK: Oh, portable.

AVDL: Portable stuff. Well we would lug it out and hook it up whether it was gas or oil. So we would do the gas well testing, oil well testing, plus the lines in Redwater would wax up, do you remember Redwater pretty waxy?

AK: Yes.

AVDL: And the lines would plug up, and this was before they were running scrapers regularly through the lines. And lines would plug up and we'd go out there with portable heaters to heat the lines, and hot oil them, and circulated hot oil down the wells and all these services are now provided by people who specialize in those kind of businesses, you know, the hot oil trucks and all this good stuff. But we used to do all of these things, and before people would install a treater sometimes they would produce their oil and they'd have their oil rejected because it was cutting too much water, o much BS&W. And we'd take out a portable heater and batch treat this oil.

End of tape.

Side 2 [00:26:06]

[00:00:06] AK: ...the tape, and we are continuing with Arie van der Lee.

AVDL: I remember one incident ... one time we got a call to hook up a well, a flow line in this case, I believe it was Bay Petroleums.

AK: That's the old Bay, it wasn't to do with Hudson's Bay.

AVDL: No, no.

AK: And that was way down at the south end of the field.

AVDL: Right.

AK: Was that Jimmy Stafford?

AVDL: Eventually it was... that's right. It was Bay Petroleums...

AK: And Jack Browning.

AVDL: Jack Browning, that's right. And then Tentacle?? bought...

AK: They bought them out, yes.

AVDL: Yes. That's right. And I remember... I don't know if you want this on the tape but the day, just shortly after they bought them out we were sitting in the Petroleum Club in Edmonton which was still by the Airlines Hotel. And Jimmy Stafford was there, and his remark was 'by my ass, it's Tennessee gas.' And sitting behind him were the people from Tennessee Gas and they came over and introduced themselves.

AK: Well Jimmy was pretty outspoken.

AVDL: He was.

AK: Yes, I got some good stuff. But tell me about the Bay property.

AVDL: In this case we got a call, I think the fellows name was John Martin, and to hook up a flow line and build a battery. And next day I got... a few days later I got a real loud phone call from the fellow and he was really excited because we had run the flow... our crews had run the flow line to the wrong well. That caused great consternation. Another fellow you would remember, he didn't have much time at Redwater but he was a Gulf person, was Kelly Gibson. He was down in Stettler. In Big Valley, our company had built a loading rack, and a loading rack is a device for loading tank cars.

AK: Yes, I know.

AVDL: And the loading rack has spouts that are counterbalanced so that when they are not held down loading the car they are in a vertical position out of the way of the train, out back. And these are balanced quite delicately, so you don't have of course too much weight on them. And in this case, we've just finished building this loading rack and these hoses, when they became saturated with oil became heavier, and came down into the horizontal position and a through freight came by and removed most of the loading arms from the rack. Well Kelly called from Stettler, and I don't think he really needed a telephone because I believe I could nearly have heard him in Edmonton without it. That was one hilarious experience. The other things that use to happen in Redwater where the all-night curling games, remember in the bonspiels? We curled around the clock.

AK: Yes, and you'd start... and there had to be a bottle at each end didn't there?

AVDL: There had to be a bottle at each end and then of course under those tough conditions...

AK: Who were some of the top curlers up there?

AVDL: Well, let me see.

AK: Campbell Aird???

AVDL: Campbell Aird always used to make the draws for these curling ...

AK: He was the draw...

AVDL: He was the draw master. And by golly he had a real good way of handling this, did a marvelous job.

AK: Yes, he and Mabel.

AVDL: And then at Devon of course, Lloyd Cunningham, he'd get involved with Campbell with making these draws. And up in Redwater, who handled the bonspiels? Golly, Ralph Flanders maybe?

AK: Yes, could have been. There was a fellow named Art Bain.

AVDL: Sure.

AK: Who'd curl. George Wright, there is a picture I have of Morris Paulsen. George Wright, and Art Bain, there with...getting ready to curl. Are there any other stories that you can recall about the conditions out at Redwater? You didn't, you never put a store out there?

[00:04:45] AVDL: Never put a store out there. What we did though Aubrey, we'd bring in carloads of bolted tanks and spot?? them on the team track. We did that a few times to save hauling the steal from Edmonton.

AK: So then you'd fabricate them right out there?

AVDL: And we'd haul them to the lease.

AK: Yes.

AVDL: The boys would build the...

AK: Would you have the same kind of good types that did that in Redwater?

AVDL: We used pretty well the same crews. We had a good bunch of crews. At one time we'd run out of Edmonton 20-25 crews. We'd have them all over the country building those tanks. At one time I think I had over 100 tanks lying in the ground waiting to be built wondering how the hell we'd get them built in time to have them ready for when the well was ready to produce.

AK: Well did you ever have any contests among the workers to... you know if you build this tank in so many hours there will be a bonus?

AVDL: We had a little of that. A bonus quite often involved a little extra beer and so on.

AK: Wasn't too expensive.

AVDL: Wasn't too expensive no. And over time, boys I always liked to work the overtime. That was a chance to make a few extra dollars, had no reluctance.

AK: What would that be? Time and a half or double time?

AVDL: No time and a half for overtime. Everything over 48 hours a week in those days.

AK: Yes. And what about Sundays?

AVDL: We'd work, often we'd work Sundays. Depends on how urgent our situations were. We generally had Christmas Day off.

[00:06:38] AK: What about the old Gulf Oil? Did you ever run into Ed Lakusta when you were up there?

AVDL: First time I met Ed was when he was a summer student working at Stettler. And I was driving back from Stettler and there was Ed hitchhiking, so I gave him a ride to Edmonton. That's where I met Ed.

AK: Is that right?

AVDL: Their farm... I never met him at their farm which was at Redwater.

AK: That's right.

AVDL: But I knew they were from Redwater.

AK: His brother is raising elk.

AVDL: Is that right? Which brother?

AK: Russell I think.

AVDL: Oh yeah, well I know there is another brother, Vic, and he's in the compressor business.

AK: Oh, is he?

AVDL: He's been in the compressor business for quite awhile.

AK: Is that in Nisku?

AVDL: In Calgary, it's in Calgary.

[00:07:20] AK: Well then, when you switched away from National Tank, what did you do then?

AVDL: I stayed with National Tank for, in the same company for 26 years.

AK: Oh did you?

AVDL: Until 1974.

AK: Oh that far on, right?

AVDL: By that time we had built the shop in Calgary, and then we moved to...it's a much larger shop now, National Tank. Built that one in '71 and '72. Then I... for a company I set up a branch of Crest Engineering which is a division of Combustion Engineering which owned National Tank by that time.

AK: That's CE

AVDL: CE. Now CE is gone, they were bought by Brown Boveri out of Switzerland.

AK: That's B-O-V-E-R-I. Brown Boveri, yes.

AVDL: So National Tank now was owned by another group, I think they are owned by a group called Cummins Pride out of New York. The original owners sold National Tank in 1965, and the main owner was a chap called J.P. Walker. He was the control... he had control of National Tank, and he sold it to Combustion Engineering in 1965. And Crest Engineering was a division of the same corporation. So after I left Crest Engineering and National Tank, I set up my own company which was Global Trading for the purpose of exporting. I saw that there was good opportunity to export Canadian equipment because the industry had pretty well matured then. It changed muchly from when I first started and when you first started there was nothing built in Canada. Very little.

AK: Oh yes.

[00:09:18] AVDL: By the time we get to 1970 the industry is fairly matured. Most of the equipment is being built in Canada. Quite... some very good sophisticated equipment and well built. So I saw an opportunity to do some exporting. Set up this trading house and was reasonably successful for quite a few years. Finally sold the company in 1979 to Lavalin, having introduced them to this Astrocan project in Russia, trading into Russia, quite a few ???

AK: Right. Lavalin is spelled L-A-V-A-L-I-N and that's a Montreal based outfit, isn't it?

AVDL: They've since been acquired by SNC, which is another Montreal based company.

AK: Right yes. So you'd worked in Astrocan hey?

AVDL: I never did work in Astrocan but I started the negotiations for doing the engineering job and the construction of Astrocan. Got a group together which included Cruesot Loire and Lavalin and Global Trading.

AK: I see.

AVDL: We worked on putting the bids and quotations together for several years pursuing that job, and in the course of it, ended up selling Global to Bernard Lemars Company Lavalin.

AK: Now that first name you mentioned, Cruise something?

AVDL: Cruesot Loire It's a French company.

AK: C-R-U-E-S-O-T Loire, L-O-I-R-E so if you wouldn't mind, Sophie, going back and putting that word in at the front, thanks.

[00:11:06] AVDL: So we went as a group of 3 to produce this, to pursue this Astrocan project in the Soviet Union, which went on from 1977-1979, ended up selling Global Trading to Lavalin. Although they were not successful in getting the first contract in Astrocan, it was nice to see that they eventually did

get a large contract in Astrocan, Astrocan 2. And also some other significant jobs in the Soviet Union and other parts of the Soviet Union.

AK: How did you get paid?

AVDL: The work I did, the first jobs I did in the Soviet Union were in the Northern Komi Republic, supplied equipment for drilling a well to the... in the permafrost and got paid by Export Development Corporation line of credit. They had a buyer's credit in place with the Soviet Union, and it was financed by the Export Development Corporation.

AK: And that was one of their companies. Export...

AVDL: Export Development Corporation was a Crowne company in the Canadian government.

AK: Oh I see. So they picked up the tab.

AVDL: It's a straight financing arrangement, this wasn't any grant or anything. They were doing it at going rates, you know, but they'd provide a buyer line of credit. So I don't know, I think on the subsequent jobs, Russians were making payments maybe supported by financing from Export Development Corporation but there were never any grants for the Russians. Other work I did with Global Trading was in India and Pakistan, Kenya, and Ethiopia, Mexico...

AK: Oh boy.

AVDL: Quite a few places around the world. Sold the Mexicans 6 rigs in one order which was an interesting job, built in Edmonton. Sold a rig into Ethiopia which was paid for by the European Economic Community to build in the Geothermal, in the rift there.

AK: Oh yes. Did they ever do any good there? Did they ever find enough steam?

AVDL: In Ethiopia there are not producing any, but in Kenya it's quite a big op operation there.

AK: They are using a fair amount of steam?

AVDL: Yes, they are generating quite a bit of power in Ethiopia.

AK: In Kenya.

AVDL: I mean in Kenya, not in Ethiopia. Kenya, right. It's Lake... golly I can't remember the name. It's in the northern... north of Nairobi.

AK: Yes, it's all part of that great rift.

AVDL: Exactly. So we had many good contracts in Kenya for mainly drilling equipment, and related equipment for drilling in this geothermal...

AK: Did you ever run into a fellow named Stoian down there? S-T-O-I-A-N

AVDL: No, never did.

[00:14:24] AK: Well then what happened next in your career?

AVDL: Next in the career, the oil business went down hill pretty near all over the world, and what I had been working at since I got out of the trading business, with Jerry Klop??, set up a company to develop and market a system to convert diesel engines to run on natural gas, it was our concept, we'd developed a product, and now we were marketing it.

AK: Right. Does that mean you start the engine up with diesel and get it hot and then you...?

AVDL: You start with diesel, and even when you switch to gas you continue using a small amount of diesel for pilot fuel to ignite the gas, because gas ignites at a much higher temperature than diesel fuel. About 1100 degrees.

AK: This lowers the ignition temperature.

AVDL: But it provides the ignition.

AK: Oh it provides, yeah.

AVDL: The diesel will ignite at about 650 degrees, so it provides the source of ignition for the gas you inject into the system.

AK: Does that yield a delay in the firing? Is there a minute delay that may affect your performance?

AVDL: Well, we have to take that into consideration and maybe vary the timing to overcome any changes in the fuel. And with natural gas we can improve the power and can improve the torque and we can give better overall efficiency.

AK: Is that right? So here you are today working on this. And I take it, it sounds like some of this is international because you have been traveling recently.

AVDL: Most of it has been international so far, and we've got contracts in quite a few countries, Korea, Japan, and Hungary, Iran, Malaysia, to name a few of them.

[00:16:31] AK: Well Arie, I think we may have covered most of it, there's probably some other things that I will think about when I get back, but I was just wondering if we could wrap it up by you giving me maybe a short dissertation on how you see the world since you first started out there with those seismic crews and how you see the world... you know, when you saw the world with National and the boom days, and now we are into a lot more. a tougher sort of a situation. Would you like to give me a little write up on that?

AVDL: Yes, I would Audrey. Thinking back we've don't... we can appreciate... I can appreciate just really how easy it was in the early days to get employment, to get gainful exciting work, nowadays it must be terribly disillusioning for a lot of the graduates and other people who are seeking employment to have such a heck of a time getting some and to work in such dismal circumstances where the companies are

reducing staff and cutting corners. The one thing I've always said over the years is that sometimes when business is bad is the time to be hiring more salesmen so that you can generate more business, and a lot of the philosophy of a lot of these companies is to reduce some and get rid of some of their more important people, which seems to be quite a sad situation. Fortunately I'm in a new business now and I think there are many other good opportunities, and a person should look and should identify opportunities which maybe can offer the same degree of challenge and excitement as we had in the early days of the oil business. The oil business is mature, it's a tough routine business anymore, it's not like the fun and games we used to have. But in something like this alternative fuel, I'm finding the same sort of a challenge and the same excitement as we used to have in the oil patch Aubrey.

AK: Well that's a very interesting comment. There was one thing I've just remembered as you were talking. Going back to the production facilities at Redwater, did you have anything to do with hooking up to the Redwater water disposal system?

AVDL: No, not too much.

AK: The water went its own way through the ... yes right. Well I wanted to thank you very much Arie for this excellent interview. Are your children pursuing the oil patch?

AVDL: I've got one son who is running a small company, or two sons that are involved in their own small companies doing... a little production. So some of the family is continuing in the oil industry. And I think the right end of it too, a little production.

AK: Well that's right. If they can at least get out there, even if they work off the back of an envelope, eh?

AVDL: The one son that has a publicly traded company is... going to plug for him, he's got a company called Dangerfield, and he is doing quite well.

AK: Oh I have heard of that name, yes. Is that named after that comedian?

AVDL: I think he must have had a wild thought and was looking for a name that would stick with people.

AK: Well that's right. You have to have something that... well that's right. And the other son is, does he have his own company?

AVDL: He's got his own, but it's not a public traded company. So he is in the same business of acquiring some drilling properties, or leases, and ...??? picture.

AK: They operate separately?

AVDL: Separately and quite often together.

AK: Yes, depends on what it takes, yes.

AVDL: There is one small field west of Edmonton that the family, including myself, I have a very small percentage, but that's the Highbale area... few gas wells.

AK: Right. What about your... do you got any daughters that are...?

AVDL: Not, well I have a daughter who's a geologist.

AK: Not in the oil business.

AVDL: Her husband is the president of a small oil company, Petrobent. Trades on the Toronto Exchange. Petrobent. It's a small company.

AK: Yes. Well that's...

AVDL: So we are not all removed from the oil patch.

AK: No, I'll say, no.

[00:21:33] AVDL: But I want to give you, just for... because I know you'd be interested, a little bit of information on our new product that converts diesel engines to run on gas because really there's some good opportunities for the future in our country to convert more to natural gas, because we have such a big abundance of it compared to liquid oils and it's a cleaner burning fuel, and much more available. This picture is...

AK: Yes, you have some pictures here.

AVDL: In Hungary, where we have some buses running.

AK: Oh yeah.

AVDL: In eastern Hungary, we put these against some of the various systems that are provided by some Europeans and are beating them hands down. So this is going to become one of our show places in Europe.

AK: Is this patentable?

AVDL: Parts of the system are patentable. Some of the components are patentable. The software has some protection.

AK: Well that's good, because at least you should have some protection.

AVDL: Yes, we are... we have a unique product and it's getting some pretty good reception. One contract we've had with a Japanese firm which is jointly owned by Sanyo Electric, Tokyo Gas, and Senco Shipping. And we've converted Isuzu engines, and Isuzu revolved in the project...

AK: Right. That's I-S-U-Z-U.

AVDL: That promises to be a very interesting... just received a contract from the Koreans with a company called Daisun. D-I-A-S-U-N for 1000 units to convert a fleet of garbage trucks in Seoul, Korea.

AK: And the great thing about this, then, you'd have to have a tank of compressed gas running along with the bus.

AVDL: On this bus they are carrying their compressed gas in cylinders on the roof.

AK: Is that right?

AVDL: And the gas is stored at 3000 PSI.

AK: Oh, very high pressured.

AVDL: In order to give sufficient quantity, you know, ...for a day.

AK: Yes, you don't want to be stopped every 10 minutes or so.

AVDL: Some of them also mount the tanks in the chassis under the bus.

AK: Right, well that's interesting. And they've got the people over there that know how to put it together?

AVDL: This chap here in this picture; one of our technicians. And he was over there teaching them and instructing them how to operate and ... ???

AK: Right.

AVDL: So normally we will send our own people over for a training period and supervise the installation and train the owners and the owners' people how to operate.

AK: I guess start up techniques and all that.

AVDL: Right, exactly. I will give you a little literature on it.

AK: Oh that's be fine.

AVDL: Well, when you hear about alternative fuels and gas through vehicles you remember ??? boys.

AK: Sure.

AVDL: It's interesting because it's got the same amount, maybe a little more challenge than the oil patch because there is a bit of resistance to change.

AK: Oh well sure. Well I think we can stop the tape now, and thanks again.

AVDL: Well it's a pleasure. ... good visit.

AK: Right. And here we are a 10:30 already.

AVDL: Got my mind thinking about these old days.

AK: Well that's good, I'm glad that...

AVDL: Got me thinking of some interesting... some stories can't be told too easily you know.

AK: Well yes. We can maybe... okay then. Over and out at 10:30 am.

End of interview