

PETROLEUM INDUSTRY ORAL HISTORY PROJECT  
TRANSCRIPT

INTERVIEWEE: Stan Harding

INTERVIEWER: W. J. Wood

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JW: Stan, I wonder if we could start out by finding out a little bit about your background, where you were born first of all and where you grew up?

SH: I was born in Ceylon???, Saskatchewan, which is about 90 miles south of Regina, near the present #6 highway. Of course, there was no #6 highway when I was born. When I was 5 yrs. old my mother took myself and my sisters down to Iowa and I started school in a little place called Indianola, Iowa. The reason for going back to Iowa is because that's where my parents came from. In 1906 they came up from there to southern Saskatchewan with a covered wagon. I can't give you any details on it but I know that's how they arrived.

JW: That must have been quite a trip. You don't remember your trip back down there do you?

SH: Oh yes, I remember my trip down there. The railway hadn't come into Ceylon, Saskatchewan yet and I can remember, we went with a bobsled to another town to take the train to go back south. The bobsled was full of straw and hot rocks to keep us warm. As I say, I was only 5 yrs. old, not quite 5 at that time. But no, I remember it very well.

JW: What year were you born, Stan?

SH: June 9<sup>th</sup>, 1912. So my memories do include something of the First World War even.

JW: What else do you remember, anything else about Ceylon, Saskatchewan as you were growing up in that part of the world at that time.

SH: My dad had a homestead, which we eventually left, on what we call the Missouri Plateau. It wasn't a very fertile patch of ground that he picked and eventually he just walked away and left it. We lived in several towns in southern Saskatchewan. I recall, my dad looked after the garden for the CPR at Rouleau, Saskatchewan. Subsequently, we moved to Regina and Dad built the CPR garden in Regina. There's some thought about how I happened to end up as a geologist.

#042 JW: Well, I know you were a teacher, went to school and graduated and became a teacher. I'd be interested to find out what you were teaching and where?

SH: Yes, I can talk about that a little bit. First of all, I might say that I think I was always interested in exploration, partly because my father subscribed to the National Geographic. In fact, I have, I think, nearly all the National Geographic's, from 1911 on in my basement right now.

JW: That's quite a collection.

SH: Anyway, we moved to Regina when I started Gr. 7 and after high school I went to normal school in Regina. They don't have normal schools now but that's what they used to call the school where they taught you to be a teacher. In 1930, when I finished high school I

had Gr. 12 but you could go to normal school with Gr. 11, it gave you a second class certificate. I had a first class certificate because I had Gr. 12. I finished normal school then in 1931, and it wasn't easy to get a job as a teacher, but I did. I taught for 2 yrs. south of Piapot???, Saskatchewan in a country school and a year in a country school north of Maple Creek. Then I was invited to join the staff in the town of Maple Creek where I taught there for 4 yrs. Taught grades 4 & 5 and later I taught grad 6 & 7. I decided that I should try and go to university and get a college degree and a high school teaching certificate. I resigned from the staff at Maple Creek and applied to go to university. I'd been up there for several months working on my BA. In those days you didn't have a 4 yr. course of education, you got a BA and then you took a year in the faculty of education after you got your degree.

JW: Was this at the University of Saskatchewan in Saskatoon?

SH: That was at the University of Saskatchewan, yes. So after I'd been there for several months I thought, well, maybe I should go down and have a chat with the Dean of Education. This was a man by the name of Dr. Quanst, Dean Quanst as he was known. So Dean Quanst said to me, what courses are you taking. One of the courses I was taking was a course in economics. He said, oh, you don't need that. I said, I thought a well educated man should know something about economics. He said, that's not on a high school curriculum, you don't need that. So I was taken aback a little bit. Then he wanted to know about other courses and I told him I would like to take an honours degree in something. He said, oh no, that's too specialized, to teach high school you have to have all the subjects and no specialize in one. So I went out of his office thinking, to heck with that and decided to become a geologist.

#084 JW: So you enrolled then, in the faculty of geology?

SH: I was already taking one class in geology and so I took some more and ended up with an honours degree in geology. Some students were able to get geological field work in the summer time while they were working on their degree. Actually, I had a bachelor's degree in geology before I was able to land a job in field work. The first 2 summers while I was going to university I was able to go back and find summer work teaching jobs. But after I got my degree I did land a job with Imperial Oil for the summer.

JW: Let's go back just a little bit here, back to the university. What year first of all, did you graduate, do you recall, with your BA?

SH: I got my BA in 1941.

JW: Do you recall any of the professors that were there then?

SH: The head of the department was Dr. Maudsley, and Harry Edmunds was another one. There was only a staff of 3 at that time in the geology department. The third member's name won't come to me right now.

JW: Do you recall any of your classmates, did any of them go on to be your colleagues?

SH: Yes. There are quite a number of classmates still in the business. I just forget whether they were in the same year as I was or not but we had a club, known as the Ore Gang, which took in all the students who were seriously interested in geology. And there are quite a few of these Ore Gangsters as we called them in Calgary. Bill Hancock is one,

??? Clare is one. Hal Keeble is another one that comes to mind.

JW: What kind of geology program did they have at the university at that time, was it a fairly general one or were they focussing on western Canadian geology, do you recall?

SH: They classified geologists you know, as hard rock and soft rock geologists. Hard rock are the ones that go into minerals and soft rock are the people who are concerned with the stratigraphic geology and the oil and gas and such. Your questions again was?

JW: I'd be curious to know just, the focus of the department, in terms of, did they specialize in an area?

SH: Well, as I started to say, you have hard rock and soft rock. But the courses, I think at most universities and it certainly was in Saskatchewan, gave you a broad basis for both. Whether you become one or the other depends on your experience after you graduate really. It's an interesting comment perhaps, that Dr. Maudsley, who was at that time, head of the geology department, he was later Dean of Engineering. But Saskatchewan have a degree in geological engineering. You could take your geology through arts or you could take it through engineering. Dr. Maudsley always encouraged people to take the geology through engineering. His reasoning was this, he said, half of you fellows will never make geologists, so you might as well have an engineering degree.

#133 JW: So in 1941 you graduated and you hadn't really worked in the field yet. You had some field courses probably and Imperial Oil was your first employer. How did that come about?

SH: I made some applications, I can't remember if I was interviewed or not. I was accepted by both California Standard, which is now known as Chevron, and Imperial Oil. But I had accepted the Imperial Oil offer before I got the offer from the other one, so that's how I happened to be with Imperial Oil. That was when I first met Dr. Sproule. Dr. Sproule was in charge of the Imperial exploration efforts in Saskatchewan. He put me catching samples on a shothole rig in southern Saskatchewan. The head office for Saskatchewan at that time was in Moose Jaw. We were doing some seismic work down in the Ceylon area and I was attached to this seismic party, catching the samples on a shothole rig.

JW: Maybe you could just briefly describe or mention what a shothole rig is?

SH: This is getting into geophysics and I'm not a geophysicist but the small drill drills a hole every quarter of a mile or half mile or whatever the spacing is required. A dynamite blast is blown off at the base of this hole, after it's been weighted with water and the seismic recorder produces the reflections from the various strata underneath.

JW: So what was your task with respect to this.

SH: Dr. Sproule was interested in the microfossils in the Bear Paw shale formation. So we systematically, sampled the shale that was being penetrated by these shothole drills and saved them. It had to do with a method of determining the structure of the strata. It is called micro-palaeontology. They record the sequence of microfossils in the strata and correlate it with the sequence in the next hole and the next hole and so forth.

JW: Okay. So you were down in the Moose Jaw area that summer.

SH: I wasn't there too long. Working with these shothole rigs didn't seem to me to be too much geology so I told Dr. Sproule I would prefer to be transferred to a field party that

was doing geological field work if that could be done. He was sympathetic and he transferred me to Alberta. I went to work in eastern central Alberta with Dr. Art Nauss. He wasn't Dr. Nauss then, he was still a student. I think he was a student at Stanford. So I had, the big part of that summer, 1941, with Art Nauss. I was a geological assistant and rodman and Jim Shouldice was the instrument man.

#188 JW: You were then working in the Vermillion, Wainwright area?

SH: That's right. Wainwright, Vermillion, Lloydminster area, doing field work, mapping. Plane table and alidade.

JW: What was Imperial's interest in that area at that time, why did they have a field party there, do you recall?

SH: There was known oil in the Lloydminster area at that time. So the interest was in mapping the strata and the structure of the strata in the surrounding areas, to see if they could find other oil possibilities in the general area. It was just one of numerous field parties that Imperial had out. Other parties were working in southern Alberta, for example. I got a lot of valuable training with Art Nauss that summer.

JW: What were the living conditions like, were you living in camps or in town or...?

SH: On that particular field party we found board and room wherever we could when we went into a town like Wainwright. I recall specifically that my salary was \$60 a month and my living allowance was \$75 a month. I had this \$75 a month living allowance and then you went ahead and found living at whatever price you could.

JW: Did it work out?

SH: It worked out all right, yes. I think that was over 40 years ago and it certainly indicates the degree of inflation that has occurred since eh.

JW: That's for sure. 1941 still, apparently you had a meeting with Dr. Ted Link sometime during that summer is that right.

SH: Dr. Link was chief geologist for Imperial Oil. I think that Dr. Link perhaps, wanted to get out of the office, he was really a field man at heart. Nauss had this party up in the Wainwright, Vermillion area, he just thought, it would be a good idea if Nauss saw all the exposures of bedrock along the North Saskatchewan River. So he organized a little outing for himself and us to go down the North Saskatchewan River from Edmonton to Saskatchewan. We only had 1 canoe but we had 2 cars and 4 people. So there were only 2 people in the canoe at any one time. Nauss was in the canoe for the whole trip, Link was in there part of the time and I was in there part of the time and Shouldice was in there part of the time. But it was kind of a fun trip and we got acquainted with Dr. Link that way. It's kind of interesting to think about it afterwards, that we sailed right over the Redwater oilfield, nobody realized it.

#242 JW: There was nothing exposed?

SH: If there was anything significant in the outcrops we weren't aware of it.

JW: So you went back to school then, you started your graduate work in 1942, after that field season?

SH: '41, '42, yes. I had a BA in '41 and then I went back and got an honours degree, BA with

honours in '42. Imperial took me on again for the next summer. This time I worked in southern Saskatchewan on mapping and I was the instrument man on this party.

JW: Southern Saskatchewan especially, in the area south, around Shaunavon and in there, there's pretty good fields that were eventually discovered and are producing. Did you have any inkling that those were there at that time, from your observations?

SH: No, we really didn't. We were mapping the outcrops in places like the Big Muddy Valley and down around Willow Bunch and in that country.

JW: Through the Frenchman?

SH: Yes. It was an interesting summer for field work. I never regretted the opportunity I had that year to do mapping with plane table and alidade.

JW: Who was on your crew that summer?

SH: The party chief was Wild Bill Macdonald. I say Wild Bill Macdonald to differentiate between another Bill Macdonald who was also a geologist. Bill Macdonald, I've lost track of him but he may still be around the province. I don't think Bill would mind my commenting on him in this fashion. We were working for Sproule that summer too you see, Sproule was in charge of the Saskatchewan operation. I went back to school in the fall but Bill Macdonald was still working for Sproule. The story I heard was that Sproule eventually fired Bill Macdonald. His comment was, I didn't mind him going out to play pool in office hours but I didn't like him taking the draftsman with him.

#284 JW: So Wild Bill earned his nickname to some extent. What made you select McGill, there were a lot of different graduate schools to go to?

SH: I should have said that in the fall of 1941 I got married to another student at the University of Saskatchewan. Actually, I think I was old enough. The girl I married was a school teacher as well as myself. Nowadays it might be quite common for married students to be at the university but we were rather the exception at that time. Between us we managed to pay for our education one more year and that brought us around to 1942. Before the term ended Dr. Maudsley called me in one day and said, where are you going to go to school next year. Well, I hadn't even thought I was going to go to school next year. He said, you're a pretty good student and you should go on, you should carry on. He suggested that I do this, he said, you should be able to get a job as an instructor somewhere, which would help pay for it because I didn't have that much money. Actually, it's kind of interesting, when I left teaching to go to university I thought I could afford to go for 1 year. As it turned out I went for 5 years in a row. We didn't have student loans in those days but I was able to earn enough in the summer to carry me through the winter and I always had some kind of a job while I was going to school too. The second year I was at the University of Saskatchewan I was assistant to Bill Griffiths, who was head of the physical education. The next year I think I was logging samples for the government while I was there.

JW: I'm going to turn the tape over here.

- #024 SH: So I applied to a number of graduate schools, asking for a possible job as an instructor. McGill was the only school that offered me an instructorship so that's how I happened to go to McGill. It's rather interesting to me that the University of Toronto replied and said, we save our instructorships for our own graduates, which I thought was a rather inbred idea. At McGill I took my Masters work under Dr. Tommy Clark, who is well known in those parts. Again, I was in soft rock in graduate work.
- JW: So you had pretty well made up your mind by that time, that stratigraphy and ultimately, petroleum geology, was what you were interested in?
- SH: Yes. Mining didn't really appeal to me. Although I still have some regret that I didn't have at least one season of field work in hard rock, in the pre-Cambrian company.
- JW: Just to round out your background?
- SH: Yes.
- JW: What was your thesis topic at the University of McGill?
- SH: It was mostly palaeontological. It had to with the Lorraine??? formation of the St. Lawrence lowlands.
- JW: Was that through your own choosing or was there an emphasis at McGill to pursue . . . ?
- SH: No, it was a suggestion of Dr. Thomas Clark. It was a job that needed to be done and there it was and so I did it.
- JW: Did your work in Saskatchewan on the identifying microfossils and so on, did that help at all later on with that?
- SH: I never did do too much on the microfossil work. Dr. Sproule had a crew working on that but I wasn't too involved. Diane Lorringer, as we mentioned earlier, was one of the people working on that.
- JW: So you graduated then, in what year.
- SH: 1943 was when I got my Masters degree at McGill. I applied for a position back with Imperial Oil and they took me on, on the permanent staff.
- JW: The government wasn't after you to join the service at that time?
- SH: Yes, this was in the middle of the war there. I was involved in COTC while at university and I have a scar on the lens of my right eye. This was always a concern to the medical doctors in the services. During the time I was in university, of course, the war started while I was in university and during the time I was there I was examined from time to time. Sometimes I was labelled 4-F and sometimes I wasn't. Anyway I was generally involved in the COTC program while I was at university. But when I went with Imperial Oil in 1943 they had me exempted from military service, as I suppose, scientific personnel. This was quite a different approach to what they used in the United States. In the United States they put their scientific personnel in to the services and then turned them back to civilians in groups. For example, in the Canol project, the geologists that came up from the States on the Canol project all had Army positions. That's my understanding. But in Canada, they didn't take you into the services, they just kept you out.
- #074 JW: It seems simpler that way I guess.
- SH: I think Dr. Link had some honorary sort of military title on the Canol project. I'm not

sure ???.

JW: When you graduated then, you were essentially rehired by Dr. Sproule out of Saskatchewan at that time again.

SH: Yes. I immediately went to work as a well site geologist. For 2 years I worked as a well site geologist in Saskatchewan.

JW: Where, do you recall?

SH: I can recall the locations of the well. It was Norkinalls???, Norkinalls was a company name that was set up by Imperial. You know, they had Royalite and so forth, and in Saskatchewan all of the wells they drilled over there were drilled under the name of Norkinalls. So my first well was Norkinalls-Perry #1. That is not too far from Norkinalls-Ogema?? #1. I wasn't on the Ogema well but I was nearby. I lived in Amulet, Saskatchewan. Then I was on a well at Central Butte, I think that was an Imperial well. Then I was back on Radville #2. Radville #1 had some encouraging shows of oil and there was some feeling that it hadn't been adequately tested and they drilled Radville #2 nearby. It had a show of oil too, but it wasn't commercial. Then I was on Imperial-Swift Current #1, which was south of Swift Current at a place called Wymark???. So I was, from the middle of '43 to the middle of '45 on wells in Saskatchewan.

JW: Norkinall, that's something that I haven't heard of before. Was that a separate company, was it Norkinall Ltd.?

SH: A subsidiary of Imperial Oil. I've never heard of it, except as it was used in Saskatchewan. They took permits out in the name of Norkinall and named wells after it.

JW: Was Dr. Sproule also head of that, as well as the Saskatchewan division of Imperial?

SH: I don't know what the executive of Norkinall was, whether Sproule was on the executive of Norkinall or not. Sproule was certainly in charge of the operations in Saskatchewan.

JW: Let me ask, was your salary increased, having graduated now, with a Masters?

SH: I don't recall what my salary was at that time. I do recall this though, it was war time and elderly men and kids were sought for labour because the people of service age were not available. I had a boy working for me who was, I think he was 17 yrs. old but he had a gr. 9 education. He was working for me catching samples at Norkinall-Perry. They were shorthanded on the drilling floor and the tool pusher, who was Archie Miller, another man that you might want to interview. The tool pusher came to me and said, could we hire this lad to work on the drill floor. I said, sure, if he's interested I won't stand in the way. So they hired him to work on the drill floor and they paid him more than I was getting as the geologist on the job. Subsequently the kid was killed on the drill floor and I thought, well, maybe that's why he got paid more.

#126 JW: I guess all of those wells were dry then, you had some shows of oil but no real production?

SH: Yes, I think they drilled about a dozen wells. The wells were all in the deeper part of the Williston Basin. I think the general idea was, they were going to start in the middle of the Williston Basin and work out. Subsequently most of the oilfields in Saskatchewan were on the flanks of the Williston Basin, rather than in the middle of it and the middle of it

was where we drilled our more expensive, deep wells.

JW: You were moving around quite a bit, it sounded like at that time. Did you have a trailer, you had, not a new wife anymore, you weren't newlyweds anymore but. . . ?

SH: No, I had a wife and a baby daughter as well. We didn't have a trailer. We got accommodation wherever we could. I rented a house in Amulet, Saskatchewan. The company provided me with a truck, a half ton truck. When I was at Radville, on the Radville #2 well site, I found living accommodation in an abandoned stone house, which was a good part of a mile away from the drilling rig. It seems to me it was about 10 miles from Radville and I thought, I'll fit into this abandoned house with my wife and baby, about a mile from the rig. This was fine but Dr. Sproule who was the #1 man in the organization in Saskatchewan, naturally, heard about how I was living within a mile of the rig. He decided that transportation units were in short supply and that he could use my truck somewhere else, so he took my truck away. Dr. Sproule was involved with seismic exploration in Saskatchewan also at that time, I mean, it was part of the program. He wasn't personally in charge of the seismic but he was concerned with seeing that the seismic had what they needed. There was a surveyor by the name of J. A. Armstrong, who needed a unit and J. A. Armstrong got my truck.

JW: That's alias Jack Armstrong I bet?

SH: Yes.

JW: So you ended up walking to work everyday.

SH: That's right.

JW: Were there any mice in that house? How long had it been deserted?

SH: I don't know how long it had been abandoned. I remember the walls were a good 4' thick I think. Maybe they weren't quite 4' but they were certainly thick stone walls.

JW: Summer and winter.

SH: The well was drilled within the summer months, I wasn't there in the winter.

JW: What happened, were they drilling in the winter as well at that time?

SH: Oh yes.

JW: So you were out there too then, in the winter.

SH: Yes. At Central Butte I was able to rent a cookhouse, a thrashing outfit style cookhouse in a farmyard right beside where the rig was, so that was convenient. At Wymark, Saskatchewan, where the Swift Current well was drilled, I looked around there for a place to live. The section foreman was a widower who said, he had a room in the section house and he backed off into one room and turned the residence for the section foreman over to us. That worked out all right.

#180 JW: Did you have, in general, pretty good relationships with the local folks, farmers and so forth?

SH: Yes. We always got along fine with the local people.

JW: So this is getting us to. . .

SH: I might comment further, I was just thinking about Wymark, Saskatchewan. When the drilling crew came to town, the price of supplies usually went up. At Wymark, I recall the price of milk was 5 cents a quart until the drilling crew hit town and then it went up to 10



cents.

JW: Wow, doubled. Did you resent this at all, or just part or the deal?

SH: No, I just found it rather interesting.

JW: You had to leave Saskatchewan then, shortly thereafter.

SH: Yes. The program in Saskatchewan was along this line. Imperial Oil would take out a permit and there would be certain conditions which had to be met when they took out the permit. Certain work had to be done and so forth. We would explore that permit and then we'd take out another permit for further exploration. From year to year they would change their area of work. Now in 1944 the CCF government came into power in Saskatchewan under Tommy Douglas and Imperial applied for a new permit which was going to be a 1945 permit. Then there was the question of the terms under which this permit would be granted. Now the information I am going to give right now is second hand information and I might say that legally, it's hearsay. But as I understood it, the CCF group in government said, we'll issue this permit to you but if you find anything on it then we want a buy back clause. In other words, we will buy it back from you at a cost plus. Well, what do you mean by cost plus. Well, whatever you spent on it, and then we'll add to that something and buy it back from you. They said, is that cost plus going to allow us to recover what we spent on about 10 or 12 dry holes already. Well, they weren't on this permit, that's history, that's on some other permit, we're talking about this permit and what you found on this permit. So Imperial wasn't getting anywhere, very far, very fast and they decided to pull out, which they did.

#229 JW: How many people then, were, do you recall, working in Saskatchewan? How many other wellsite geologists were there at that time, throughout the province, do you recall?

SH: There were 2 or 3 drilling rigs, but then there were all these seismic parties too. They were working there today and they were in Alberta the next day. No, the decision was made, people moved out. This was a factor actually, in the discovery of Leduc. Because it was the seismic parties who came out of Saskatchewan who profiled in central Alberta and found this bump which turned out to be Leduc.

JW: That's right. It might even have been your truck on the seismic crew they had. [Laughter] Did you ever get it back, or you got another one I guess?

SH: I got another one.

JW: How did you feel personally about leaving Saskatchewan, your roots were there and you had spent a long time working in the province?

SH: I was used to moving around. Although, up to that time I'd lived longer I suppose, in Regina, than anywhere else. Though I can't say I have any sense of loyalty to Regina. That first 2 years of marriage, I think we moved 13 times. So my wife and I got used to moving about. On wells and ??? projects and so forth.

JW: Where did you end up there in Alberta?

SH: When we came into Alberta, Dr. Sproule was designated to set up a subsurface department and he brought me over as his assistant. I was right in Calgary.

JW: So you had an office downtown here and so forth?

SH: Yes. First of all we were in a building on 8<sup>th</sup> Ave., across from the Capital Theatre and I can't think of the name of that building right now but I remember, Pollard Photo Studios were upstairs in that building. And we were upstairs. Then later, we moved over to what was called, the Middleton and ??? building, which was on 3<sup>rd</sup> St. and 7<sup>th</sup> Ave.

#273 JW: Was all of Imperial in Calgary housed in 1 building?

SH: No.

JW: You were spread out?

SH: The subsurface department was in the Middleton ??? building. I forget where Jack Webb, Jack Webb, he was chief geologist at that time, I forget where his office was. It was later that we ended up in that building on 9<sup>th</sup> Ave. and 2<sup>nd</sup> St.

JW: What was the, I don't know, mandate, that's not quite the right word, what was the task of the subsurface department relative to some of the other departments in Imperial at that time?

SH: You're more of an exploration and production than many departments. You know, the engineering department and the surface geological . . . surface geological