

PETROLEUM HISTORY SOCIETY ORAL HISTORY PROJECT TRANSCRIPT

INTERVIEWEE: Ted Baugh

INTERVIEWER: Harry Simpson

DATE: November 7, 1985

Tape 1 Side 1 – 24:00

HS: Mid-afternoon of November 7th, 1985. And this is Harry Simpson interviewing Mr. Ted Baugh at his office in Calgary. Well Ted I think my first question would be to sort of get to the start of your career. You graduated from the University of Alberta in 1946 in chemical engineering in the same class as I was in as a matter of fact, right?

TB: That's right.

HS: And did you go with the Conservation Board at that time?

TB: No, my first job was with Polymer Corporation in Sarnia. And subsequently while I was in the Polymer plant I was invited to move to a unit in the plant being operated by Dow Chemical of Canada Ltd., which made styrene. And so I moved to Dow within 6 or 8 months of having started with Polymer and stayed with Dow until 1948, early 1948.

HS: That's when you went with the Conservation Board?

TB: Yes. My job back in Alberta was with the Conservation Board.

HS: Yes. What did you do in the summers of '43, '44, and '45 while you were still going to University?

TB: While summer of 1943 was spent on the Canol project at Norman Wells as a geological assistant, I believe the classification was, which meant that I was a surveyor on a three-man geological field party. And in 1944, as I recall, I worked in Calgary for the Conservation Board in an office role principally, although a little bit of field work in Turner Valley. My first assignment as an engineering, student engineer at that time was to plot the pressure declines of a whole lot of wells in Turner Valley taken from field bottom hole pressure measurements and using those to determine the per-well allowables in Turner Valley. In 1945 I worked for California Standard in the geophysical program across Southern Alberta, from the western foothills to the... virtually the Saskatchewan border, again as a surveyor and as a student engineer.

HS: So you had a fair bit to do with the oil and gas business before graduation.

TB: Yes.

HS: How many engineers did the Board have in 1948 when you started with the Board? Early in '48. Do you recall?

TB: Well I would guess there was around 6 or not more than 8.

HS: And other staff?

TB: Well the Board had quite a clerical staff involved in their assessment program in their records keeping of the drilling, of the well records. And then the production records as well. I would guess the total staff of the Board would be around 50 or 60 people.

HS: And they had a number of field staff, people who were technicians or technologists at that time? People like Bill Kinghorn for example.

TB: Yes, Bill Kinghorn was the guy that did the bottom hole pressures in Turner Valley with me I remember.

HS: Right.

TB: I worked for him as a matter of fact.

HS: Oh did you really? Okay, so when you came with the Board in early '48 you were located in their Calgary office?

TB: Yes.

HS: Right. And I guess you probably hadn't had... apart from your plotting out those pressure declines and so on, any reservoir engineering experience?

TB: No, very little.

HS: So you picked that up through association with those who had had I guess.

TB: Yes, that's true. And was Dr. Goldvior for one and previously to that, a fellow I'm sure you've heard about in your interviews, Goldie Lisamer. He was an engineer that I worked with as a student in 1944. And he helped me that summer, write my... my sequence is bothering me a little bit here because my... 1944 and '45, I'm not sure which job I had which summer. With Goldie Lisamer helped me with my summer student report, which as you may remember, Harry, required each of us to write kind of a thesis. And mine that year was to do with the gas reserves in the Viking-Kinsella gas field, which was a big supply for the Edmonton utility system. And we... Goldie helped me do some reserve estimating by different approaches at that time.

HS: I see.

TB: So I had a little exposure to that sort of reservoir work.

HS: What was he, Chief Engineer for the Board at the time?

TB: Yes. I think that was his title, Chief Engineer, yes.

HS: Were you ever involved in Conservation Board rig inspections?

TB: Not extensively. I traveled with Nate Goodman who is also a name you know about in this area...

HS: Yes

TB: And as a junior to Nate, one of my first field assignments by the Board.

HS: I guess what I am wondering is what the Board required in the way of blow-out prevention equipment in those days. Did they have any sort of specific guidelines?

TB: Harry, I guess I don't remember the specifics at that time. I think that the Leduc field had indeed had certain problems with loss of circulation and other problems that would require blow-out prevention for sure. I believe there was a prescribed blow-out prevention system for the Leduc field, but I don't remember what it was.

HS: Okay, that's fine. The Atlantic 3 well had Board approval presumably on the drilling licence to set 297 feet of 10 3/4-inch surface pipe. I guess I'm wondering, was that sort of normal at the time, or were there guidelines at the time for the amount of surface pipe that needed to be cemented for a well that was going to be drilled to the D-3 zone?

TB: Yes, 300-foot was the standard at that time and was deemed to be sufficient. And that's also in the face of having some problems with wells kicking there because of the loss of circulation in the D-3. But it was felt that the 300 feet of casing was adequate by the Board as I recall. And the Board monitored that in their field operation too. Nate Goodman used to be very sure to know where the casing was set. He was the District or Field Manager, I have forgotten what they call it, for the Board.

HS: Right. You were aware probably at the time that some of the operators at Leduc cemented greater lengths or depths of well surface casing.

TB: Yes, yes I remember that.

HS: And I guess after the... probably wasn't too long after the blow-out there that the requirements were increased for surface pipe?

TB: Were doubled as I remember.

HS: I think that's right. Right. And I guess a lot of the things that we talk about these days are discussed with the benefit of a large amount of hindsight.

TB: Yes, yes.

HS: It's nice to be able to look back. Guess I'm wondering now Ted, in what way were you involved in the Atlantic 3 blow-out? What were your responsibilities generally?

TB: Well my specific responsibility was to be a sort of a standby for Nate Goodman when he was away in the Redwater field and other places, but that was a very junior role that I was playing in the drilling

supervision. And so it was strictly to have somebody there to answer the phone. But more specifically, the Board assigned me the job to work on the movement of the oil that was being produced in the blow-out. First into the injection system to put it back into other wells, but more importantly and later on, to see that it got moved to the market, being the refineries in Western Canada. And this operation was in fact carried out by the Imperial Pipeline people at Nisku, where a loading rack was built, not strictly for Atlantic 3, but it was expanded. Storage was built to move Leduc oil to market. And the Atlantic 3 oil commanded a priority in this facility; because it was flowing uncontrolled it needed to be disposed of to the maximum extent possible. So there became a job of logistics with tank cars, all of it had to move away from Nisku in tank cars. Little bit by truck I guess to Calgary, but mostly by tank cars. And there was a big fleet of tank cars in service provided by the railway to the Imperial Pipeline people. And my job was to assist in that whole process, so wherever the Board's authority for example might be needed for more cars, or more movement of cars, or the recording and documenting of volumes of oil that were being moved and so on. This was my principle role.

HS: Right. I'm wondering Ted, did you have any input into the Board's handling of the situation at the wild well, or at the well of Atlantic 3, prior to May the 15th, 1948 when the Board took over the well's operations? And I'm thinking for example, did you attend meetings with McKinnon or Govier, or Denton and Spencer or any of the other involved people to decide how the well might be gotten under control?

TB: No, I had no role to play there at all. I came in the scene after the Board had taken over.

HS: I see. Okay fine. Looking back over the history of the Atlantic 3 blow-out, I'll just refresh your memory with a few dates here Ted. On February 17th of 1948, circulation was first lost to drilling at 5267 feet, and the well blew out at 4 a.m. March the 8th. And the blow-out preventer couldn't be closed and this was following many attempts to regain circulation all of which were unsuccessful. Drilling continued dry as a matter of fact, without circulation to the depth of 5331, it was at that point that the well blew out. Then for the remainder of March and the first 6 days in April, water was pumped down the hole, cement plugs, mud, etc. And all of these things to attempt to regain control of the well. Gas started cratering through the ground on March 21st. The well was blowing dry gas for the remainder of the month of March. On April 7th the famous massive cement job, 10,000 sacks plus a bunch of other stuff, was attempted and it had absolutely no effect. Myron Kindley arrived a day or so later and attempted a fishing job on a bunch of junk that was in the drill pipe. Oil started cratering on April the 19th and from May the 3rd to May 15th, large quantities of mud and roughage were pumped down the drill pipe. And it was on May 15th that the Conservation Board took over the well's operations and Imperial Oil's Tipp Maronie was placed in charge.

Now I guess the purpose of all these dates and items here that I've reminded you of is: at the time the Conservation Board took over the well's operations, this was about 3 months after the well first lost circulation and had serious lost circulation difficulties. I guess the question that I've been wondering about is can you tell me, why did Ian McKinnon, and George Govier and others who were involved on the Conservation Board, wait so long before deciding to take over the well? I guess it appears to me again looking backwards, and in fact I was in Devon at the time, it seemed to a lot of people that the folks that were in charge of that well were not really heading in the right direction or hadn't proven that they were going to be successful in controlling the well. I wondered if you had an opinion or a thought on why it did take so long for the Board to take over?

TB: Well I think, really I was a very junior engineer on the scene so I didn't really put my mind to that question at the time, but in retrospect it would seem to me that the Board would be very loathe to take

over an operation for the principle reason that it didn't have unto its own staff, the ability, an ability greater than those of the operators that were drilling the wells. And I believe the Board would be very reluctant to take over in the sense without assembling a group of people, which they subsequently did, to handle the job. So I believe, and there was always an encouragement during the course of those big cement jobs, and pumping down the pine branches, and I've forgotten... and gunny sacks and everything that was in it.

HS: Feathers.

TB: Feathers. There was the famous feather operation. There was always being encouragement given to Ian McKinnon that those things might do the job. You have to remember that the oil business was pretty new as well. It had only been really a year old at that point, in the sense of the Leduc operation, and I think the Board was just very reluctant to get involved. But once having done so I remember the determination and the concern expressed by Ian McKinnon, who kind of was informed, as I remember, almost daily. I used to talk to him quite frequently about the small part that I was having.

HS: Right. Well that sounds pretty reasonable. Ted I've got a few questions on a report you prepared in October of 1948 when the well had been brought under control. And that particular report was titled "Data on Atlantic 3 Blow-out". Section 2 of that report shows daily fluid injection to the D-3 zone. The oil that was injected into the Atlantic Number 1 and Number 2, ranged from 0 to about 8000 barrels per day on a day to day basis. And the daily injected amounts were estimated by counting pump strokes and taking in to account piston displacement and pump efficiency at various pressures.

TB: Yes.

HS: So they were estimates, but probably pretty reasonable estimates. The reason for the daily fluctuations in oil injection volumes was the limitation on transportation facilities. Is that correct?

TB: Yes, that was a real factor. And there were mechanical factors too. Recognizing that the oil was being picked up from earthen pits on this quarter section of the Atlantic 3's location, and there was change in the source of the flow from different craters from week to week. And sometimes the pumps would have to be moved and it was not just a regular pumping operation. So I remember there was some mechanical reasons that the shipment couldn't carry on, and these were always considered with great concern. The whole concept of conserving this oil was very important, at least it was to me in my job at that time.

HS: Yes.

TB: Basically the arrival of tank cars was the most important factor in that fluctuation.

HS: Yes. Was all of the oil that was injected in 2, first pumped from the pits of Atlantic 3 to the Leduc consolidated battery and then put through separators and into tankage? Or was it pumped directly to Atlantic 1 and 2?

TB: Well I think it was mostly directly pumped. I think the separation was just done out in the air, and these were open pits as I recall. Initially they tried to put it through that battery but it wasn't sufficient in capacity.

HS: Did they not... well I suppose they had some plugging problems too with the dirt and whatnot that came along with it.

TB: Sure, those were the mechanical kind of problems that I mentioned.

HS: Yes. Right. Okay, very good. I'd like to talk a little about the effect of the Atlantic 3 blow-out. You prepared another report, and I believe it was in November of 1948 that dealt with the effect of the Atlantic 3 blow-out. It was revised by one George Govier on December 1st of 1948. The nerve (laughter). However... I guess the, well I know that the Leduc D-3 pool was not fully developed at that time so reservoir delineation had not been completed. So that would account for some of the differences in what you estimated at the time, and what others have estimated in more recent years looking at both the reservoir delineation information that has become available since then, as well as the production performance of the pool.

TB: Yes, I remember that the Acheson?? part of the pool was under development, and there was no... we really didn't know how far it extended north of the Saskatchewan River and how far it would eventually would go. And as I recall that was the situation of ...

HS: Excuse me, you mean the Woodbend?

TB: The Woodbend part, I'm sorry, yes. The Woodbend, the north part of the reservoir.

HS: Yes, correct. In that report of November 1948, you estimated the oil zone had risen into the gas cap by approximately .4 feet. And that this would result in the loss of some 619,000 barrels in the ultimate recovery that was expected at the time.

TB: I don't remember those numbers. But I do remember that in essence that was about the scope of our estimates at that time.

HS: Right. You might be interested to know that the current estimate by Esso Resources is that the oil zone moved up by 1 ½ feet right across the reservoir, causing a recovery... or expected to cause a recovery loss of some 2 ½ million barrels.

TB: I see. Significantly more than we estimated at that time.

HS: Yes. However, compared to the total ultimate reserves at Leduc D-3 of some 246,000,000 barrels, this is still a relatively minor loss, only 1% of the reserves, especially when you consider the magnitude and the seriousness of the blow-out. Would you agree with that?

TB: Yes, I...

NOTE: the interview seems to have ended suddenly at 23:58 with no further recorded data on Side 1 or 2 of the tape.