

PETROLEUM INDUSTRY ORAL HISTORY PROJECT
TRANSCRIPT

INTERVIEWEE: J. E. Klovan

INTERVIEWER: David Finch

DATE: June 27, 2001

DF: Today is the 27th of June, in the year 2001 and we are with Mr. J. E. Klovan, you go by Ed, don't you?

EK: Yes.

DF: At 433 Scarboro Ave. S.W. in Calgary. My name is David Finch. So could we start with the east questions, where and when were you born?

EK: Well I was born in Rich Valley, Alberta on the 6th of June, 1936.

DF: And where were your parents from?

EK: My parents had immigrated from Czechoslovakia in 1929 and they were farming there at Rich Valley.

DF: Okay. Now tell us about your education and how you got into geology?

EK: Well, I was born on a farm and we walked to a one room school and then when I was about, towards the end of Grade 1 we moved to the little hamlet of Fallis and I attended a one room school there until Grade 8. And then went to Seba Beach High School, which had four rooms and graduated from there in 1953 and we were the first graduating high school class from Seba Beach High. How did I get into geology, well, two things, when I was about 12 my sister gave me a chemistry set and that's how I kind of got started in science. My real reasons for getting into geology per se, was because of my dog Rex. I had taught this very large dog how to pull a sleigh and in 1948 or so there was a seismic crew made up guys from Louisiana, Texas and they had never seen snow let alone a sled dog and so they asked if they could have a ride. And Rex would give them rides and they'd take movies and in return they'd let me ride in their trucks. And then they helped me with math and science and told me what geology and earth science was about. Otherwise I would have never, ever heard of it, where I was growing up. So thanks to Rex I got interested in geology, thanks Rex.

DF: Yes. Was it typical for a boy from a farm, an immigrant's son to go university and so on.

EK: No, there were very few of us ever really had gone from Seba Beach or that area. To me an engineer was a guy who drove a train, that's all I knew about that kind of stuff.

DF: So where did you go to university?

EK: I went to University of Alberta for my bachelor's degree, then went to Columbia University for Masters and PhD.

#028 DF: So what did you study?

EK: Well, I studied geology at Edmonton. I think there were maybe 6 profs there and I got the best education a guy could ask for from those 6 or 7 men. When I went to graduate school at Columbia there was another fellow from Edmonton there and we could compete with

any of the guys from anywhere in the world. We had a totally first class education from those professors.

DF: And stories from that time period at U of A?

EK: We had, there was a class of about 20 of us and we still get together. A lot of those guys went on to graduate school, teaching careers, very successful in industry, so it was a great class. Tremendous competition amongst us for grades and things. A lot of ??? and still, two of my very dearest friends are from that class. Now, part of the educational process there was that we were all fortunate in that, in those days besides receiving the academic background, our entire class I think, spent at least 4 summers in the field working for oil or mining companies or the Geological Survey. So by the time we graduated we not only had this good academic background but a really solid experience in geology out in the field, the only place to learn it.

DF: Where did you go?

EK: Well, the first summer I spent in a gold mine at Yellowknife and that's when I decided I'd go into the oil business. And then the next summer was a horse party north of Jasper.

DF: Why did Yellowknife decide you to go into oil?

EK: Working down in that mine, the cold and wet, tough guys that you work with. I was a diamond driller's helper and you know. . . And then the next summer then I got on with California Standard, which is now Chevron for the next 4 summers and we started at Jasper on a horse party and then with helicopters all the way from about Jasper right up to the Arctic Ocean and everything in between.

#056 DF: Wow. Any stories from those horse parties?

EK: Again, I never liked horses much and I still don't. Another one of my dearest friends was my camp partner on that trip. Our guide was Eddie Moberly, a very famous hunting guide. I shot a grizzly bear and I shot a goat under his tutelage. I'm not very proud of that anymore but at the time.

DF: Where did this take place?

EK: Up in Jasper area, north of Jasper, what is now Wilmore area.

DF: Did you do any geology from Canoes?

EK: Not from canoes but in those helicopter parties I spent a lot of time on the river. What they would do is they'd blow up an 8 man rubber raft and 2 of us would be flown up by helicopter upstream and then for the next 2 or 3 weeks we'd float down and map the geology, with all our own grub and no radios, just . . . and you wouldn't dare do that stuff now. It was something.

DF: What did you do next?

EK: Well, then I went to graduate school in New York City and got my degrees there. Got my first job just before I graduated with Conoco, in Ponca City, Oklahoma in their exploration research group. As my wife Dorothy likes to say, we stayed there for a year and two days before I got a similar job with Imperial Oil here in Calgary and stayed with them for about 4 years, again, in the exploration research group. Mostly in the research side. So I never got involved in the exploration drilling per se, never. But got terrific training in both those places.

DF: Who did you work with in Imperial?

EK: My big boss was a guy by the name of Doc Landis, who was marvellous. Some of the other guys I worked with were Bob McCrossan, who's a ???, Harry Glaister, a regular who's who of. . . McCrossan and Glaister put together the first atlas of western Canadian geology. So they were doing it while I was there. So I stayed with Esso for about 4 years and then I was invited to join the teaching staff at University of Manitoba, stayed there for one semester only and then got an offer to come back and teach at the University of Calgary, which I did for the next 15 years.

#091 DF: You like teaching?

EK: Loved it. But it was time to move on to other things, so then I joined Husky Oil and headed up a research group for them.

DF: So other than your early career you weren't in the field very much?

EK: No, not true because at the university I directed a lot of research with students and we spent about 5 years up in the Arctic Islands as a matter of fact, with various graduate students.

DF: I was thinking more of your petroleum career though, you said you were quickly into research.

EK: That's correct. And that was primarily lab work, although I had two specialities, the first was carbonate geology and Devonian reefs, were what I did my thesis on. And the second one was while I was at Columbia, I got involved in 1959, working with computers. I spent most of my career trying to figure out how to use computers in geology. So it was a double kind of thing that I was doing. I got out in the field quite a bit to do the carbonate stuff.

DF: Tell us about your thesis, what were you out to prove or what were you trying to figure out?

EK: At one of the seminars in my first year in Columbia we had the topic of reefs, fossil reefs. So they said, Klován, you're from Alberta, you'll be the Devonian.

DF: So what year was this?

EK: This was 1957 when I got there.

DF: So 10 years after Leduc?

EK: Yes. So I started poking around. . and various other guys had reefs from different areas, from Texas, and Europe. And they seemed to know a hell of a lot more about their reefs than I could find out about mine. So my prof said, why don't you go and work on Devonian reefs. So I did and I worked on Redwater. John Andrechuk and Ralph Edie, you know, two of the best geologists in western Canada and very classy guys, when I talked to them about the idea they were just tremendously encouraging. John had just finished a big study on Redwater, he realized that it was at this level and we should be at that level. So they were just super encouraging to me and so that's what I did.

DF: What did you do though, how did you take it to the next level?

EK: What I did was that I looked at the cores, this sub-surface reef and started looking at these cores and trying to log them and I suddenly realized I couldn't see very much from the outside of the cores. When I talked to other people they said, there's no fossils or nothing

in those, they're just either white or they're grey. So I took them over to the university and used their diamond saw to cut them in half and when you opened the thing up and had a smooth surface there was just incredible, incredible stuff there. Fossils and sedimentary structures that we didn't understand or hadn't seen before. It was just at the time that a fellow by the name of Bob Folk, University of Texas had come out with a new way of describing carbonates. And my professor at Columbia had started looking at carbonates in the Bahamas, recent carbonates. So while my classmates were down there looking at this stuff, I was looking at rocks and we could start seeing, oh that's where you find a rock, that's how it formed. So I was able to use some of the modern techniques, my prof sent me to a modern reef and I spent the summer swimming around Alcran Reef in Mexico. He sent me over to Belgium to look at Devonian reefs which would be used for quarry stones. So I was really lucky that I was able to look at these narrow strips of core and my prof said, you'll never be able to tell nothing from that but I could and did. Kind of started a new. . . well, as I was doing that logging at Imperial Oil's warehouse in Edmonton they had just came in with the first cores from Judy Creek and Swan Hills was coming in. They were logging the cores uncut and when they saw what I could see, then they started cutting theirs open and of course, now all cores are cut routinely.

- #149 DF: So it's my job to ask stupid questions, why can't you see something from the outside of a core and then you can when you cut it across?
- EK: Because the bit as it's chewing its way through there leaves a very rough surface and there's mud infiltrates into the outer layers of the core and it's just really, really hard.
- DF: So it's scoured and obscured?
- EK: Yes.
- DF: But with a diamond drill you can make a real clean cut?
- EK: With a say, yes. And then you can polish it a little bit and put some acid on there and it's just like night and day. Now the team, once the Imperial guys started cutting the Judy, then I didn't have a saw. So what I did was when they would finish at 5:00 I would arrive and then I'd saw all night and log all night and I'd go home and sleep. I did that for 6 months.
- DF: So were you the first one to do this?
- EK: Well, yes, I think so. In a systematic way.
- DF: Well, don't be humble about it, I mean if you did something important then you did it.
- EK: Yes, okay, yes. So anyway we started then being able to understand reefs in terms of the kind of organisms that built them and the kind of facies zonations and why reservoir characteristics are very dependent on the kind of rock you're dealing with. So we began to understand a little better.
- DF: So that was your thesis?
- EK: Yes.
- DF: Masters, or doctor?
- EK: No, that was the doctor.
- DF: Great. So then we bring you back to Alberta and you're teaching at this point?
- EK: Yes, after Imperial then I taught at University of Calgary. Got to be department head and

had just a really good bunch of grad students to work with. After I'd done my stint as department head and came back the class sizes were getting big, I had lost the kind of enthusiasm I guess, I just don't like big class sizes. So I had an invitation from one of my former classmates to come join Husky and I went down there for 10 years. And then the last 10 years I've been consulting, it's been the most fun of all.

#178 DF: You worked for big companies, you've worked for yourself, you worked for the university, what have you enjoyed most about that, which of those have you enjoyed most.

EK: I enjoyed them all. I think the teaching thing, I really like teaching, I really liked working with the students and having that freedom. The job at Husky for the first 7 years was heaven because I had kind of a carte blanche to develop a data base and all the computer systems around it for the Lloydminster heavy oil area. I put together a team of guys and we just had a ball.

DF: Explain that to me, there's an obvious application of computers to geophysics and I've talked to lots of geophysicists but, in the early days, you say in '59, you were starting to try to figure out what to do with computers, they were pretty primitive then, what could they do?

EK: Where I got started was in sort of very complicated, statistical analysis of data. For example, one of the big projects I did at Imperial Oil, well, there were a couple there, they had analysed all their water, subsurface water, from all across western Canada. So they had measured all these different chemical properties for thousands of water samples and they really didn't know what the hell to do with it. So I pumped it into this statistical ??? that you could only use computers on, they were too hard otherwise and we started getting all these fantastic chemical patterns for waters and being able to see which way water was flowing. And then I got involved very early on in organic geo-chemistry of oil and we were doing the same sorts of things, trying to figure out how these oils differed and what the different sort of chemical characteristics might mean in terms of processing.

#203 DF: Formation processing?

EK: Well, some oils were different than others because they'd gotten cooked a little bit, they were hot and others were different because water had been flushing through them and they'd been oxidized and then there was bugs would eat the oil. And we didn't know all of this stuff. So that was kind of fun, I never did know much about geo-chemistry and still don't. But I was working with guys who did and I was able to analyze the data for them fairly objectively without putting a lot of interpretation into it. They did that. So that was fun. Also of course, in those days the mapping aspect, computers are used routinely to make maps now and that was kind of a challenge, how you could do that. I must say I have a lot of mixed feelings about both the geo-chemistry and the mapping. I think people nowadays use them to excess. You make computer maps whether you need to or not and without thinking and without a lot of. . kind of fun to do but maybe we got carried away a little bit. They're very pretty maps, very pretty but not a lot of thought goes into them.

DF: So what are some of the other notes you've made here the?

EK: You were asking about what the industry was like, activity wise. When I graduated from Edmonton in '57 it was really in a boom. In fact, one of the companies came up and wanted to hire the whole graduating class. Took us to the Macdonald Hotel, fed us steaks, got us drunk and they were going to hire the whole crew.

DF: The whole class?

EK: The whole class. And quite a few guys went with that company. I had determined to go on to graduate school. By 1958 you couldn't buy a job. And a lot of the guys who had just started, my classmates, got fired. They went back to school, took a degree in education and in Calgary there's always been a very strong earth science movement in the schools and that's why. A lot of these guys who were geologists first went into teaching.

#235 DF: Do you remember the reasons for that downturn in the late 50's?

EK: No, I don't. But throughout my career, I was then at university and there were many of these damn things. I was kind of protected and I'd just started working for Husky in '82 when that one hit but I was protected. But in '92 it finally caught me and I got early retired which is also known as getting fired. So there's been a bunch of them.

DF: How did the 1980, when did you start with Husky?

EK: '82.

DF: '82. How did the NEP affect you?

EK: It didn't affect where I was working very much. As I say, I was kind of in the research group and in the heavy oil group it didn't seem to have much of an affect. They had that PIP program which, to this day I don't understand what the hell it was about but it was very important and when we'd make up our lists of wells to be drilled and we'd say these are the best wells from a geological point of view and the VP would say, but is it Pippable. And if you said no it went to the bottom of the list and some damn ??? that you know wasn't. . it was Pippable so they'd drill that. It would be a dry hole but that didn't matter. I never did understand the business side of the oil business from the route that I travelled and maybe I should have but I was having too much fun looking at rocks and computers. This is kind of fun putting these notes together by the way.

DF: Keep looking at them and see what they prompt you to talk about?

EK: Well, we were talking about sort of how the industry evolved from a technical point of view. Nobody used computers when I started, now everybody is. The geo-chemistry kind of grew and took over. The other thing that happened and again, was because of a lot of us young tricks coming through in the 60's, sort of looking at rocks from an environmental point of view, how they were formed and depositional models. This would get us trips to Belize and the Bahamas and Florida as an excuse. So there was a big shift from sort of using structural concepts and models and exploration, that was almost entirely dropped and we went into the sedimentology and stratigraphy. Again, a big mistake because those guys that were here early and used structure and understood structure and thought structure, they were on to some really good things and they found most of the big fields in Alberta thinking that way and we kind of distracted them. Now this whole trend towards high resolution sequenced stratigraphy, I think it's gone from beautiful Louis Armstrong type jazz through to the terrible be-bop and that's where I see

this sequenced stratigraphy. A lot of it's just ??? in my humble opinion. But these things just go through. . but there's now a nice thing where there's guys going back and looking at structure and with the really good geophysics that we've got we see that there's this structure there that's very subtle and very occult here in western Canada but damn it, it's there. In our studies of Lloydminster we wrote a paper and gave a paper called Lloydminster, All That It's Cracked Up To Be and More, implying that there is a lot of structure going on there. Gave this talk and people were kind of laughing and snickering, except the old guys that had found Lloydminster and found most of the big pools, they said, Ed, so what's new, we knew that, that's how we found those things. I guess I better talk about the CSPG?

#297 DF: Sure. When it gets time to do that. Skill development?

EK: Oh well, when I was at Conoco, Imperial, those were still in the days when the companies took training very, very seriously. So I took every course I could with those two institutions and I gave a lot of courses myself. And of course, that was part of the learning experience too. And then once you got into teaching of course, then the students made sure that you were up to date. The discoveries I guess, that happened in my career were Pembina, which Arnie Nielsen found but I always liked to say that in my Geology 1 notes that I took from Dr. Percy Warren, at Alberta, when he was talking about the Cretaceous he said, now the Cardium formation, if you look at it, it's in the mountains and it's only so thick, by the time you get out here to Wabaman it ain't there at all, so somewhere in between it pinches out and there's going to be a humungous oil field found there someday. I think Arnie Nielsen probably has that in his notes and he acted on it whereas we just wrote it down.

DF: So Arnie was in your class?

EK: No, he was ahead of me by a couple of, few years.

DF: But he'd heard the same lecture?

EK: He'd probably heard the same lecture from Dr. Warren. And the of course, Swan Hills and the Rainbow discoveries, well, you name it, all sort of happened after that. Rainbow was exciting too, I consulted a bit on that one. It was great.

DF: When you consulted on that one, what specifically would you have done?

EK: Again, it had already been found. And what they were trying to do was understand the anatomy of the reefs and how that was going to affect the producing characteristics. So I spent a summer with Banff Oil, logging the core from that point of view.

DF: So there can be quite a difference in the reefs?

EK: Oh yes. They're all different. Within the reef it changes from. .well, if you've been on a modern day reef you know, you go out to the front edge of the reef and the waves are pounding there and no sediment sort of accumulates, it's just the cores and the algae are growing there forming this honeycomb porous pattern. Then as soon as you get behind that reef wall everything's quiet and there's mud and sand and all kinds of different rock fabrics are forming back there. So depending where you drill your hole, it's chalk and cheese really. So I think that pretty much covers my career.

#346 DF: Not quite. Tell us how you got to be associated with the CSPG?

EK: Okay, well there again, thanks to Dr. Terry Stelck, who taught us in second year geology, palaeontology and he insisted that the whole class join the Alberta Society of Petroleum Geologists. So I've been a member since 1954. He just said, if you guys are going to be professional geologists you're going to be in the professional society and that's it, so we joined. I've been in it ever since. Once I settled down here of course, I became a more active member and gave lots of papers. And of course, hearing the papers was absolutely the best way to learn about the geology in the area and what they call now networking, you can't imagine a better society for young geologist in town. It was great. Contacts I made there are still the most important people in my professional life. So then I guess shortly after I started teaching I was asked to become a Director or run for Director and I did. And I was on the executive when we changed from Alberta Society to Canadian Society. I happened to oppose that.

DF: Why?

EK: Well, I thought we were doing such a good job of what we were doing here and all the geologists were concentrated here and I thought it was going to kind of dilute what we were doing to make this a national organization. I think in a way I've been a little bit vindicated in that the outreaches have never been tremendously active in the Society. It's nice to have a national organization, no question about it but at that time I guess I was thinking a little bit small. Digby McLaren, the President, was always a big thinker. So it turned out okay. Then many years later I was asked to run for President. By that time I had kind of developed a reputation and had taught hundreds of students and I think they had a hard time finding anybody else to run anyway.

#391 DF: You're too modest. Now I sent you a copy of that annual report for the year you were President, did you have a chance to review that?

EK: Yes, I did.

DF: Anything you'd like to talk about, some of the highlights?

EK: I guess a low light was shortly after taking office I became terribly sick and I had some problems, I was hospitalized for quite a while and thanks to Bill May, the past-President and Jim Macdonald, the Vice-President, they carried the can for a lot of my Presidency. But the real highlights of that year was a) that the new atlas was finished. The author of that, Grant Mossop happened to be one of my graduate students. So we were in this rather ticklish situation where the thing was really late and way over budget and there were guys. . it was costing a lot of, lot of money and effort and people were wanting to toss it. Of course, I couldn't let that happen and he wasn't going to let it happen. So we had some interesting discussions shall we say. But we managed to finish it off in my year so that was great. Then the other thing that hit us in the Society was that was the year that the GST was going to be imposed on us and we had to completely, completely revise the way we did the bookkeeping at the Society. It was good too because it had grown to be this big organization and there was money in little pots in desk drawers in these various committees all over the place, nobody kind of knew anything about. So it was our job to bring it all together and put in a new accounting system. So the GST had some salutary

effects anyway. I guess the other thing that was a real highlight, no thanks to me as President was we had one of the best conventions ever in the history. Rick Young put that thing together. But it was really a top notch convention. Those are kind of the main highlights of my tenure and I lived.

#433 DF: How was the financial shape of the Society at this point?

EK: It had bottomed out I think, 3 Presidencies before. We were in maybe deep, deep trouble and then Clay Riddell came on the scene and he just turned it around and Mike Cecile and Bill May were also. . but it was Clay that saved the day. Because we were about to. . I still don't know how that organization functions financially because we charge what, \$30 or \$50 membership and that didn't even cover stamps. And if it wasn't for the convention that we run and some of the books that we sell we'd be in deep, deep trouble. Any other organization I know charges 2 or 3 times that but like most President's I guess, I was a coward and I the rates weren't going to go up in my Presidency. And we made a killing on Rick Young's convention ???, Morley somebody who ran the finances for that convention and he just did an outstanding job, I can't think of his name. He'll kill me.

DF: We can find it.

EK: I'll think of it too.

DF: Oh yes, you created \$120,000 profit, that's pretty good.

EK: Yes. You asked about past-President's dinner. That I would have to say is one of the absolute highlights of my career, is being able to go to past-President's dinners. That is one outstanding group of guys and girls.

DF: What happens at those?

EK: Nothing very much. We swap lies and we always pick on some aspect of what's going on and try and keep the President. . feed their fire you know. Oh, I guess another highlight that I better not leave out is that it wasn't while I was President but the past-President gets to nominate the next slate of candidates and I nominated, I'm proud to say, the first female for President, Alice Payne and she won. So even though I'm often accused of being. . whatever, I did and she did a super job of course. But I guess the past-President's dinner that I remember the best, just a vignette, but there's a guy by the name of Bill Gussow who had been a President, probably in the 50's. And he was an extremely gifted geologist. But anyway, Bill Gussow's at least 85 and probably older and he arrives and he says, just got off the plane and he's on crutches, he broke his Achilles tendon running or skiing or something. Anyway he just arrived and we had our dinner and then he stands up and says, I want to tell you guys something, I've just patented a new process for secondary recovery in the oil field. Just got my patent. And then he points at somebody, Bob Erickson or one other really distinguished guy and he says, Bob, what kind of recovery do you get from a water let??? oil field. Bob says, I don't know, you'd probably get 40 or 50% recovery. Gussow says, that's a good answer and then he points at somebody else and says, what, if you've got a gas lag??? in that oil field how much oil do you get out of it. Well, I guess I'd get just about all of it. He said, that's a good answer too, so why are people pumping water down there to get the oil out, I patented pumping air down there. Well, everybody said, that's stupid Bill, if you pump air down there it will

catch on fire, he said, good, that'll make the oil hotter and it will run better. And everything they threw at him this guy was. . and he was having a ball, he said, well I gotta go, I gotta catch a plane back to Ottawa and humps out of there. So things like that happen. What a man.

DF: Any other stories from those?

EK: Not too many that I remember that stand out like that, but they're just the highlight of the year, to be able to rub shoulders with those guys.

End of tape.

Side 2

DF: So what do you see as the future for the Society?

EK: Well, I've thought about that and I'll answer it this way, when I used to go to the CSPG functions 10 or 15 years ago I would know just about everybody there and now when I go I probably won't know half the guys there. But what I've seen of this new crew in action, I'm very , very confident that the CSPG is going to continue to be the significant Society that it is.

DF: The power just went off for a second, so could you repeat that last statement again, from what you see of this current group.

EK: I just have every confidence that the CSPG will continue to be the best damn Society in the world. These are really good kids, to watch the way they ran this last convention, they're every bit as good and better than we were. So I don't know which way the Society is going to go but it's on a good footing. I think the last two President's have really worried about the financial side of it and organizing it to be a more professional. . in the days when I was on the executive the Director of Finance spent hours and hours bookkeeping and now they've got bookkeepers, which is the way it should be. He should be thinking about bigger things. And they've got this manager down there that's doing a super job. I'm very proud to have been able to contribute to it in the past and am confident that it'll keep going. I don't know what direction it will take but that's the way I'd answer that question.

DF: What else do you see here?

EK: Well, you asked about my contributions and which would be most significant. I guess I was lucky enough to have about 5 or 6 grad students that became world class scientists and I know they would have acheived what they have without me but I kind of like to feel maybe I helped them a little bit. So that's the thing that I treasure most of what I've done in my career. The enjoyment I guess has always been the people first, the guys that I've met along the way, science second. I never did get into the deal making aspect or making discoveries so I missed that joy. I knew lots of guys that made lots of deals but I don't know very many who found a lot of oil. I don't think there's that many of them out there.

#030 DF: Not a lot of Arnie Nielsen's, no.

EK: No, I mean you can count the number of one or two hands that have really found

something. And most of the guys that found it, found it on their own, they didn't have committees or focus groups or worrying about all the stake holders. These are guys like Mike Hriskevich who had been a minor and what the hell was he poking around, up around Rainbow Lake, where everybody knew there was no oil up there. Including Imperial Oil with all their fancy geo-chemistry. Regrets, I probably should have learned more about the business side of the oil business. As I say I was having too much fun. And so the short answer is none. And that's the end of my notes.

DF: Okay. Now you're unique in several ways, I mean everybody is but you had the chance to be on both on the industry side and the academic side of geology. What did the two different sides teach you or how did you experience them?

EK: You know, I never made much of a distinction between them and maybe it's because I was kind of researching in the industry as well. I know that when I was at the University of Calgary, we worked very, very hard developing a rapport with industry. In fact I financed my whole Arctic research through oil companies, that is I went to the company and said, we want to do this, do you want to throw in some money and I went to 10 or 12 companies and they each kicked in a little bit and I'd do that. And then we gave reports to these companies and students would then go work for the companies. So I didn't see any distinction between. . and from a scientific point of view, the guys in the industry that I dealt with were every bit as good scientists as were the guys at the university. I had a lot of colleagues at the university who didn't agree with that and thought maybe I was kind of prostituting science and academia by doing this but I didn't think so. And a lot of my students went on to very good careers in the oil patch. The other thing we did in those days at the university was we brought in visiting professors from all over the world, the best in a field that we could get. We financed that through a third came from university, a third came from CSPG, and a third came from industry, and then we had seminars. So we had absolutely the best classic sedimentologist in the world, Bob Weimer??? here for one semester. And that kept getting us mixed in with the industry. So I didn't have much distinction. They were looking for oil, I was trying to figure out how to find oil easier but I never looked for it directly so we kind of complimented each other.

#068 DF: Did you ever have a chance to look at the Turner Valley geology?

EK: No.

DF: Because that was what got the Society started.

EK: Yes.

DF: The old, old geologists, and that's where 1927, this is all going back 75 years now. My Masters thesis was on Turner Valley from the Canadian history perspective and so I often bring that up if people were into the theoretical end of it because it was quite a complicated field.

EK: Oh, you bet. And those guys were good. How they figured that out, I don't know but they did.

DF: Well, they sort of figured it out backwards, drilled it first and studied it later but. . Any comments on the boom and bust nature of the industry, you seem to be able to dodge it as you mentioned it. But at the university end you're training people there may be no work.

EK: That's right and that was a terrible thing and eventually probably drove me out of the university was that when I was made department head in '75 our average class sizes were 30ish, 25-30 kids in a class. Then during the next 4 or 5 years the industry was going crazy, so all of a sudden everybody knew that, our class sizes went up to 40, to 60, to 80. First our second year geology class, which was sort of the first year of major, there were 120 kids studying petrology and palaeontology. Who the hell needs that many kids. So I went to the Dean and I said, we can't handle this, I want to put a cap on it, which we did, we put a cap on 100 kids. Well, I was about drawn and quartered. I had calls from the government saying my nephew wants to go into geology and they say he can't get in because there's a quota, what the hell is going on here. So when I left I was teaching a class of 130 kids in 3rd year Carbonate petrology. Imagine. Well, shortly after I left there were more professors than there were students in the whole damn department, they had nobody and they had been hiring these professors, you had to, to teach these classes and all of a sudden there was nobody there. A lot of guys have done this trick, if you plot the price of oil versus geology enrollment, there's a perfect correlation but there's a lag there of, as you said, about 3 or 4 years. But it's almost a perfect correlation.

DF: Because the cycles come almost every dozen years too. It's almost predictable, you don't know what's going to cause it but it's going to happen. Did you ever try to do something at the university to react to that, as you say, when you tried to do something you got jumped on?

EK: Well, we did manage to put that cap on so that meant that when the next bust came there were that many fewer geologists selling shoes. But not many I mean there were a lot of guys graduated. . .

DF: Went off to do something else?

EK: Had to.

DF: Were there ever any geologists selling shoes?

EK: I'm sure there were.

DF: I heard that story from the late 50's but I've yet to meet one. You don't know anybody?

EK: No, I don't know anybody.

#106 DF: Did you know any of the old timers like Ted Link?

EK: Yes.

DF: Any stories about him?

EK: Well, one of the good things I did when I was department head was we organized. . .was it the 50th Anniversary of Alberta, no, it must have been the 75th.

DF: Yes, 1980 would be the 75th.

EK: What we did was we organized a series of lectures at the university by the prominent old time geologists that had done something really great in Alberta. So for example we had Charlie Stelck talk about the Canol project, and we had Ted Link talk about whatever Ted Link talked about, everything, and Colin??? Crickmay on the early palaeontology and Mike Hriskevich on how he found Rainbow and Arnie Nielsen, how he found Pembina and Les Clark mapping the front ranges, there were others. But these guys we had come up and as I was the host we'd have them over for dinner or take them out for dinner or

something so I got to know these guys. Ted Link was a character, he was very old and almost senile at the time but he still gave his talk and it was a thrill to meet these guys. Les Clark he started talking and I told him he had an hour, an hour and a quarter at the most and I could see by the trays of slide that he brought that he was loaded for bear so after about an hour and a half I'm making signals and he said, Klován you asked me to do this and I'm going to do it so sit down and shut up and kept on going. We've still got to go to Indonesia, I worked in Indonesia you know. That was great fun. As an historian you might be interested, I recorded all their talks and transcribed them and they're up at the university somewhere, I bound them in a . . . and they're probably in the archives somewhere.

#134 DF: Are they in the Gallagher Library?

EK: No. They were taken in to the main library. ??? might be able to help you find them, but oh they were wonderful talks. Charlie Stelck, he's a marvellous speaker, he had people actually crying as he was describing guys drowning and their canoes going down the Hume River or whatever the hell it was.

DF: How about Bill Gallup, did you know him?

EK: I knew Bill Gallup.

DF: Any stories?

EK: Not really.

DF: What kind of a guy was he?

EK: He was kind of different. ??? and I guess the only real professional contact I had with him was that he had mapped Banks Island fairly early and that was part of our mapping project that Ashton Embry got his Master thesis on. So we were able to use Bill's reports and then discuss them with him and he figured he had it right, we thought he was not quite right but that was an interesting discussion.

DF: Any other interesting characters along the way.

EK: They've all been interesting.

DF: Why did you nominate Alice, she's a character?

EK: She's a character, I've known her for a long time. And I don't know how I got to know all these people, it was just through osmosis and the CSPG networking, you just met guys, and through the CSPG golf tournament and what not, didn't meet her there. That's probably why because she was really pissed off that we wouldn't let the ladies play in this tournament.

DF: Then there's Kathy Stiles.

EK: Oh yes. That's another highlight of my tenure as President was they started the mixed tournament. See, so I'm not such a male chauvinist pig that Alice and Kathy would have you believe.

DF: It's still men only isn't it?

EK: Sure. And it has to have been one of the best things the Society has ever done. Just from a fun. . . most of the guys that are playing. . . that's not true, there are a lot of past President's but a lot of guys have never seen the inside of a lecture hall since they graduated, they're wheelers and dealers but they have a hell of a good time.

DF: Isn't it time to open it to women?

EK: No.

DF: Why not?

EK: Women have got their own. They had their own.

DF: They did?

EK: Yes. And it kind of collapsed then they started this mixed thing and they've got that and we definitely. . I don't play in it anymore but I would stand there at the gates with a shotgun and defend it. No, definitely, if guys want to do that, they should do it.

#170 DF: How did you know Stan Harding?

EK: Again, he had done so much early work up in the Arctic. I had known him before we got started in the Arctic but once we started working there we picked his brains a lot and he was very helpful. Very, very helpful guy, he'd spent years and years up there. So he knows a lot about the logistics, which you really have to know if you're going to stay alive up there. Doing geology is one thing but staying alive is. .

DF: A big job.

EK: A big job you know.

DF: Any stories about that?

EK: Oh, we had the usual events where the windstorm blew down all the tents and I crashed in an aeroplane.

DF: Tell us that story, how did you crash?

EK: We were doing this on the cheap, so instead of a helicopter, which we couldn't afford, we had a Piper Cub aeroplane with VC-3 tires on it. Weldy Phipps, a famous pilot had pioneered that and we had . . Weldy started doing this for the Geological Survey back in the 50's. So I hired Fred Carmichael from Inuvik to get us this plane, which he did. And we had a terrific pilot, just an absolute mad man, well most pilots were. But this guy was crazy and he'd been flying other things but he loved to fly this Cub and he could fly it anywhere and he'd land in river bottoms and on the tops of cliffs and muskeg, anywhere and Chuck was just incredible.

DF: What was the pilot's name?

EK: Chuck. I'm having another senior's moment here. Anyway it turned out, this is going to be a longer story that involves more than the crash, it's kind of interesting. I twisted my ankle one day so I had to stay in the tent and I was taking pain killers for it and Ashton and the other assistant went out on to a section to measure this section. And it was up on top of a very famous mountain called Gyrofalcons Bluff, on Banks Island. And that's where McClure and his crew spent two winters iced in when they were looking for the Northwest Passage. Anyway, that's an aside. Anyway Ashton and Gordon Marnie are measuring this section of ??? on the cliffs and they're being very careful and this Chuck is scrambling around and there's this huge rock up on top of the cliff and he just cannot resist this rock. So while the boys are working he's digging her out from under it and Ashton said, he hears Chuck yell, watch this boys, he looks up and the crazy bastard is leaning on this rock and he pushing on it and the rock goes and so does Chuck. Both wind down at the bottom of the cliff and the rock keeps going and so they rush over there and

there's poor old Chuck who has fallen and a piece of rock has hit him in the thigh and he's got a hole in his thigh like a grapefruit. Well now what the hell are they going to do, they're on top of Gyrofalcon Cliff and the camp is a half hour away and he can't fly the plane. So he's in terrible pain and he says, well, I think I can fly this thing if one of you guys can get in the back seat and you can steer and they said, to hell with that noise, we're not getting in no plane with you now. So he said, well I'll fly it myself, which he did. And so I'm in the tent and I've taken all these pain killers because I've got a sore leg and I hear this plane go vroom, vroom. Chuck, you know, he's dive bombing me. So I crawl out and sure enough. . .and of course, he's trying to get me awake so he lands the aeroplane and I go up there and he is just white as a ghost and blood is . . .you know, what are you going to do. I had a couple of bottles of whiskey stashed away and so I poured some in there and we had alcohol. He drank most of the whiskey. I got on the radio and I said, Mayday, Mayday, and what seems to be the trouble, and I said, I've got a guy who's really badly hurt here and I've got a couple of guys stranded on top of a mountain. The guy says, well, I'm about 15 minutes away from you, and it's an Otter aircraft with a [polar continental shelf]???. If you look at your map where Banks Island is, there is nothing anywhere near that thing. And this guy landed, he said, where are your guys, I said, they're over there, he said, get in, we flew over there, he landed the Otter there. We picked the boys up, put them down, we ??? Chuck the pilot in and within an hour and a half they were in Inuvik. So anyway, we're gradually getting to the crash here.

#244 DF: Okay.

EK: We're losing a pilot right. So they send in a wonderful guy, Bob Macdonald, who's a white guy but he was raised by Eskimos. His father was a Hudson Bay trapper or something and he married an Eskimo lady but he had this little boy by another marriage and so this guy was raised as an Eskimo and was one of the only Eskimo pilots that had worked his way up from washing windows to a mechanic and he learned to fly. This guy sent him up there but he wasn't very experienced of course. But we were kind of finishing up the summer so we had this fly by the cliffs of Banks Island, they were about 50 miles along and I wanted to take a picture of the whole cliff, all the way along. And as we were flying along, almost at the end of the cliffs, what the hell is that down there and it was some rocks and I didn't understand what they were doing there so I said, Bob, do you think you can land down there. We came around and there was kind of a slough, and he said, yes, I think I can land down there. I don't know, oh yes, he said, I can do it. He landed sure enough, I examined the rocks and I thought how the heck are we going to get out of here and he said, I can take off, I said, I don't think so, why don't you fly up by yourself and I'll meet you up on the hill there. Oh no, we can do it, so off he went and he got it up and he hit a clod of moss or something, with one tire, wheeew and then plop, nose first right into the ocean. So we were unhurt luckily and we had some tents and some food.

DF: But you crashed in the water?

EK: The nose was in the water.

DF: How deep?

EK: It was almost up to the windshield, the nose was in the water. But we just went over the edge and there were icebergs there, we were lucky. So we didn't come home, we didn't come home. Luckily another aeroplane landed in our camp and they came looking for us and they found us. I had quit smoking that summer and for some reason one of the guys threw a carton of Players in our rescue package and I smoked them all before they found us. Anyway that's how I . . . poor kid never flew again, trap lines, back to the trap lines.

#283 DF: So would you care to tell us on tape how you came to have the name Klován, because I think your birth name was a bit longer?

EK: It was.

DF: Okay, so why did you shorten it?

EK: The way you pronounce that is Kolchovanski, there's a little ticky mark over the c.

DF: So that's K, L. .

EK: C.

DF: C, with a ticky O, V,

EK: A, N, S, K, Y. Yes. Klčovansky, nice ring to it. My brother was a pilot in the Air Force and in the controllers would say. . Kol. . .vansky, they couldn't pronounce it. By the time they told him to land he was 20 miles down. So he changed his name and he left the C out and he left the S, K, Y off and there is was. So he said, why don't you do the same thing so I did. But I'm sorry I did it now. Sissies??? But that really is a load, you have to spell it every time.

DF: Anything else you'd like to tell us, any more stories like the plane crash, any bear stories up north?

EK; Lots of bear stories. One summer my assistant was Mike Chernoff, and he's a rather famous guy because he a) was a very famous curler, won the Brier or something and then he was the guy that found the big oil field down in Bolivia and just sold them to Alberta energy. He's a wealthy guy. Anyway in those days he was my junior assistant. We were climbing down. . this mountain here was a series of cliffs so what we'd do, I'd stand up on the top of one of these little cliffs and Mike would find a way to go down to the bottom and I'd throw him the tape and we'd measure how thick the cliff was and then I would scramble down and describe the rocks. In those days they gave us a 357 Magnum pistol to carry in our knapsack. Of course, we couldn't hit nothing, they're a big gun. Anyway, we're going down the cliff, over the cliff and next thing Mike says, Eddie we got big trouble. And I said, what and he says there's a bear coming at you, I said, what bear, bear, there's a bear and all of a sudden Mike emerges on the top of the cliff with me, how he got up that cliff I don't know but we're standing there and that bear, sure enough a grizzly comes up and he's on the bench with us. So I had my knapsack out and I got the 357 Magnum out and I'm holding it. The stupid thing stands up and Mike is saying, give him a poke, give him a poke, gee Mike I don't think I can hit him, he says, oh yes, you can. No, I said, throw a rock at him, so he picked up a rock and he he threw it and the bear kind of yelled and the bear got down and wandered off. So to hell with that so we packed up and we ran down the mountain to the lake where we were getting picked up with the helicopter, built a fire and the helicopter finally arrived and he's going round and

round our landing spot and then he's going round and round, came back and picked us up and he said, there was a bear down there, sitting just . . . watching you guys, so I chased him away. So Mike and I, that's our favourite bear story. The other interesting one with Mike was, we did a lot of this river work and we had a pilot, a helicopter pilot and early in the summer, within the first couple or three weeks, he crashed that helicopter at Pink Mountain. And didn't crash it very bad so they fixed it up. And they had a very officious little dink of a helicopter mechanic, a Norwegian guy, who had single handedly whupped the Nazis during the war. He put the helicopter back together and of course, crashing a plane is a kick in the slats anyway and then Mike, the pilot kept saying, this thing, I can't fly it right and he started getting paranoid and he would only fly if he had 5 gallons of gas strapped on. Well, that's a lot of weight so he would not let you bring all the rocks down with you and he would only fly in straight lines and when we were on these rivers we would always fly upstream so that we could see the course. And Mike said, no, I'm not going all that way around because I might not have enough gas so we're going to fly over here, straight across and I'm going to drop you off and so he did that. So it was a beautiful river.

#366 DF: Which one, do you remember?

EK: I think it was the Labiche River, yes it was, and we floated down maybe 3 or 4 days and one afternoon it started raining, it was kind of like this and it started raining and it was only about 3:30 in the afternoon, normally we'd go till about 7 or 8. It started getting miserable and I said, you know Mike, we've been working hard, I'm tired, I think we should make camp. So we made a camp, had a nice meal, went to bed. Well, we get up early in the morning so we got up in the morning and darned if our Otter doesn't fly over our camp. We had a helicopter and we had an Otter, and started buzzing the camp and out they threw this rock, came out with a message on it and it says, stay where you are. Because we were loading up the boat and it says, stay where you are. What the hell was that meaning, but we stayed and we kept hearing something all right. So we walked down the river and it's a wide river, it's as big as the Bow almost and we went around the corner and into a chute that must have been 10' wide and straight down. So if we'd have kept going, there was no way, we'd have just. . . Anyway later that day or the next day a helicopter came and picked us up and took us back to camp and Mike was no longer there, the pilot was no longer there. There was the chief pilot of Okanagan Helicopters had come out and he immediately grounded the helicopter. Because I guess the way a helicopter works is there's a stick on the side here and he lifts that up and that makes the helicopter go up and the more you pull the more it goes up. But after the crash it had been put together so there was some point as you were pulling up, instead of it wanting to go up right, it wanted to go down. And that, this poor Mike is fighting this thing and he's saying there's something wrong with the aeroplane but John says, I can't fix it, there can't be anything wrong. It's you, you crashed it already. So it's funny how all these things kind of hook together and if we hadn't got cold, if we hadn't been lazy, we'd have been dead.

DF: Pretty lucky.

EK: Yes. There's stories on every guy and there's thousands of us that went up in those years. Everyone of us has hundreds of stories like that. Stupid, we were stupid to go up there. What if we'd have gone over that thing. They'd have never found us eh, they'd have never found us and what would. . . My mother would have said, well, that was his job and I guess he got killed and that's too bad. She wouldn't have ever thought of suing, nobody would have thought of that.

#421 DF: When were you in Fort Simpson?

EK: I was in Fort Simpson two years ago. What we did was we organized a reunion of all the guys that had ever worked on California Standard field trips and 8 of us chartered a company to float us down the Nahanni River. And all 8 of us had worked in the Nahanni in the 50's. Clay Riddell was supposed to come but he couldn't but Mike Chernoff, his brother came up from Texas, a guy came up from California, anyway there were 8 of us that floated down the Nahanni and then the big reunion was here in town. I think there was 65 people, all of us ex-Chevron field hands. Some of the pilots came, it was marvellous.

DF: Now did you work on the Nahanni in the 50's?

EK: Yes.

DF: Who did you meet up there?

EK: Vic Turner, Gus Krauss, Albert Foley??? went putt, putt, putting by, he didn't stop.

DF: You never met him?

EK: Never met him.

DF: He just went by.

EK: Gus, we camped right at Gus's house and his wife Mary. Mary, when I was there I had a beautiful little gun, a Lee Winfield??? trap down, it was just perfect for the field and his wife Mary had one of the Indian ladies make a moose skin scabbard for it. And I heard that Mary was in an old folks home up at Fort Simpson, so I took that scabbard up there and I found her and I said, Mary you made this for me in 1958 or '57 and she said, I didn't make it but I know who did. Still bright and still. . you know, she's pretty old and creekly but. .

DF: So Mary's still alive?

EK: Mary's still alive.

DF: And where is she?

EK: At an old folks home at Fort Simpson.

DF: So where did you go on the Nahanni in the 50's?

EK: We were camped at Nahanni Butte and we had just a tent camp and then we did all our work with helicopters, they would fly us here and there. I spent a fly camp, I guess a week and a half on the north Nahanni, with them, mapping that. And then various mountains around that we measured a section of.

DF: Were you on the flat river?

EK: I was.

DF: Tributary to the. . .

EK: Yes, I was.

DF: How far up the Nahanni itself did you go, the south Nahanni?

EK: The first time?

DF: Yes.

EK: I was back there where that Prairie Creek Mine is. We were back up there measuring those sections. I think is it called Crooked Mountain or Bent Mountain or something, just up. . ?

#474 DF: Crooked.

EK: Okay, Bill Cowan and I got stuck there one night. Because the chopper was supposed to pick us up and damned if it didn't start raining and it just socked in so we walked all the way down to the Nahanni River and made a little fire and just stayed there all night just shivering. And in the morning we hear somebody whistling. Who the hell, another 100-150 yards and there's the Geological Survey of Canada camp. Peter Harker, a friend of mine was running it so he made us flapjacks, got on the radio, phoned Nahanni Butte and they came and picked us up. Bill Cowan who lives now in Australia, came back for the reunion. I tell him I can still remember that, he whistled a song all night, Love Letters in the Sand and I said, by about 2 in the morning I could have killed you, I could have . . .

DF: So when you went up the Nahanni two years ago, which company did you go with?

EK: Nahanni Wilderness Adventures I think. The guys out of Didsbury. What a great crew we had, we had three young kids and then the cook and me paddling.

DF: Were you on rafts and canoes.

EK: We had two rafts and two of our guys went on a canoe, Roy Stuart, he's the oldest guy, he's 73 or 74, he paddled. That was fun. Because the other guys were Mike Chernoff and Bob Hovedebo had made maps and Clay Riddell had mapped that whole area and Hovedebo, I shouldn't put this, oh I think it's safe, he kept a copy of his mapping report that he'd made for Chevron and he'd read it.

#522 DF: And who was the pilot that flew you in?

EK: I never caught his name, he was a big French guy.

DF: Jacques Harvie.

EK: That's it, yes. He'd only been up there 23 years so I didn't know him. You've been on that trip sounds like?

DF: Yes. Well, we're running out of tape so I'd like to take this time to say on behalf of the CSPG and the Petroleum Industry Oral History Project how pleased I am to have been able to come to your house and to record your answers to some of these questions, thank you so very much.

EK: You're welcome, my pleasure.